

# FIRE PREVENTION 1A (BRIDGE)

Approved and Adopted by the  
Office of State Fire Marshal



Recommended for adoption by the Statewide  
Training and Education Advisory Committee  
and the  
State Board of Fire Services



## INSTRUCTOR GUIDE (Bridge)

January 2009



# **FIRE PREVENTION 1A (BRIDGE)**

**INTRODUCTION TO THE CALIFORNIA FIRE CODE**

**I N S T R U C T O R   G U I D E**



*Published by*

**STATE FIRE TRAINING**

PO Box 944246

Sacramento, CA 94244-2460

*January 2009*



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

---

## TABLE OF CONTENTS

Mission Statement.....	i
California Fire Service Training and Education System.....	i
Acknowledgments .....	i
Student Profile.....	iii
Target Group .....	iii
Prerequisites.....	iii
Desired Attendance Time Frame .....	iii
Class Requirements and Space .....	iv
Equipment.....	iv
Materials .....	iv
Introduction to the Instructor Guide .....	vi
Lesson Plans .....	vi
Appendix A – Answer Keys.....	vii
Appendix B – Formative Tests.....	vii
Course Outline.....	viii
Texts and References .....	ix
Calendar of Events .....	x
Student Progress Chart .....	xii
Unit 1: Responsibility and Authority.....	Topics 1-1 through 1-5
Unit 2: Occupancy Classification and Building Construction .....	Topics 2-1 through 2-3
Unit 3: Egress Requirements.....	Topics 3-1 through 3-4
Unit 4: Fire-Resistive Assemblies.....	Topics 4-1 through 4-4
Unit 5: General Fire Safety Provisions.....	Topics 5-1 through 5-5
Unit 6: Principles and Procedures for Fire Inspections.....	Topics 6-1 through 6-5
Instructor Tests (With Answers).....	Appendix A
Student Tests (Ready To Copy).....	Appendix B

REMOVED CURRICULUM

---



# **FIRE PREVENTION 1A (BRIDGE)**

Introduction To The California Fire Code

---

## **Mission Statement**

The mission of State Fire Training is to enable the California fire service to safely protect life and property through education, training, and certification.

## **California Fire Service Training and Education System**

The California Fire Service Training and Education System (CFSTES) was established to provide a single statewide focus for fire service training in California. CFSTES is a composite of all the elements that contribute to the development, delivery, and administration of training for the California Fire Service. The authority for the central coordination of this effort is vested in the Training Division of the California State Fire Marshal's Office with oversight provided by the State Board of Fire Services.

The role of CFSTES is one of facilitating, coordinating, and assisting in the development and implementation of standards and certification for the California fire service. CFSTES manages the California Fire Academy System by providing standardized curriculum and tests; accredited courses leading to certification; approved standardized training programs for local and regional delivery; administering the certification system; and publishing Career Development Guides, Instructors Guides, Student Manuals, Student Supplements, and other related support materials.

This system is as successful and effective as the people involved in it are. It is a fire service system developed by the fire service, for the fire service... and we believe it is the best one in the country.

## **Acknowledgments**

The State Fire Training Curriculum Development Division coordinated the development of the material contained in this guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) approved this guide. This guide is appropriate for fire service personnel and for personnel in related occupations that are pursuing State Fire Training certification.

<b>Ruben Grijalva</b> Director of CAL FIRE	
<b>Kate Dargan</b> State Fire Marshal	<b>Tonya Hoover</b> Assistant State Fire Marshal
<b>Mike Richwine</b> Chief, State Fire Training	<b>Ron Coleman</b> Chair, STEAC



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

---

Special acknowledgement and thanks are extended to the following members of CDF/State Fire Training Curriculum Development Division for their diligent efforts and contributions that made the final publication of this document possible.

<b>Alicia Hamilton</b> Fire Service Training Specialist	<b>Monica Miller</b> Office Technician
--	---

The material contained in this document was compiled and organized through the cooperative effort of numerous professionals within, and associated with, the California fire service. We gratefully acknowledge the individuals who served as principal developers for this document.

<b>Keith Marshall</b> Burlingame Fire Department (Retired)
<b>Robert Marshall</b> Gilroy Fire Department
<b>Rocque Yballa</b> Central County Fire Department

*"We gratefully acknowledge the hard work and accomplishments of those before us who built the solid foundation on which this program continues to grow."*



# **FIRE PREVENTION 1A (BRIDGE)**

Introduction To The California Fire Code

---

## **Student Profile**

### **Target Group**

Fire prevention personnel

### **Prerequisites**

None

### **Desired Attendance Time Frame**

None

**RETIRED CURRICULUM**



# **FIRE PREVENTION 1A (BRIDGE)**

## **Introduction To The California Fire Code**

---

### **Class Requirements and Space**

The characteristics of the classroom and supportive facilities have a great impact on the learning environment and the instructor's success or failure. For this course, it is advisable for the instructor to adhere as closely as possible to the following guidelines.

#### **Equipment**

Writing board with markers/erasers  
Appropriate audiovisual equipment  
Appropriate audiovisual materials

#### **Materials**

##### Unit 1

- Group Activity 1-1-1: Classmate BINGO
- Progress chart
- "Escape" video, NOVA, [www.pbs.org](http://www.pbs.org) (#WG2604) optional
- Individual Activity 1-2-1: Word Search or
- Individual Activity 1-2-2: Crossword or
- Individual Activity 1-2-3: Matching
- Sample inspection forms
- Individual Activity 1-4-1: Legal Responsibilities Scavenger Hunt
- Individual Activity 1-4-2: CFC Scavenger Hunt
- Individual Activity 1-5-1: California Fire Code Worksheet
- Individual Activity 1-5-2: Reference Standards

##### Unit 2

- Individual Activity 2-1-1: Occupancy Classification and Types of Construction
- Group Activity 2-1-2: Occupancy Classifications and Construction Matching Worksheet
- Individual Activity 2-3-1: Classification of Occupancies
- Group Activity 2-3-2: Rotating Review

##### Unit 3

- Individual Activity 3-1-1: Word Search or
- Individual Activity 3-2-1: Determining Occupant Load and Minimum Egress Requirements
- Group Activity 3-3-1: Exiting Requirements



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

- ❑ Unit 4
  - Individual Activity 4-1-1: Terminology Crossword
  - Individual Activity 4-2-1: Roof Assembly Classifications
- ❑ Unit 5
  - Individual Activity 5-4-1: Class I Commodity
  - Individual Activity 5-4-2: Class III Commodity
- ❑ Unit 6
  - Individual Activity 6-1-1: Human Behavior
  - Individual Activity 6-2-1: Life Safety Assessment
  - Inspection reports from the students' departments
- ❑ Tests
  - Test 1
  - Test 2
  - Test 3
  - Test 4
  - Certification Exam

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

---

## Introduction to the Instructor Guide

For the most part, the 2008 Fire Prevention 1A is not a complete rewrite of the 2003 Edition. In January 2008, the International Fire Code with California amendments became effective. Although many aspects of this code and California's previous code are similar in its fire and life safety value, some aspects have changed. Where appropriate, the authors of this rewrite chose to update codes, sections, and terminology. The section on "Exiting" under the 2007 California Fire Code is significantly changed from older adopted codes and as such, it required a complete rewrite of Chapter 3. With this new code, many aspects of the California Building Code are now reprinted in the new California Fire Code and as such, it is no longer necessary to provide excerpts from the Building Code in order to facilitate the class.

Fire Prevention 1A is intended to be a basic fire and life safety course which provides the student an orientation of fire prevention and code enforcement.

### Lesson Plans

This publication is intended to serve as an instructor guide. For each topic identified in the course outline, a lesson plan has been developed that contains: a time frame, level of instruction, authority, behavioral objective, materials needed, method of instruction, references, preparation statement, lesson content, and end page. Suggested application methods have been identified throughout the lessons for you to use during your presentation.

- **Time Frame:** The estimated duration required for in-class presentation.
- **Level of Instruction:** Identifies the instructional level that the material was designed to fulfill. You have the latitude to increase the level based on available time, local conditions, and the students' apperceptive base.
- **Authority:** Keyed, when applicable, to the appropriate Certification Training Standard task.
- **Behavioral Objective:** The behavioral objective is a statement of the student's performance desired at the end of instruction. You must ensure that enough information is given in the presentation and/or activities to enable the student to perform according to the goal.
- **Materials Needed:** This should be a complete list of everything you will need to present the lesson, including visual aids, tests, etc.
- **References:** These are the specific references the curriculum development team used when developing the lesson plan. In addition, references may be listed as additional study aids for instructors to enhance the lesson -- books, manuals, bulletins, scripts, visual aid utilization plans and the like.
- **Preparation:** The motivational statement connects the student with the lesson plan topic through examples or illustrations relating to their occupation, injury, and even mortality. You will need to develop this statement to fit your target audience.



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

- **Lesson Content:** Includes information used in the four-step method of instruction.

Cognitive Lesson Plans	
PRESENTATION	APPLICATION
Everything you say or display Content Notes	Student Participation <ul style="list-style-type: none"> <li>• Questions</li> <li>• Activities</li> <li>• Audiovisual Cues</li> </ul>

Psychomotor Lesson Plans	
OPERATIONS	KEY POINTS
Specific actions to be performed by the students	The who, what, when, where, why, and how (the "tricks of the trade")
Begin with a verb, followed by a noun	Safety practices

## Appendix A – Answer Keys

- Formative tests with the answer key; instructor use only.

## Appendix B – Formative Tests

- Formative test masters that must be copied for each student. Keep these in good condition to use for future classes.
- Collect these tests after they have been graded and discussed in class.
- **Do not let the students keep them since you will be using the same tests for your next class.**



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

## Course Outline

**Course Objectives:** To prepare the student to...

- a) Describe the responsibility and authority for fire prevention inspections and related activities.
- b) Explain and identify principles and procedures used to correct fire hazards.
- c) Identify and describe occupancy classifications and types of construction.
- d) Explain basic means of egress requirements.
- e) Evaluate the operational readiness of fire rated assemblies.
- f) Identify and describe general fire safety provisions.
- g) Explain public relations as it relates to fire prevention inspections.

<b>Course Content:</b> .....	40:00
<b>Unit 1: Responsibility and Authority</b>	
1-1 Orientation And Administration .....	2:00
1-2 Terminology Relating To Responsibility And Authority .....	0:30
1-3 Legally Established Responsibilities And Empowerment.....	1:30
1-4 Legal Responsibilities Of The Inspector .....	2:00
1-5 Understanding, Reading, And Using The CFC .....	2:00
1-6 Historical Incidents And Their Affect On The Fire Code .....	1:00
<b>Unit 2: Occupancy Classification and Building Construction</b>	
2-1 Terminology Relating To Occupancy Classification And Construction .....	2:00
2-2 Relationship Of Fire Protection To Building Construction And Occupancy .....	1:00
2-3 Classification Of Occupancies .....	3:00
<b>Unit 3: Egress Requirements</b>	
3-1 Terminology Relating To Egress Requirements .....	0:30
3-2 Determining Adequate Means Of Egress .....	3:00
3-3 Means Of Egress Requirements.....	3:00
3-4 Maintaining The Egress System .....	1:00
<b>Unit 4: Fire-Resistive Assemblies</b>	
4-1 Terminology Relating To Fire-Resistive Assemblies .....	0:30
4-2 Types Of Classes And Roof Coverings .....	1:00
4-3 Purpose And Location Of Fire-Resistance-Rated Building Construction And Components.....	1:30
4-4 Fire Doors And Windows .....	0:30



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

---

## Unit 5: General Fire Safety Provisions

5-1	General Fire Safety .....	1:15
5-2	Fire Safety Requirements For Decorative Materials And Furnishings .....	1:00
5-3	Fire Drills And Emergency Evacuation Plans .....	0:30
5-4	High-piled Storage Requirements.....	1:00
5-5	Electrical Fire Hazards And Safety Devices .....	0:45

## Unit 6: Principles and Procedures for Fire Inspections

6-1	Factors Relating To Life Safety .....	2:00
6-2	Conducting A Life Safety Assessment.....	1:30
6-3	General Fire Inspection Practices.....	1:15
6-4	Procedures For Correcting Fire Hazards And Modifications Of Requirements.....	1:15
6-5	Handling Fire Prevention Complaints .....	0:30

**Formative Tests** ..... 2:00

**Certification Exam** ..... 1:00

## Texts and References

- Barclays Official California Code of Regulations Title 19, West Group
- Barclays Official California Code of Regulations Title 24, West Group
- California Fire Code, California Building Standards Commission, 2007 Edition
- California Health & Safety Code, Current Edition
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition
- Fire Officer's Handbook of Tactics, Fire Engineering, Second Edition
- Fire Protection Handbook, NFPA, Twentieth Edition
- International Fire Code, International Code Council, 2006 Edition
- Local agency policies and procedures
- NFPA 80, NFPA, 2003 Edition
- NFPA Inspection Manual, NFPA, Seventh Edition



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

## Calendar of Events

DAY	TOPIC	TITLE	TIME	ACTIVITY	EVALUATION
Day 1	1-1	Orientation And Administration "Escape" video, NOVA	2:00	1-1-1	
	1-2	Terminology Relating To Responsibility And Authority	0:30	One of the following: 1-2-1 1-2-2 1-2-3	
	1-3	Legally Established Responsibilities And Empowerment	1:30		
	1-4	Legal Responsibilities Of The Inspector	2:00	1-4-1 1-4-2	
	1-5	Understanding, Reading, And Using The CFC	2:00	1-5-1 1-5-2	
	<b>Day 1 Total</b>			<b>8:00</b>	
Day 2			0:30		<b>Test #1</b>
	1-6	Historical Incidents And Their Affect On The Fire Code	1:00		
	2-1	Terminology Relating To Occupancy Classification And Construction	2:00	2-1-1 2-1-2	
	2-2	Relationship Of Fire Protection To Building Construction And Occupancy	1:00		
	2-3	Classification Of Occupancies	3:00	2-3-1 2-3-2	
				0:30	
<b>Day 2 Total</b>			<b>8:00</b>		
Day 3	3-1	Terminology Relating To Egress Requirements	0:30	3-1-1	
	3-2	Determining Adequate Means Of Egress	3:00	3-2-1	
	3-3	Means Of Egress Requirements	3:00	3-3-1	
	3-4	Maintaining The Egress System	1:00		
				0:30	
<b>Day 3 Total</b>			<b>8:00</b>		



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

DAY	TOPIC	TITLE	TIME	ACTIVITY	EVALUATION
Day 4	4-1	Terminology Relating To Fire-Resistive Assemblies	0:30	4-1-1	
	4-2	Types Of Classes And Roof Coverings	1:00		
	4-3	Purpose And Location Of Fire-Resistance-Rated Building Construction And Components	1:30		
	4-4	Fire Doors And Windows	0:30		
	5-1	General Fire Safety	1:15		
	5-2	Fire Safety Requirements For Decorative Materials And Furnishings	1:00		
	5-3	Fire Drills And Emergency Evacuation Plans	0:30		
	5-4	High-Piled Storage Requirements	1:00	5-4-1 5-4-2	
	5-5	Electrical Fire Hazards And Safety Devices	0:45		
		<b>Day 4 Total</b>		<b>8:00</b>	
Day 5			0:30		<b>Test #4</b>
	6-1	Factors Relating To Life Safety	2:00	6-1-1	
	6-2	Conducting A Life Safety Assessment	1:30	6-2-1	
	6-3	General Fire Inspection Practices	1:15		
	6-4	Procedures For Correcting Fire Hazards And Modifications Of Requirements	1:15		
	6-5	Handling Fire Prevention Complaints	0:30		
		Certification Exam	1:00		<b>Exam</b>
		<b>Day 5 Total</b>		<b>8:00</b>	



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

FIRE PREVENTION 1A PROGRESS CHART	BEGINNING DATE:								ENDING DATE:								
	Activity 1-2-1	Activity 1-2-2	Activity 1-2-3	Activity 1-4-1	Activity 1-4-2	Activity 1-5-1	Activity 1-5-2	Activity 2-1-1	Activity 2-1-2	Activity 2-3-1	Activity 2-3-2	Activity 3-1-1	Activity 3-2-1	Activity 3-3-1	Activity 4-1-1	Activity 5-4-1	Activity 5-4-2
CLASS SIZE LIMITED TO 40 STUDENTS																	
STUDENT IDENTIFICATION																	
1.																	
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	
11.																	
12.																	
13.																	
14.																	
15.																	
16.																	
17.																	
18.																	
19.																	
20.																	

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

FIRE PREVENTION 1A PROGRESS CHART	BEGINNING DATE:								ENDING DATE:								
	Activity 1-2-1	Activity 1-2-2	Activity 1-2-3	Activity 1-4-1	Activity 1-4-2	Activity 1-5-1	Activity 1-5-2	Activity 2-1-1	Activity 2-1-2	Activity 2-3-1	Activity 2-3-2	Activity 3-1-1	Activity 3-2-1	Activity 3-3-1	Activity 4-1-1	Activity 5-4-1	Activity 5-4-2
CLASS SIZE LIMITED TO 40 STUDENTS																	
STUDENT IDENTIFICATION																	
21.																	
22.																	
23.																	
24.																	
25.																	
26.																	
27.																	
28.																	
29.																	
30.																	
31.																	
32.																	
33.																	
34.																	
35.																	
36.																	
37.																	
38.																	
39.																	
40.																	

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

FIRE PREVENTION 1A PROGRESS CHART	BEGINNING DATE:						ENDING DATE:								
	Activity 6-1-1	Activity 6-2-1	Test #1	Test #2	Test #3	Test #4	Attendance					PASS/FAIL	Cert Exam		
							Day 1 (8 hrs)	Day 2 (8 hrs)	Day 3 (8 hrs)	Day 4 (8 hrs)	Day 5 (8 hrs)				
CLASS SIZE LIMITED TO 40 STUDENTS	STUDENT IDENTIFICATION														
1.															
2.															
3.															
4.															
5.															
6.															
7.															
8.															
9.															
10.															
11.															
12.															
13.															
14.															
15.															
16.															
17.															
18.															
19.															
20.															



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

FIRE PREVENTION 1A PROGRESS CHART	BEGINNING DATE:						ENDING DATE:								
	Activity 6-1-1	Activity 6-2-1	Test #1	Test #2	Test #3	Test #4	Attendance					PASS/FAIL	Cert Exam		
							Day 1 (8 hrs)	Day 2 (8 hrs)	Day 3 (8 hrs)	Day 4 (8 hrs)	Day 5 (8 hrs)				
CLASS SIZE LIMITED TO 40 STUDENTS	STUDENT IDENTIFICATION														
21.															
22.															
23.															
24.															
25.															
26.															
27.															
28.															
29.															
30.															
31.															
32.															
33.															
34.															
35.															
36.															
37.															
38.															
39.															
40.															



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 1-1: Orientation And Administration

**Time Frame:** 2:00

**Level of Instruction:** Level I

**Authority:** State Board of Fire Services

**Behavioral Objective:**

**Condition:** Given an activity and oral evaluation

**Behavior:** The student will confirm a knowledge of the course overview and student's responsibilities

**Standard:** To the instructor's satisfaction according to the information contained in Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages iii-vi and 1-4

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Group Activity 1-1-1: Classmate BINGO
- Progress chart
- "Escape" video, NOVA, www.pbs.org (#WG2604) *optional*

**References:**

- State Fire Training Procedures Manual, SFT

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

**A**ttention (attract)

**B**egin

**C**uriosity (arouse)

**A**ssociation

**I**nterest (create)

**S**tudents

**D**esire (stimulate)

**E**xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. INTRODUCTIONS</b></p> <ul style="list-style-type: none"><li>A. Introduce self and other staff</li><li>B. Cite background<ul style="list-style-type: none"><li>1. Fire department experience</li><li>2. Education</li><li>3. Training</li><li>4. Teaching history</li><li>5. Phone number(s) where the instructor can be reached</li></ul></li></ul> <p><b>II. COURSE DESCRIPTION</b></p> <ul style="list-style-type: none"><li>A. 40-hour class<ul style="list-style-type: none"><li>1. Considerable work in class as well as reading outside of class</li><li>2. Numerous classroom activities<ul style="list-style-type: none"><li>a) All assigned activities must be completed to pass the course</li></ul></li><li>3. Homework<ul style="list-style-type: none"><li>a) All homework must be completed to pass</li></ul></li></ul></li><li>B. Facilities orientation<ul style="list-style-type: none"><li>1. Classroom location(s)</li><li>2. Restrooms</li><li>3. Food locations</li><li>4. Smoking</li><li>5. Breaks</li><li>6. Telephones</li><li>7. Parking</li></ul></li></ul>	<p><b>ACTIVITY 1-1-1:</b> Complete the activity in the student supplement.</p> <p><b>SLIDE: 1-1-1</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>NOTE:</b> Have students note any specific information for this class on their calendar of events found in the student supplement.</p> <p>C. Calendar of events</p> <ol style="list-style-type: none"><li>1. Indicates a good deal of work ahead</li><li>2. Class sessions are intensive</li><li>3. Meeting dates<ol style="list-style-type: none"><li>a) Review class session dates</li></ol></li><li>4. Meeting times<ol style="list-style-type: none"><li>a) Review class session beginning and ending times</li></ol></li><li>5. Throughout entire course there will be group discussions and group interactions</li><li>6. Questions are welcome at any time</li><li>7. Each student is required to complete all student activities</li></ol> <p><b>III. COURSE REQUIREMENTS</b></p> <p>A. Textbooks</p> <ol style="list-style-type: none"><li>1. <u>California Fire Code</u>, CBSC, 2007 Edition</li><li>2. <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition</li><li>3. Student supplement published by State Fire Training</li></ol> <p>B. Participation</p> <ol style="list-style-type: none"><li>1. Activities<ol style="list-style-type: none"><li>a) Individual and group activities</li></ol></li></ol>	<p>What does the calendar of events tell you about your activities?</p> <p><b>SLIDE: 1-1-2</b></p> <p><b>SLIDE: 1-1-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Written tests</li><li>3. Attendance<ul style="list-style-type: none"><li>a) State Fire Training policy requires every student to attend the entire class</li><li>b) If there is a problem with meeting this requirement, consider enrolling at another date when you can commit the time required</li></ul></li></ul>	
<b>IV. STUDENT EVALUATION</b>	
<ul style="list-style-type: none"><li>A. There will be four formative tests<ul style="list-style-type: none"><li>1. Each will be followed by a group discussion and review<ul style="list-style-type: none"><li>a) Tests must be returned to the instructor after the review</li></ul></li><li>2. Test scores will count toward your final grade</li><li>3. Must take all tests</li></ul></li><li>B. Grades issued on point system<ul style="list-style-type: none"><li>1. Minimum 80% required on tests</li><li>2. Completion of activities</li><li>3. Attendance</li><li>4. Minimum 80% required to take certification exam</li></ul></li><li>C. Progress chart<ul style="list-style-type: none"><li>1. Uses student identification numbers instead of names</li><li>2. Federal law prohibits publication of identifiable student grades</li></ul></li><li>D. State certification exam<ul style="list-style-type: none"><li>1. Is not related to the final course grade</li><li>2. Must first pass the course before taking this exam</li></ul></li></ul>	<p><b>SLIDE: 1-1-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>3. 50 question multiple-choice test</li><li>4. Minimum 70% required to pass certification exam</li><li>5. The <u>California Fire Code</u>, CBSC, 2007 Edition will be used during the certification exam</li></ul> <p><b>V. CFSTES CERTIFICATE TRAINING TRACKS</b></p> <p>A. Course completion certificate issued as partial fulfillment of certified Fire Officer and Fire Prevention Officer</p>	<p><b>SLIDE: 1-1-5</b></p> <p><b>SLIDE: 1-1-6</b></p> <p><b>SLIDE: 1-1-7</b></p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### ***Summary:***

If these course requirements seem involved and the material that has to be covered appears like a lot in a short period, you are right. Careful attention is necessary. In addition, you should participate in the classroom exercises and group activities fully so you will obtain a greater understanding of the underlying principles being taught, and to be better prepared for the assignments.

#### ***Evaluation:***

The student will complete the activity at a time determined by the instructor.

#### ***Assignment:***

Review your notes and study for our next session.



# FIRE PREVENTION 1A

## Introduction To The California Fire Code

### GROUP ACTIVITY 1-1-1: CLASSMATE BINGO

<b>Time Frame:</b>	0:20
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• Classmates</li><li>• Bingo "card"</li><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to personally meet and talk with their fellow classmates and instructor(s), and learn a little something about them.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Review the attached BINGO worksheet and the information needed for each square.</li><li>2. Find a classmate or instructor who meets a need and write their name in the appropriate square.</li><li>3. <b>You may only use a person's name once.</b> You may use yourself <b>once</b> for any square you meet or as a "free" square.</li><li>4. Yell "BINGO" if you <b>black out</b> the card before the time is up.</li><li>5. You have 20 minutes to complete as many squares as possible.</li></ol>



# Classmate BINGO

C	L	A	S	S	
Is on a softball team	Plays a musical instrument	Has met a movie star	Has a birthday this month	Has <5 years on the job	M
Drives a red truck	Is a certified scuba diver	Has annual pass to an amusement park	Likes liver and onions	Is a volunteer fire fighter	A
Has been to Alaska	Children are all female		Is a grandparent	Has an Associate's degree	T
Is not a native Californian	Is bilingual (not Spanish)	Children are all male	Has or had braces	Married <1 year	E
Has a pet reptile	Acted in the theater	Has >10 years on the job	Has a high school reunion this year	Has a Bachelor's degree	S



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 1-2: Terminology Relating To Responsibility And Authority

**Time Frame:** 0:30

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 3-2

**Behavioral Objective:**

**Condition:** Given an activity and a formative test

**Behavior:** The student will confirm a knowledge of the terminology used regarding inspector responsibility and authority

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1 and the Glossary and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 5-11

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 1-2-1: Word Search or
- Individual Activity 1-2-2: Crossword or
- Individual Activity 1-2-3: Matching

**References:**

- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1 and Glossary

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>NOTE:</b> Completing an activity can be used as an alternative to a lecture in order to cover the material in this topic.</p> <p><b>I. TERMS</b></p> <ul style="list-style-type: none"><li>A. Authority<ul style="list-style-type: none"><li>1. Relates to the empowered duties of an official, in this case the inspector</li><li>2. The level of an inspector's authority is commensurate with the enforcement obligations of the governing body</li></ul></li><li>B. Code(s)<ul style="list-style-type: none"><li>1. Rules or laws used to enforce requirements for fire protection , life safety, or building construction</li></ul></li><li>C. Discretionary acts<ul style="list-style-type: none"><li>1. Involves the actions inspectors consider necessary to fulfill their responsibilities</li></ul></li><li>D. Inspection<ul style="list-style-type: none"><li>1. A formal examination of an occupancy and its associated uses or processes to determine its compliance with the fire and life safety codes and standards</li></ul></li><li>E. Liability<ul style="list-style-type: none"><li>1. To be legally obligated or responsible for an act or physical condition</li></ul></li><li>F. Ministerial actions<ul style="list-style-type: none"><li>1. Involves the manner in which the inspector carries out or performs an act or policy</li></ul></li></ul>	<p><b>INDIVIDUAL ACTIVITY:</b> <b>1-2-1, 1-2-2, or 1-2-3</b> Complete one of the three activities in the student supplement.</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>G. Responsibility</p> <ol style="list-style-type: none"> <li>1. An act or duty for which someone is clearly accountable</li> </ol> <p>H. Right of entry</p> <ol style="list-style-type: none"> <li>1. The rights set forth by the administrative powers that allow the inspector to inspect</li> </ol> <p>I. Violation</p> <ol style="list-style-type: none"> <li>1. An infringement of existing rules, codes, or laws</li> </ol> <p>J. Violations</p> <ol style="list-style-type: none"> <li>1. Routine (maintenance)</li> <li>2. Imminent (changeable)</li> <li>3. Transient</li> </ol> <p><b>II. ACRONYMS</b></p> <p>A. ADA</p> <ol style="list-style-type: none"> <li>1. Americans with Disabilities Act</li> </ol> <p>B. AHJ</p> <ol style="list-style-type: none"> <li>1. Authority Having Jurisdiction</li> <li>2. The governmental agency with jurisdictional responsibility</li> </ol> <p>C. Cal/OSHA</p> <ol style="list-style-type: none"> <li>1. California Occupational Health and Safety Administration</li> </ol> <p>D. CBC</p> <ol style="list-style-type: none"> <li>1. California Building Code</li> </ol> <p>E. CEC</p> <ol style="list-style-type: none"> <li>1. California Electrical Code</li> </ol> <p>F. CFC</p> <ol style="list-style-type: none"> <li>1. California Fire Code</li> </ol> <p>G. CMC</p> <ol style="list-style-type: none"> <li>1. California Mechanical Code</li> </ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>H. CPC<ul style="list-style-type: none"><li>1. California Plumbing Code</li></ul></li><li>I. DSA<ul style="list-style-type: none"><li>1. Division of State Architect</li></ul></li><li>J. NFPA<ul style="list-style-type: none"><li>1. National Fire Protection Association</li></ul></li><li>K. OSFM<ul style="list-style-type: none"><li>1. Office of State Fire Marshal</li></ul></li><li>L. OSHPD<ul style="list-style-type: none"><li>1. Office of Statewide Health Planning and Development</li></ul></li><li>M. FCO<ul style="list-style-type: none"><li>1. Fire Code Official</li></ul></li></ul>	

RETIRED CURRICULUM



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

An understanding of the technical terms is essential to comprehending class material as it is being presented.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1 and the Glossary and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 5-11 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

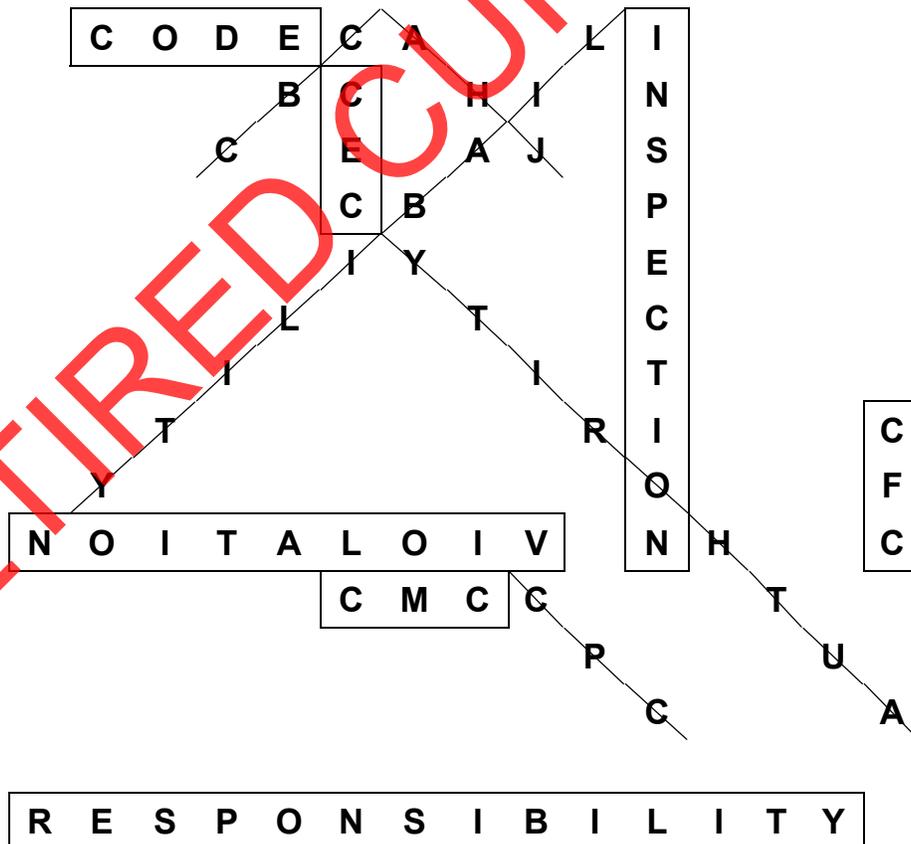
## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY 1-2-1: RESPONSIBILITY AND AUTHORITY WORD SEARCH

<b>Time Frame:</b>	0:15
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition, Glossary</li><li>• <u>Fire Prevention 1A (Bridge) Student Supplement</u>, SFT, 2009 Edition, Pages 6-7</li><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to become familiar with the terms related to an inspector's responsibility and authority.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Locate in the maze the appropriate word for the descriptions listed.</li><li>2. Circle the word once found.</li><li>3. You have 10 minutes to complete this activity.</li><li>4. Be prepared to discuss your answers with the class.</li></ol>

**TERMINOLOGY WORD SEARCH**

1. The governmental agency with jurisdictional responsibility.
2. Relates to the empowered duties of an official, in this case the inspector.
3. California Building Code
4. California Electric Code
5. California Fire Code
6. California Mechanical Code
7. Rules or laws used to enforce requirements for fire protection, life safety, or building construction.
8. California Plumbing Code
9. A formal examination of an occupancy and its associated uses or processes to determine its compliance with the fire and life safety codes and standards.
10. To be legally obligated or responsible for an act or physical condition.
11. An act or duty for which someone is clearly accountable.
12. An infringement of existing rules, codes, and laws





## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### INDIVIDUAL ACTIVITY 1-2-2: RESPONSIBILITY AND AUTHORITY CROSSWORD

<b>Time Frame:</b>	0:15
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition, Glossary</li><li>• <u>Fire Prevention 1A (Bridge) Student Supplement</u>, SFT, 2009 Edition, Pages 8-9</li><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to become familiar with the terms related to an inspector's responsibility and authority.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Complete the puzzle using the clues.</li><li>2. You have 10 minutes to complete this activity.</li><li>3. Be prepared to discuss your answers with the class.</li></ol>





# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY 1-2-3: RESPONSIBILITY AND AUTHORITY MATCHING

<b>Time Frame:</b>	0:15
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition, Glossary</li><li>• <u>Fire Prevention 1A (Bridge) Student Supplement</u>, SFT, 2009 Edition, Pages 10-11</li><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to become familiar with the terms related to an inspector's responsibility and authority.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Review the worksheet and the terms that need to be defined.</li><li>2. Select the definition in Column 2 that most nearly matches a term in Column 1.</li><li>3. Write the number of the term from Column 1 in the parenthesis that precedes the appropriate response in Column 2.</li><li>4. You have 10 minutes to complete this activity.</li><li>5. Be prepared to discuss your answers with the class.</li></ol>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

### RESPONSIBILITY AND AUTHORITY MATCHING WORKSHEET

Column 1	Column 2
1. Authority	( <u>3</u> ) Action inspectors consider necessary to fulfill their responsibilities.
2. Code	( <u>6</u> ) Acts that involve the manner in which the inspector carries out or performs an act or policy.
3. Discretionary	( <u>7</u> ) An act or duty for which someone is clearly accountable.
4. Inspection	( <u>9</u> ) An infringement of existing rules, codes, and laws.
5. Liability	( <u>4</u> ) Formal examination of an occupancy and its associated uses or processes to determine its compliance with codes.
6. Ministerial	( <u>1</u> ) Relates to the empowered duties of an official, in this case the inspector.
7. Responsibility	( <u>2</u> ) Rules or laws used to enforce requirements for fire protection and life safety.
8. Right of entry	( <u>8</u> ) The rights set forth by the administrative powers that allow the inspector to inspect.
9. Violation	( <u>5</u> ) To be legally obligated or responsible for an act or physical condition.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

**Topic:** 1-3: Legally Established Responsibilities And Empowerment

**Time Frame:** 1:30

**Level of Instruction:** Level II

**Authority:** State Board of Fire Services

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of legally established responsibilities and empowerment of the duties of an inspector

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Preface, Chapter 1, and Appendix Chapter 1, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 12-14

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Sample inspection forms

**References:**

- Barclays Official California Code of Regulations Title 19, West Group
- Barclays Official California Code of Regulations Title 24, West Group
- California Fire Code, CBSC, 2007 Edition, Preface, Chapter 1, and Appendix Chapter 1
- California Health and Safety Code, Current Edition, Sections 13000 and 18000
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

**A**ttention (attract)

**C**uriosity (arouse)

**I**nterest (create)

**D**esire (stimulate)

**B**egin

**A**ssociation

**S**tudents

**E**xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.

**RETIRED CURRICULUM**



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. THE INSPECTOR'S POWER OF INSPECTION IS DERIVED FROM STATE AND LOCAL LAW</b></p> <p><b>A. State level</b></p> <ol style="list-style-type: none"><li>1. California Health and Safety Code (H&amp;S Code)</li><li>2. California Code of Regulations (CCR)</li><li>3. Other codified state law</li></ol> <p><b>B. Local level</b></p> <ol style="list-style-type: none"><li>1. California Fire Code</li><li>2. California Building Code</li><li>3. City ordinance</li><li>4. County ordinance</li></ol> <p><b>C. Code inter-relationship</b></p> <ol style="list-style-type: none"><li>1. All codes are part of a legislative process</li><li>2. Different codes may cover the same topic</li><li>3. All codes are part of a "living document" and subject to<ol style="list-style-type: none"><li>a) Review</li><li>b) Updates</li><li>c) Interpretation</li></ol></li><li>4. Check with your Prevention Bureau for<ol style="list-style-type: none"><li>a) Adopted codes</li><li>b) Enforcement philosophy</li><li>c) Code interpretation</li></ol></li></ol> <p><b>NOTE:</b> If available, have the students get a copy of the ordinance(s) that adopt the codes for their jurisdiction.</p>	<p><b>SLIDE: 1-3-1</b></p> <p><b>SLIDE: 1-3-2</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>II. STATE LAW</b></p> <p><b>A. Health and Safety Code</b></p> <ol style="list-style-type: none"><li>1. Sections starting with 13000 pertain to fire safety</li><li>2. Creates Office of State Fire Marshal (OSFM)<ol style="list-style-type: none"><li>a) The mission of the OSFM is to foster, promote, and develop ways and means of protecting life and property against fire and panic</li><li>b) State Fire Marshal is appointed by the Governor<ol style="list-style-type: none"><li>1) Must have at least eight years experience in a paid fire department</li><li>2) May appoint deputies from among local fire officials</li><li>3) Has Deputy State Fire Marshals</li></ol></li><li>c) The OSFM prepares and adopts regulations establishing minimum standards for fire and panic safety in certain occupancies<ol style="list-style-type: none"><li>1) Assembly hall</li><li>2) Asylum</li><li>3) Auditorium</li><li>4) Children's home</li><li>5) Children's nursery</li><li>6) Dance hall/night club</li><li>7) High-rise</li><li>8) Home for the aged</li><li>9) Hotels, motels, and lodging houses</li><li>10) Jail</li><li>11) Mental hospital</li></ol></li></ol></li></ol>	<p><b>SLIDE: 1-3-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>12) Motion picture theater with a capacity of 10 or more</li><li>13) Organized camps</li><li>14) Sanitarium</li><li>15) School</li><li>16) Small family day care/large family day care</li><li>17) State-owned or state-occupied building</li><li>18) Theater</li></ul>	
<b>III. REGULATIONS DERIVED FROM STATE LAW</b>	
<ul style="list-style-type: none"><li>A. CCR Title 19 are regulations written to implement sections of the Health and Safety Code</li><li>B. Occupancies covered by Title 19 and the CBC are the same as those spelled out in the Health and Safety Code</li><li>C. Title 19 allows local ordinances to be more restrictive, but not less restrictive, than state regulations<ul style="list-style-type: none"><li>1. Exceptions<ul style="list-style-type: none"><li>a) Public schools</li><li>b) R-2 and R-6 occupancies<ul style="list-style-type: none"><li>1) These are occupancy definitions from the 2001 code</li><li>2) T-19 still uses the older definitions</li><li>3) Occupancy classifications under the new code for these occupancies are R-3.1, R-4, and I-2.1</li></ul></li><li>c) Organized camps</li></ul></li></ul></li></ul>	<b>SLIDE: 1-3-4</b>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>D. Health and Safety Code spells out the division of authority when enforcing OSFM regulations</p> <ol style="list-style-type: none"><li>1. State Fire Marshal and his or her deputies cover<ol style="list-style-type: none"><li>a) State-owned and state-leased occupancies</li><li>b) State-regulated occupancies outside of city and fire protection districts</li><li>c) Jails</li><li>d) High-rise buildings</li></ol></li><li>2. Local fire authority covers<ol style="list-style-type: none"><li>a) All nonstate-owned occupancies</li><li>b) Schools</li><li>c) Jails<ol style="list-style-type: none"><li>1) If requested by local jurisdiction that it be done locally</li></ol></li><li>d) High-rise buildings<ol style="list-style-type: none"><li>1) If requested by local jurisdiction that it be done locally</li></ol></li></ol></li><li>3. A local agency may request in writing that they be allowed to enforce state codes in state-owned or state-occupied buildings<ol style="list-style-type: none"><li>a) Other than state institutions</li><li>b) Local agency must have a <u>paid</u> Fire Prevention Officer</li></ol></li></ol>	<p><b>SLIDE: 1-3-5</b></p> <p>Has your department formally requested local authority?</p> <p><b>SLIDE: 1-3-6</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>E. California Fire Code (CFC)</p> <ol style="list-style-type: none"><li>1. Responsibility for enforcement rests with the Fire Chief<sup>1</sup><ol style="list-style-type: none"><li>a) The term used by the fire code is the "Fire Code Official"</li><li>b) Title 19, CCR Div 1, Section 1.12 specifies that the Fire Code Official is the Fire Chief of the local jurisdiction in most cases</li></ol></li><li>2. The Fire Chief may make and enforce rules and regulations necessary to prevent and control fire hazards<sup>2</sup></li><li>3. A Fire Prevention Bureau is authorized to be established by the Fire Chief<sup>3</sup></li><li>4. Inspections may be performed as often as necessary to verify the need to correct fire hazards<sup>4</sup></li><li>5. Buildings may be declared unsafe and may be abated by repair, rehabilitation, demolition, or removal<sup>5</sup></li><li>6. Fire department is authorized to investigate the cause and origin of all fires within its jurisdiction<sup>6</sup><ol style="list-style-type: none"><li>a) Police department to assist<sup>7</sup></li></ol></li><li>7. Fire department shall keep a record of all fires in their jurisdiction for three years<sup>8</sup><ol style="list-style-type: none"><li>a) Showing cause and disposition of fire incident<sup>9</sup></li></ol></li></ol>	<p>Does your department enforce state codes in state-owned or state-occupied buildings?</p> <p><b>SLIDE: 1-3-7</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>b) Fire department shall keep a record of each inspection made showing findings and disposition for not less than 3 years<sup>10</sup></li> <li>F. California Building Code (CBC)               <ul style="list-style-type: none"> <li>1. The building official enforces the CBC described in the California Matrix Adoption Table as local building official</li> <li>2. The Fire Chief has the authority to enforce portions of the CBC as listed in the California Matrix Adoption Table</li> </ul> </li> </ul>	<p><b>SLIDE: 1-3-8</b></p>
<p><b>IV. OSFM VERSUS LOCALLY ADOPTED REGULATIONS</b></p> <ul style="list-style-type: none"> <li>A. Authority           <ul style="list-style-type: none"> <li>1. California Health and Safety Code mandates OSFM to adopt building regulations for               <ul style="list-style-type: none"> <li>a) Selected occupancies                   <ul style="list-style-type: none"> <li>1) A, E, I, L, R-1, R-2, Residential Care Facilities (RCF), organized camps, high-rise, R-3 large family day care</li> <li>2) All state-owned or state-leased buildings<sup>11</sup></li> </ul> </li> <li>b) Installation and maintenance of fire alarms</li> <li>c) Storage and handling of combustible and explosive materials</li> <li>d) Installation and maintenance of appliances, equipment, security bars, grills, and gates</li> <li>e) Flame retardant</li> <li>f) Tents</li> <li>g) Fireworks</li> <li>h) Maintenance of fire protection systems</li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 1-3-9</b></p> <p><b>SLIDE: 1-3-10</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
**Introduction To The California Fire Code**

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>2. Local jurisdictions must adopt fire regulations for all other occupancies               <ul style="list-style-type: none"> <li>a) Groups B, M, F, S, U, etc.</li> </ul> </li> </ul>	<p><b>SLIDE: 1-3-11</b></p>
<ul style="list-style-type: none"> <li>B. Inspection authority           <ul style="list-style-type: none"> <li>1. State authority for enforcement is given to the               <ul style="list-style-type: none"> <li>a) Fire Chief of any city/county fire department or fire protection district or their authorized representative</li> <li>b) OSFM in areas where there is no legally established fire departments</li> <li>c) OSFM in local jurisdictions when requested by the Fire Chief or governing body</li> <li>d) Fire Chief or Chief Building Official for R-3 large family day care</li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 1-3-12</b></p>
<ul style="list-style-type: none"> <li>2. Local authority for enforcement is given to the           <ul style="list-style-type: none"> <li>a) Fire Chief for the CFC and locally adopted fire codes</li> <li>b) Chief Building Official for the building code</li> </ul> </li> </ul>	<p><b>SLIDE: 1-3-13</b></p>
<ul style="list-style-type: none"> <li>C. State-owned and state-occupied buildings           <ul style="list-style-type: none"> <li>1. California Health and Safety Code gives OSFM jurisdiction for enforcement of building regulations</li> <li>2. Local jurisdictions cannot enforce any regulations               <ul style="list-style-type: none"> <li>a) Exceptions                   <ul style="list-style-type: none"> <li>1) If requested by the Fire Chief, OSFM can designate local fire department as the enforcing agency</li> </ul> </li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 1-3-14</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>2) Can enter premise for pre-incident planning purposes only</p> <p>D. Adopted regulations</p> <p>1. State</p> <p>a) California Code of Regulations, Title 24</p> <ol style="list-style-type: none"><li>1) Part 1 - Administrative Regulations</li><li>2) Part 2 - California Building Code</li><li>3) Part 3 - California Electrical Code</li><li>4) Part 4 - California Mechanical Code</li><li>5) Part 5 - California Plumbing Code</li><li>6) Part 8 - California Historical Building Code</li><li>7) Part 9 - California Fire Code<ul style="list-style-type: none"><li>• Only pertains to the building standards contained in the CFC as adopted by the OSFM as noted in the California Matrix Adoption Table</li></ul></li><li>8) Part 12 - California Referenced Standards Code</li><li>9) See the adoption table for those sections adopted by the OSFM</li></ol> <p>b) California Code of Regulations, Title 19</p> <ol style="list-style-type: none"><li>1) Chapter 1 - General Fire and Panic Safety Standards</li><li>2) Chapter 2 - Tents, Awnings, and other Fabric Enclosures</li><li>3) Chapter 3 - Fire Extinguishers</li><li>4) Chapter 4 - Fire Alarm Systems and Devices</li><li>5) Chapter 5 - Automatic Fire Extinguishing Systems</li></ol>	<p><b>SLIDE: 1-3-15</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>6) Chapter 6 - Fireworks</li> <li>7) Chapter 7 - Flammable Fabric Standards</li> <li>8) Chapter 8 - Flame Retardant Chemicals, Fabrics, and Application Concerns</li> <li>9) Chapter 9 - Explosives</li> </ul> <p>2. Local regulations usually adopted may be</p> <ul style="list-style-type: none"> <li>a) International Building Code (IBC)</li> <li>b) National Electrical Code (NEC)</li> <li>c) International Mechanical Code (IMC)</li> <li>d) International Plumbing Code (IPC)</li> <li>e) International Fire Code (IFC)</li> <li>f) Other local codes and ordinances</li> </ul>	<p>What are some of the local regulations adopted by your community?</p> <p><b>SLIDE: 1-3-16</b></p>
<p><b>V. CODE ADOPTION PROCESS</b></p> <p>A. California Building and Fire Codes</p> <ul style="list-style-type: none"> <li>1. OSFM must adopt building standards for all state-owned and/or occupied buildings<sup>12</sup></li> <li>2. OSFM must adopt regulations for the installation of fire protection systems<sup>13</sup></li> <li>3. OSFM amends fire and life safety sections of the IFC and IBC to be adopted by the CBSC               <ul style="list-style-type: none"> <li>a) When adopted by the CBSC, the IFC as amended becomes the CFC                   <ul style="list-style-type: none"> <li>1) The CFC is another name for the body of regulations known as the California Code of Regulations, Title 24, Part 9</li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 1-3-17</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>b) When adopted by the CBSC, the IBC as amended becomes the CBC               <ul style="list-style-type: none"> <li>1) The CBC is another name for the body of regulations known as the California Code of Regulations, Title 24, Part 2</li> </ul> </li> <li>c) A portion of the "California Building Standards Code" as defined in the "California Building Standards Law" commencing with §18901 of the Health and Safety Code</li> <li>d) Title 24 is one of 26 titles of the CCR               <ul style="list-style-type: none"> <li>1) Each numbered title is assigned to a specific state agency and contains all the regulations promulgated by that agency except for the CBSC</li> </ul> </li> <li>e) Title 24 is assigned to the CBSC, which by law, is responsible for coordinating all building standards               <ul style="list-style-type: none"> <li>1) Under law, all building standards must be centralized in Title 24 or they are unenforceable</li> </ul> </li> </ul> <p>B. Enforcement</p> <ul style="list-style-type: none"> <li>1. Both the CBC and CFC automatically become effective in all parts of California 180 days from publication by the CBSC<sup>14</sup></li> <li>2. The provisions of the CFC and CBC must be enforced by the local authority in all new construction and in state-owned, leased, or regulated occupancies               <ul style="list-style-type: none"> <li>a) Local agencies may amend State Building Standards to be more restrictive                   <ul style="list-style-type: none"> <li>1) For example, sprinklers required in all new construction over 2,500 square feet (SF)</li> </ul> </li> </ul> </li> </ul>	<p style="text-align: center;"><b>SLIDE: 1-3-18</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>3. To conduct inspections and to enforce provisions not adopted by the OSFM as noted in the California Matrix Adopted Table in the CFC, the local authority must adopt the IFC or other fire code (e.g., Chapter 9, IFC)               <ul style="list-style-type: none"> <li>a) The local fire authority may enforce the provisions of the CFC as adopted by the OSFM in all state-regulated occupancies                   <ul style="list-style-type: none"> <li>1) Groups A, E, H, I, R-1/R-2, high-rises, etc.</li> </ul> </li> <li>b) The CFC does not give the local fire authority the power to conduct inspections in occupancies other than state-regulated                   <ul style="list-style-type: none"> <li>1) Groups B, M, F, S, U, etc.</li> </ul> </li> </ul> </li> </ul> <p>C. Local adoption process</p> <ul style="list-style-type: none"> <li>1. The local authority is authorized by the Health and Safety Code to adopt fire and life safety provisions<sup>15</sup> <ul style="list-style-type: none"> <li>a) Provisions adopted by the local authority may not be less restrictive than those adopted by the OSFM as applied to state-owned or occupied buildings, or state-regulated occupancies</li> </ul> </li> <li>2. Local adoption of the IFC or other fire code allows the local authority to enter, inspect, and enforce the provisions of the IFC in buildings not owned, leased, or regulated by the State</li> <li>3. Local adoption allows for amendments to address local needs               <ul style="list-style-type: none"> <li>a) Sprinkler system installation in all new construction</li> <li>b) Fire apparatus access to structures</li> </ul> </li> </ul>	<p style="text-align: center;"><b>SLIDE: 1-3-19</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>D. More restrictive regulations</p> <p>1. State</p> <p>a) Law states that local jurisdictions cannot enforce more restrictive regulations than those adopted by the OSFM in</p> <ol style="list-style-type: none"> <li>1) Public schools</li> <li>2) Camps</li> <li>3) Group R-6 occupancies               <ul style="list-style-type: none"> <li>• 2001 occupancy class</li> <li>• New class is R-3.1 or R-4</li> </ul> </li> <li>4) State-owned or state-occupied buildings</li> <li>5) Group R-2 occupancies               <ul style="list-style-type: none"> <li>• 2001 occupancy class</li> <li>• New class is R-3.1 or R-4</li> <li>• Exception: Roof coverings</li> </ul> </li> <li>6) Small and large family day care</li> </ol> <p>2. Local</p> <p>a) Can adopt more restrictive building standards due to local climate and geological or topographical conditions</p>	<p><b>SLIDE: 1-3-20</b></p>
<p><b>VI. RIGHT OF INSPECTION – RIGHT OF ENTRY</b></p> <p>A. Health and Safety Code<sup>16</sup> gives the inspector the right to enter any nondwelling to make an inspection of a state-regulated occupancy</p>	<p><b>SLIDE: 1-3-21</b></p> <p>Who has recently been refused entry during an inspection of a commercial occupancy?</p> <p><b>SLIDE: 1-3-22</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. CFC allows entry when the Fire Chief has cause to believe an unsafe condition exists or is performing routine inspections</p> <p>C. Inspector must</p> <ol style="list-style-type: none"><li>1. Show proper credentials</li><li>2. Demand entry</li><li>3. Make a reasonable effort to locate the owner of a vacant building</li></ol> <p>D. Legal precedent allows entry, but you must prove a logical sequence of inspections is occurring in the geographical area</p> <ol style="list-style-type: none"><li>1. Constitutional protection extended to owners of commercial property<ol style="list-style-type: none"><li>a) Administrative entry without the owner's consent results in warrantless entry violates the owner's rights under the Fourth and Fourteenth Amendments</li></ol></li><li>2. <u>See vs. City of Seattle, 1967</u></li></ol> <p>E. Inspector may obtain an inspection warrant</p> <ol style="list-style-type: none"><li>1. Issued by the judge under the Code of Civil Procedure 1822.5</li><li>2. Is <u>not</u> a search warrant</li></ol> <p><b>NOTE:</b> <u>Fire Inspection and Code Enforcement, IFSTA, Sixth Edition</u> considers an inspection warrant a search warrant. For testing purposes, the term used is "inspection warrant."</p> <ol style="list-style-type: none"><li>1. Must give the occupant 24-hour notice of intent to inspect</li><li>2. Good for the time of inspection<ol style="list-style-type: none"><li>a) But not more than 14 days</li></ol></li></ol>	<p><b>SLIDE: 1-3-23</b></p> <p><b>SLIDE: 1-3-24</b></p> <p>What has your experience been with the inspection warrant?</p>





# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>4. Contact owner or responsible party and discuss purpose of inspection<ul style="list-style-type: none"><li>a) Annual</li><li>b) Complaint</li></ul></li><li>5. Start inspection<ul style="list-style-type: none"><li>a) Top down or</li><li>b) Farthest end from the main entrance</li></ul></li><li>6. Walk through the building<ul style="list-style-type: none"><li>a) Make notes</li><li>b) Brief owner or responsible party on any problems</li></ul></li><li>7. End of inspection<ul style="list-style-type: none"><li>a) Review any violations</li><li>b) Give date of reinspection</li><li>c) Leave copy of inspection report</li><li>d) Answer any questions</li><li>e) Depart</li></ul></li></ul>	



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

Fire prevention personnel are relied upon daily to provide technical information and problem resolutions for a multitude of life and fire hazard areas. This lesson has focused on the general duties and responsibilities of an inspector. The remaining lessons in this course deal with much more specific and technical areas of fire prevention.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Preface and Chapter 1, Fire Inspection and Code Enforcement, IFSIA, Sixth Edition, Preface, Chapter 1, and Appendix Chapter 1, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 12-14 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

### ENDNOTES

The endnotes provide support and facilitate instruction. It is recommended you insert the specific code section in the lesson plan where it is used. Please report immediately to State Fire Training Curriculum Development Division of any errors or changes you find to the endnotes.

- <sup>1</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.1
- <sup>2</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.1
- <sup>3</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 103.1
- <sup>4</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 106.2
- <sup>5</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 110
- <sup>6</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.10
- <sup>7</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.10.1
- <sup>8</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.6.3
- <sup>9</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.6
- <sup>10</sup> California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.6.3
- <sup>11</sup> California Health and Safety Code, Section 13108
- <sup>12</sup> California Health and Safety Code, Section 13108
- <sup>13</sup> California Health and Safety Code, Section 13000
- <sup>14</sup> California Health and Safety Code, Section 18938
- <sup>15</sup> California Health and Safety Code, Sections 13143.5 and 13869
- <sup>16</sup> California Health and Safety Code, Section 13109



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 1-4: Legal Responsibilities Of The Inspector

**Time Frame:** 2:00

**Level of Instruction:** Level II

**Authority:** State Board of Fire Services

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of legally established responsibilities of the inspector

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 1, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 15-18

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 1-4-1: Legal Responsibilities Scavenger Hunt
- Individual Activity 1-4-2: CFC Scavenger Hunt

**References:**

- California Fire Code, CBSC, 2007 Edition, Chapter 1
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. ORGANIZATION</b></p> <p>A. Organization of the Fire Prevention Bureau</p> <ol style="list-style-type: none"><li>1. Under the direction of the Fire Chief</li><li>2. Fire department personnel assigned by the Fire Chief</li><li>3. Function is to assist the Fire Chief in the administration and enforcement of the code</li><li>4. Fire Marshal<ol style="list-style-type: none"><li>a) Appointed by the Fire Chief</li><li>b) Exercises the powers and performs the duties of a fire prevention engineer</li></ol></li></ol> <p>B. Inspectors must be aware of other agencies whose regulations might affect their actions and activities</p> <ol style="list-style-type: none"><li>1. Local agencies<ol style="list-style-type: none"><li>a) Health department</li><li>b) Building department</li><li>c) Zoning department</li><li>d) Planning department</li><li>e) Air Pollution Control Board</li></ol></li><li>2. Other agencies<ol style="list-style-type: none"><li>a) Office of State Fire Marshal (CSFM)</li><li>b) Office of Statewide Health Planning and Development (OSHPD)</li><li>c) Division of the State Architect (DSA)</li><li>d) Cal OSHA</li></ol></li></ol>	<p><b>SLIDE: 1-4-1</b></p> <p><b>SLIDE: 1-4-2</b></p> <p>What other agencies might affect the Bureau's activities?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>II. AUTHORITY</b></p> <p>A. The Fire Chief is authorized to administer and enforce the fire code</p> <p>1. Under the Fire Chief's direction, the fire department is authorized to enforce</p> <ul style="list-style-type: none"><li>a) Prevention of fires</li><li>b) Suppression or extinguishment of dangerous or hazardous fires</li><li>c) Storage, use, and handling of hazardous materials</li><li>d) Installation and maintenance of fire alarm systems</li><li>e) Installation and maintenance of fire extinguishment equipment</li><li>f) Maintenance and regulation of fire escapes</li><li>g) Maintenance of fire protection</li><li>h) Elimination of fire hazards<ul style="list-style-type: none"><li>1) On land</li><li>2) In buildings</li><li>3) Structures</li><li>4) Other property</li><li>5) Buildings under construction</li></ul></li><li>i) Maintenance of means of egress</li><li>j) Investigation of cause, origin, and circumstances of fire</li><li>k) Investigation of cause, origin, and circumstances of unauthorized releases of hazardous materials</li></ul>	<p>Who is given the authority to enforce the CFC?</p> <p><b>SLIDE: 1-4-3</b></p> <p><b>SLIDE: 1-4-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Authority to inspect</p> <ol style="list-style-type: none"><li>1. The Fire Prevention Bureau shall inspect as often as necessary, buildings and premises, hazards, or appliances as designated by the Fire Chief</li><li>2. The Fire Prevention Bureau shall inspect annually, per state law<ol style="list-style-type: none"><li>a) Jails</li><li>b) High-rise buildings</li><li>c) R-1 and R-2 occupancies</li><li>d) Public schools</li></ol></li><li>3. Inspection frequency of all other occupancies shall be established by department policy</li></ol>	<p><b>SLIDE: 1-4-5</b></p>
<p>C. Legal status as an inspector</p> <ol style="list-style-type: none"><li>1. The Fire Chief and members of the Fire Prevention Bureau have police powers in performing their duties under the CFC</li><li>2. When requested by the Fire Chief, police officers are authorized to assist the fire department in enforcing the provisions of this code</li></ol>	<p><b>SLIDE: 1-4-6</b></p>
<p>D. Liability</p> <ol style="list-style-type: none"><li>1. The inspector is not held personally liable for acting in good faith and without malice in the performance of duties<ol style="list-style-type: none"><li>a) Lawsuits shall be defended by the jurisdiction</li></ol></li><li>2. Inspectors cannot be held liable for discretionary acts</li></ol>	<p><b>SLIDE: 1-4-7</b></p>





# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Inspectors may issue stop orders for extremely hazardous conditions, even if entry is denied, while warrants are being prepared</li><li>3. Inspectors should have guidelines that define conditions whereby they may stop operations without obtaining either permission to enter or obtain an inspection warrant</li><li>4. Components of an inspection warrant<ul style="list-style-type: none"><li>a) Affidavit in support of inspection warrant<ul style="list-style-type: none"><li>1) Identification and experience of inspector</li><li>2) Description of place to be inspected</li><li>3) Description of property to be inspected</li><li>4) Statutory grounds</li></ul></li><li>b) Receipt for discrepancies noted during inspection warrant service</li></ul></li></ul>	<p><b>SLIDE: 1-4-11</b></p>
<p><b>III. ENFORCEMENT PROCEDURES</b></p> <ul style="list-style-type: none"><li>A. Actions taken to ensure code compliance vary from jurisdiction to jurisdiction<ul style="list-style-type: none"><li>1. Three categories of violation<ul style="list-style-type: none"><li>a) Routine (maintenance)</li><li>b) Imminent (changeable)</li><li>c) Transient</li></ul></li></ul></li><li>B. Methods of compliance<ul style="list-style-type: none"><li>1. Voluntary compliance</li><li>2. Legal compliance<ul style="list-style-type: none"><li>a) Citation process</li><li>b) Court ordered summons</li></ul></li></ul></li></ul>	<p><b>SLIDE: 1-4-12</b></p> <p>What are the methods of achieving compliance?</p> <p><b>SLIDE: 1-4-13</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. Penalties</p> <ol style="list-style-type: none"><li>1. Criminal or civil</li><li>2. Fines</li><li>3. Loss of certificate of occupancy</li><li>4. Loss of fire clearance</li><li>5. Restitution</li><li>6. Loss of business/income</li></ol> <p><b>IV. ALTERNATIVES FOR CODE COMPLIANCE</b></p> <p>A. Practical difficulties</p> <ol style="list-style-type: none"><li>1. Fire Chief can modify provisions of the code</li><li>2. Application must be made in writing</li><li>3. Must have practical difficulties in the way of carrying out the code provisions</li><li>4. Spirit of the code shall be complied with and public safety secured</li><li>5. Fire Chief's decision must be documented</li><li>6. Signed copy shall be furnished to the applicant</li></ol> <p>B. Alternatives</p> <ol style="list-style-type: none"><li>1. Alternate materials and methods<ol style="list-style-type: none"><li>a) Fire Chief can approve alternate materials and methods not specifically identified in the code<ol style="list-style-type: none"><li>1) Design, use, or operation must comply with the intent of the code</li><li>2) Must be equivalent in quality, strength, effectiveness, fire resistance, durability, and safety</li></ol></li></ol></li></ol>	<p>What is the nature of penalties applied to ensure compliance?</p> <p><b>SLIDE: 1-4-14</b></p> <p><b>SLIDE: 1-4-15</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>3) Subject to approval of the building official when regulated also by the CBC</li> </ul> <p>2. Alternate means of protection</p> <ul style="list-style-type: none"> <li>a) This is the terminology used for requests for alternates in state-regulated occupancies               <ul style="list-style-type: none"> <li>1) Must be made in writing to the Authority Having Jurisdiction (AHJ)</li> <li>2) Evidence shall be submitted to substantiate the claim</li> <li>3) AHJ can require tests and test reports from an approved testing organization</li> <li>4) Shall not be construed to establish precedence for any future request</li> </ul> </li> </ul>	<p><b>SLIDE: 1-4-16</b></p>
<p><b>V. APPEALS</b></p> <ul style="list-style-type: none"> <li>A. Board of Appeals determines suitability of alternate materials and types of construction           <ul style="list-style-type: none"> <li>1. Provides for reasonable interpretations</li> <li>2. Fire Chief is an ex-officio member and secretary of the Board</li> <li>3. Appointed by executive body</li> <li>4. Consists of five members qualified by experience and training</li> <li>5. Finding must be made in writing to the Fire Chief and appellant</li> </ul> </li> <li>B. CFC/OSFM           <ul style="list-style-type: none"> <li>1. Used when a request for an alternate means of protection has been denied by an enforcing agency</li> </ul> </li> </ul>	<p><b>SLIDE: 1-4-17</b></p> <p>Why do we allow for appeals?</p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>2. Applicant may file a written appeal to the State Fire Marshal</li> <li>3. State Fire Marshal may seek the advice of the State Board of Fire Services</li> <li>4. Findings shall be transmitted to the applicant and to the AHJ</li> </ul>	<p><b>SLIDE: 1-4-18</b></p>
<p><b>VI. RETROACTIVE APPLICATION OF THE CFC</b></p> <ul style="list-style-type: none"> <li>A. Can be applied to existing conditions arising after adoption for           <ul style="list-style-type: none"> <li>1. Conditions not legally in existence at the code adoption</li> <li>2. Conditions that, in the opinion of the Fire Chief, are a distinct hazard to life or property</li> </ul> </li> </ul>	<p><b>SLIDE: 1-4-19</b></p>
<p><b>VII. SUBJECTS NOT SPECIFICALLY REGULATED</b></p> <ul style="list-style-type: none"> <li>A. Allows the use of applicable standards of the National Fire Protection Association (NFPA) or other nationally recognized fire safety standards</li> </ul>	
<p><b>VIII. RESPONSIBILITIES</b></p> <ul style="list-style-type: none"> <li>A. Are varied           <ul style="list-style-type: none"> <li>1. Technical responsibilities</li> <li>2. Judgmental responsibilities</li> <li>3. Moral responsibilities</li> </ul> </li> <li>B. Technical responsibilities are most day-to-day responsibilities involving non-controversial technical questions           <ul style="list-style-type: none"> <li>1. Determination of extinguisher placement</li> </ul> </li> </ul>	<p>Of the three types of responsibilities, which one accounts for the majority of an inspector's duties?</p> <p><b>SLIDE: 1-4-20</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Enforcement of regulations covering storage and use of flammable liquids</li><li>3. Problems involving storage and use of other hazardous materials<ul style="list-style-type: none"><li>a) Cryogenics</li><li>b) Corrosives</li><li>c) Others</li></ul></li><li>4. Enforcement of rules regarding standby fire safety duties and exit drills</li><li>5. Determination of placement and maintenance of fixed fire extinguishing system<ul style="list-style-type: none"><li>a) Sprinkler systems</li><li>b) Standpipe systems</li><li>c) Detection and alarm systems</li></ul></li><li>6. Inspection of heating and cooking equipment</li><li>7. Maintenance of egress requirements for various occupancies</li></ul> <p>C. Judgmental responsibilities are more difficult to deal with</p> <ul style="list-style-type: none"><li>1. Code is silent</li><li>2. Inspector asks for fire prevention measures that are not specifically called for by the code</li><li>3. Code technically applies, but application is not practical</li></ul> <p>D. Moral responsibilities are controversial</p> <ul style="list-style-type: none"><li>1. Enforcement of codes during off-duty hours</li><li>2. Bribes</li><li>3. Succumbing to political pressure</li></ul>	<p><b>SLIDE: 1-4-21</b></p> <p>What are some moral or ethical situations you might encounter?</p> <p><b>SLIDE: 1-4-22</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>4. Impact</p> <ul style="list-style-type: none"><li>a) To your organization</li><li>b) To your fellow inspectors</li><li>c) To yourself</li><li>d) To the community/public</li></ul>	<p>Who is impacted by your decisions and actions?</p> <p><b>SLIDE: 1-4-23</b></p> <p><b>INDIVIDUAL ACTIVITY 1-4-1:</b> Complete the activity in the student supplement.</p> <p><b>INDIVIDUAL ACTIVITY 1-4-2:</b> Complete the activity in the student supplement. May be completed as homework.</p>



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

Having a thorough understanding of the basic responsibilities and mission of the fire prevention program undoubtedly, serves as a foundation for not only your successes as a fire prevention inspector, but also the success of your fire prevention program in your community.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapter 1, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 15-18 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY 1-4-1: LEGAL RESPONSIBILITIES SCAVENGER HUNT

<b>Time Frame:</b>	0:15
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• <u>California Fire Code</u>, CBSC, 2007 Edition, Chapter 1</li><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to become familiar with the provisions of the CFC and the legal responsibilities of the inspector.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Using the CFC Chapter 1, answer the following questions.</li><li>2. List the appropriate response and reference the code section where you found the answer.</li><li>3. You have 10 minutes to complete this activity.</li><li>4. Be prepared to discuss your answers with the class.</li></ol>

1. Who is responsible for enforcement of the fire code?

**Fire Code Official**

California Fire Code, CBSC, 2007 Edition, Section 104.1

2. Can the fire code be used to regulate the fire hazards outside buildings?

**Yes**

California Fire Code, CBSC, 2007 Edition, Section 101.2

3. Can the Fire Chief prevent a family from occupying their home after a fire has occurred there?

**Yes, if declared unsafe**

California Fire Code, CBSC, 2007 Edition, Section 110

4. When a jurisdiction adopts the fire code, do they automatically adopt the UFC Appendix as well?

**No, must be specifically adopted**

California Fire Code, CBSC, 2007 Edition, Section 101.2.1



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

5. What is the name of the legal document used to gain entry into a building for the purposes of fire inspections?

***Inspection warrant***

---

*California Fire Code, CBSC, 2007 Edition, Section 104.3.1*

6. What sort of crime is a person guilty of when they violate provisions of the fire code?

***Misdemeanor***

---

*California Fire Code, CBSC, 2007 Edition, Section 109.3*

7. Does change in ownership of a business require issuance of a new fire code permit?

***Yes***

---

*California Fire Code, CBSC, 2007 Edition, Section 105.5*

8. Would a permit be required to have a carnival?

***Yes***

---

*California Fire Code, CBSC, 2007 Edition, Section 105.6.4*

RETIREED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### ACTIVITY 1-4-2: CFC SCAVENGER HUNT

<b>Time Frame:</b>	0:15
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• <u>California Fire Code</u>, CBSC, 2007 Edition, Chapter 1</li><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to become familiar with Article 1 of the CFC. It is essential that the student understand the requirements and limits set forth in Chapter 1 concerning the administration of the CFC.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Using the CFC Chapter 1, answer the following questions.</li><li>2. List the appropriate response and reference the code section where you found the answer.</li><li>3. You have 10 minutes to complete this activity.</li><li>4. Be prepared to discuss your answers with the class.</li></ol>

1. Which section addresses supplemental rules and regulations?

**Section 102.6 and 102.7**

California Fire Code, CBSC, 2007 Edition

2. Who is authorized to approve an alternate method of protection?

**Fire Code Official**

California Fire Code, CBSC, 2007 Edition, Section 104.1

3. Which section addresses appeals?

**Appendix Chapter 1, Section 108.1 or Chapter 1, Section 111.2.5**

California Fire Code, CBSC, 2007 Edition

4. Can the Fire Chief issue a "Stop Order?"

**Yes**

California Fire Code, CBSC, 2007 Edition, Section 111



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

5. Is the inspector authorized to seek an inspection warrant if denied entry?

**Yes**

*California Fire Code, CBSC, 2007 Edition, Section 104.3.1*

6. Who can be issued a citation?

***Persons who shall violate provisions of the code or who fail to comply with any Of the requirements or who shall erect, install, alter, repair, or do work in Violation of the approved documents***

*California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 109.2.1*

7. Must the fire code official have identification when inspecting a building?

**Yes**

*California Fire Code, CBSC, 2007 Edition, Section 104.4*

8. What section allows for the appointment of a "Deputy Fire Code Official?"

**103.3**

*California Fire Code, CBSC, 2007 Edition*

9. Is it permissible to use applicable standards of NFPA or other nationally recognized standards where no applicable section is in the code?

**Yes**

*California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Sections 102.6 and 102.7*

10. When there are conflicting provisions general and specific code requirement, which code section shall apply?

***The specific requirement***

*California Fire Code, CBSC, 2007 Edition, Section 102.9*



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 1-5: Understanding, Reading, And Using The CFC

**Time Frame:** 2:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Section 4-2.5

**Behavioral Objective:**

**Condition:** Given an activity and formative test

**Behavior:** The student will confirm a knowledge of the basic structure and components of the CFC

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Table of Contents and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 19-21

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 1-5-1: California Fire Code Worksheet
- Individual Activity 1-5-2: Reference Standards

**References:**

- California Fire Code, CBSC, 2007 Edition, Table of Contents

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. COMPONENTS OF THE CFC</b></p> <p><b>A. Preface</b></p> <ol style="list-style-type: none"><li>1. Intended to correlate the provisions of the CFC and CBC</li><li>2. Neither code is intended to stand alone</li><li>3. The total package CBC, CFC, CMC, CPC, and CEC will give jurisdictions a complete and comprehensive program of model codes that are compatible with each other</li></ol> <p><b>B. Introduction</b></p> <ol style="list-style-type: none"><li>1. The CBC and CFC are related to the <u>California Code of Regulations (CCR) Title 24</u><ol style="list-style-type: none"><li>a) Part 2 of Title 24 contains state mandated changes to the CBC</li><li>b) Part 9 of Title 24 contains state mandated changes to the CFC</li></ol></li><li>2. Symbols used in the margin of the CFC<ol style="list-style-type: none"><li>a) CA</li><li>b) Bars</li><li>c) [B]</li></ol></li></ol> <p><b>C. Distinguishing model code language from California amendments</b></p> <ol style="list-style-type: none"><li>1. Legend of acronyms</li></ol> <p><b>D. Sample adoption ordinance</b></p> <p><b>E. Matrix adoption table legend</b></p> <ol style="list-style-type: none"><li>1. Actual adoption matrices at the beginning of each chapter</li></ol> <p><b>F. Table of contents</b></p>	<p><b>SLIDE: 1-5-1</b></p> <p><b>SLIDE: 1-5-2</b></p> <p><b>SLIDE: 1-5-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>G. Chapter 1 and Appendix Chapter 1</p> <ol style="list-style-type: none"><li>1. The general code provisions</li><li>2. Chapter 1 is for who in the state is responsible for what</li><li>3. Appendix Chapter 1 is the information about responsibility, permits, etc.</li></ol> <p>H. Chapter 2- Definitions and Abbreviations</p> <p>I. Chapters 3 through 10</p> <ol style="list-style-type: none"><li>1. Cover general topics that apply to all occupancies</li><li>2. Topics include<ol style="list-style-type: none"><li>a) Emergency planning</li><li>b) Site access</li><li>c) Water supply</li><li>d) Building systems</li><li>e) Fire resistance rated construction</li><li>f) Interior finishes</li><li>g) Fire protection systems</li><li>h) Means of egress</li></ol></li></ol> <p>J. Chapters 11 through 26</p> <ol style="list-style-type: none"><li>1. Occupancy specific hazards<ol style="list-style-type: none"><li>a) Dry cleaning</li><li>b) Aviation facilities</li><li>c) Flammable finishes</li><li>d) Repair garages</li><li>e) High piled storage</li><li>f) Tents</li><li>g) Welding</li><li>h) Others</li></ol></li></ol>	<p><b>SLIDE: 1-5-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>K. Chapters 27 through 44</p> <ol style="list-style-type: none"><li>1. Hazardous materials chapters</li><li>2. Chapter 27 is for general provisions</li><li>3. Chapters 28 through 44 address specific hazards broken down by hazard class<ol style="list-style-type: none"><li>a) Explosives</li><li>b) Corrosives</li><li>c) Flammable and combustible liquids</li><li>d) Compressed gasses</li><li>e) LPG</li></ol></li></ol> <p><b>II. STRUCTURE OF THE BODY</b></p> <p>A. Before each chapter is the adoption matrix for the chapter</p> <ol style="list-style-type: none"><li>1. Tells you what sections apply</li><li>2. May be whole chapter</li><li>3. May only be part of the chapter</li><li>4. May be part of the chapter as amended</li></ol> <p>B. Chapters</p> <ol style="list-style-type: none"><li>5. Forty-five chapters in the model fire code</li><li>6. CSFM has added Chapters 46 and 47<ol style="list-style-type: none"><li>a) 46 is for Motion Picture Studios</li><li>b) 47 is Requirements for Wildland-Urban Interface Areas</li></ol></li><li>7. CSFM has adopted several appendices<ol style="list-style-type: none"><li>a) Appendix Chapter 4<ol style="list-style-type: none"><li>1) Residential Care Facilities</li><li>2) "Section 425"</li></ol></li><li>b) Appendix B<ol style="list-style-type: none"><li>1) Fire flow requirements for buildings</li></ol></li></ol></li></ol>	<p><b>SLIDE: 1-5-5</b></p>





# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>c) Sometimes there are subsections               <ul style="list-style-type: none"> <li>1) i.e., 903.1.1</li> </ul> </li> <li>d) Subsections only apply if the parent section applies               <ul style="list-style-type: none"> <li>1) You cannot apply Section 903.1.1 if Section 903.1 does not apply</li> <li>2) You have to read sections completely to apply the code correctly</li> </ul> </li> <li>e) Top levels are more general whereas the lower levels are more specific               <ul style="list-style-type: none"> <li>1) 903.2 is "Where required"</li> <li>2) 903.2.2 is generally where in schools the fire protection systems are required</li> <li>3) 903.2.2.1 has requirements for newly constructed schools</li> </ul> </li> <li>f) Italicized language is where the California code differs from the model code</li> </ul>	
<p><b>III. USING OTHER REFERENCE STANDARDS</b></p> <ul style="list-style-type: none"> <li>A. Identify the problem and classify the occupancy</li> <li>B. Use the primary reference code first               <ul style="list-style-type: none"> <li>1. Chapter of the CFC</li> <li>2. Can use other references in CFC Chapter 45                   <ul style="list-style-type: none"> <li>a) Amendments may be used, so always check Chapter 45</li> <li>b) Example: NFPA 72, 2002 Edition</li> </ul> </li> </ul> </li> <li>C. Where no applicable standard or requirements are found directly in the CFC, you may use national standards to gain authority for compliance</li> </ul>	<p><b>SLIDE: 1-5-8</b></p> <p><b>SLIDE: 1-5-9</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
**Introduction To The California Fire Code**

PRESENTATION	APPLICATION
<p>1. Secondary reference sources</p> <ul style="list-style-type: none"> <li>a) <u>NFPA 70E: Standard for Electrical Safety Requirements for Employee Workplaces</u>, NFPA, 2000 Edition</li> <li>b) Underwriters Laboratories (UL) Directories               <ul style="list-style-type: none"> <li>1) Contains lists of appliances, wiring materials, and equipment that has passed UL safety tests</li> </ul> </li> <li>c) NFPA Handbook               <ul style="list-style-type: none"> <li>1) Provides a complete, simple language explanation of many NFPA standards</li> </ul> </li> <li>d) NFPA Inspection Manual               <ul style="list-style-type: none"> <li>1) References numerous fire code issues</li> <li>2) Contains inspection procedures and checklists for various occupancies</li> </ul> </li> <li>e) Factory Mutual (FM) Data Sheets               <ul style="list-style-type: none"> <li>1) Contains many requirements for specific manufacturing processes, storage, and construction</li> </ul> </li> </ul> <p>D. If no primary or secondary code references can be found, you may not have a hazard or the authority to require abatement of the hazard</p> <ul style="list-style-type: none"> <li>1. If this occurs, seek assistance from your supervisor</li> </ul>	<p><b>SLIDE: 1-5-10</b></p> <p><b>INDIVIDUAL ACTIVITY</b>  <b>1-5-1 AND 1-5-2:</b>            Complete the activities in the student supplement.</p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

The CFC is designed and organized to assist the inspector in finding relevant information and requirements in order to design and maintain fire safe occupancies. If no specific information can be found in the CFC, other sources such as national standards and listing agencies can be used as reference sources.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBCS, 2007 Edition, Table of Contents and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 19-21 in order to prepare yourself for the upcoming test. Study for our next session.



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### INDIVIDUAL ACTIVITY 1-5-1: CALIFORNIA FIRE CODE WORKSHEET

**Time Frame:** 1:30

**Materials Needed:**

- California Fire Code, CBSC, 2007 Edition
- Pen and pencil

**Introduction:** This activity provides the students the opportunity to develop their ability to use the CFC.

**Directions:**

1. In Part I, identify the CFC chapter where you would find regulations for the following topics.
2. In Part II, identify the topic covered for each of the sections listed.
3. You have 1 hour to complete this activity.
4. Be prepared to discuss your answers with the class.

RETIRED CURRICULUM



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

**PART I**

<u>10</u>	Exit requirements	<u>3</u>	Trash
<u>2</u>	Definitions	<u>3</u>	Spontaneous Ignition
<u>9</u>	CFC 503.1	<u>3</u>	Bonfires
<b><u>5, Appendix C</u></b>	Fire hydrants	<u>1</u>	CFC 101.3
<u>4</u>	Emergency procedures	<u>4</u>	Fire drills
<u>5</u>	Water supply	<u>5</u>	Address requirements
<u>12</u>	CFC 1208.2	<b><u>Appendix 1</u></b>	CFC Appendix 105
<u>25</u>	Tire storage	<u>10</u>	Blocked exits
<u>5</u>	Fire department access roads	<u>8</u>	Decorations
<u>5</u>	Fire lanes	<u>13</u>	CFC 408.9.1
<u>12</u>	CFC 1008.1.8	<u>10</u>	Locked exits
<u>3</u>	General safety precautions	<u>10</u>	Aisles
<u>10</u>	Fire escapes	<u>5, 10</u>	Gates
<u>21</u>	Ovens	<u>10</u>	Bars on windows
<u>6</u>	Electrical hazards	<u>3</u>	CFC 308

**PART II**

1. 503	<b><i>Fire apparatus access roads</i></b>
2. 503.2	<b><i>Fire apparatus road dimensions</i></b>
3. 907.4	<b><i>Location of open burning sites</i></b>
4. 315.2.3	<b><i>Storage of combustible materials in equipment rooms</i></b>
5. 703.1	<b><i>Maintenance of fire-resistive construction</i></b>
6. 1028	<b><i>Maintenance of the Means of Egress</i></b>
7. 1028.4	<b><i>Maintenance of Exit Signs</i></b>
8. 906.1	<b><i>Portable Fire Extinguishers, Where required</i></b>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY 1-5-2: REFERENCE STANDARDS

<b>Time Frame:</b>	0:15
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• <u>California Fire Code</u>, CBSC, 2007 Edition, Chapter 45</li><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to become familiar with Chapter 45 to assist with finding reference standards in the absence of primary code provisions.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Using CFC Chapter 45, answer the following questions.</li><li>2. You have 10 minutes to complete this activity.</li><li>3. Be prepared to discuss your answers with the class.</li></ol>

1. What is the address for the National Fire Protection Association?

**Battery March Park, Quincy, MA 02269**

2. What area does the Underwriters Laboratories Standard "UL 30-04" address?

**Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas**

3. What is the standard number for "Safe Welding and Cutting Practices in Refineries" written by the American Petroleum Institute?

**Standard #653**

4. How many referenced standards are listed under the American Society for Testing and Materials?

**23 (Twenty-three)**

5. What is the name of the standard written by the "ISO?"

**Cotton Bales- Dimensions and Density**



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 1-6: Historical Incidents And Their Affect On The Fire Code

**Time Frame:** 1:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 4.2.2, 4.2.3, and 4-2.5

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The students will relate historical fires and the effects they had on the code

**Standard:** With a minimum 80% accuracy according to the information contained in the Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 22-24

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

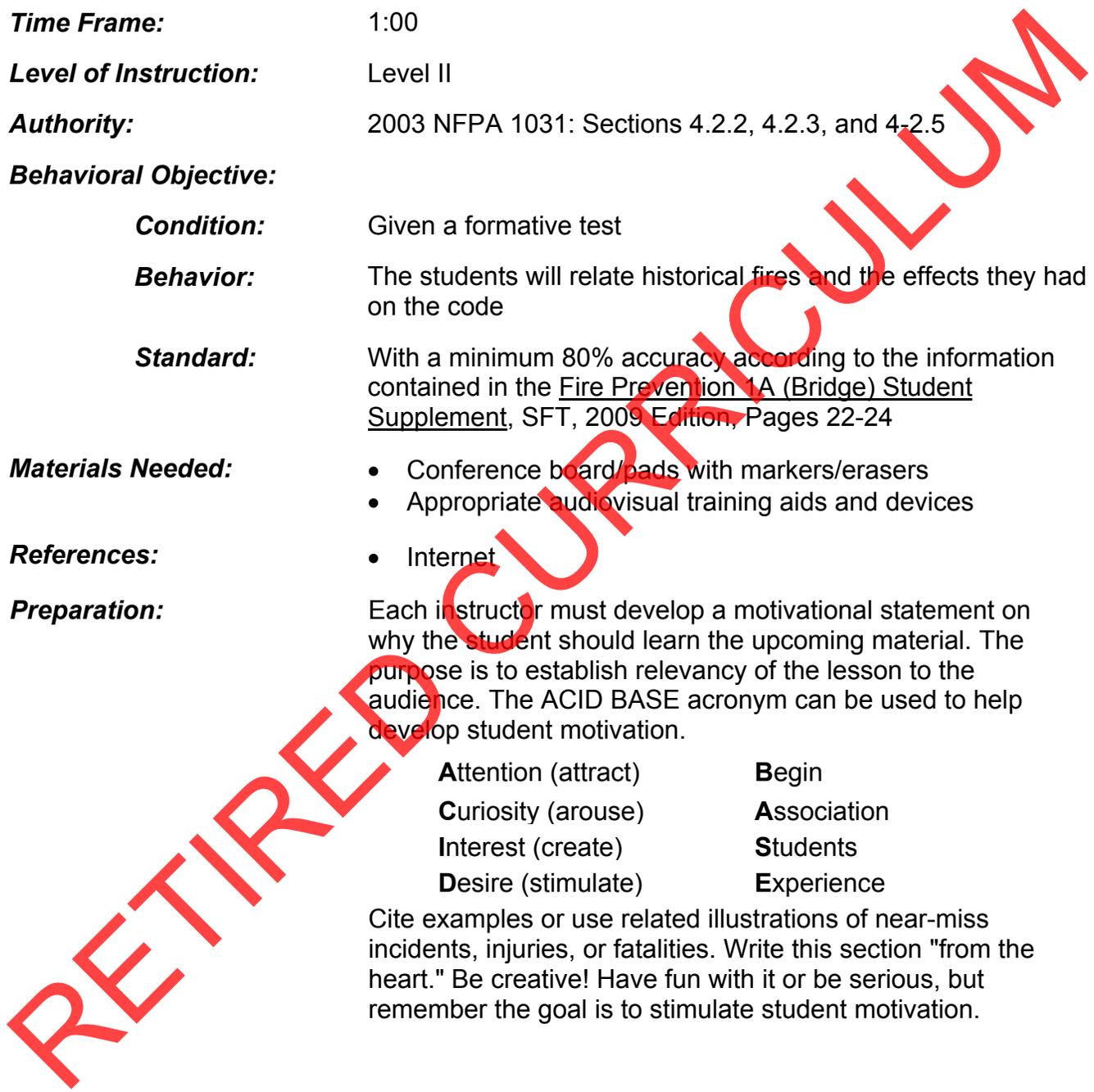
**References:**

- Internet

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.





# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. OBJECTIVES</b></p> <ul style="list-style-type: none"><li>A. Provide an overview of fire prevention history in the United States</li><li>B. Analyze historic fires throughout history</li><li>C. Establish relationship between historic fires and regulation</li></ul>	<p><b>SLIDE: 1-6-1</b></p>
<p><b>II. COLONIAL AND EARLY AMERICA</b></p> <ul style="list-style-type: none"><li>A. No established fire department</li><li>B. Fire fighting was a share responsibility</li><li>C. Citizens required to contribute or pay for someone to fight fires that they had</li></ul>	<p><b>SLIDE: 1-6-2</b></p>
<p><b>III. LAWS OF THE 1600S</b></p> <ul style="list-style-type: none"><li>A. Boston outlaws smoking outdoors</li><li>B. New Amsterdam instituted a "curfew"</li><li>C. No fires between 9:00 PM and 4:30 AM</li><li>D. Curfew was instituted in Roman law and meant "lights out"</li><li>E. Wooden chimneys were outlawed</li></ul>	<p><b>SLIDE: 1-6-3</b></p>
<p><b>IV. LAWS OF THE 1700S</b></p> <ul style="list-style-type: none"><li>A. Boston made it illegal to carry an open flame outdoors</li><li>B. Rhode Island outlaws fireworks</li><li>C. Inspectors were hired to inspect chimneys<ul style="list-style-type: none"><li>1. Authorized to levy fines</li><li>2. Process still exists today, still necessary</li></ul></li><li>D. Fire fighters exempt from militia or jury duty</li></ul>	<p><b>SLIDE: 1-6-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>V. LAWS OF THE 1800S</b></p> <p>A. Boston had first paid fire department.</p> <ol style="list-style-type: none"><li>1. \$15 for first company to put water on the fire</li><li>2. \$10 for the second</li><li>3. \$8 for the rest</li></ol> <p><b>VI. GREAT CHICAGO FIRE</b></p> <p>A. Started at about 9:00 PM October 8, 1871</p> <p>B. Most catastrophic fire to date</p> <ol style="list-style-type: none"><li>1. Estimated to have killed 300 people</li><li>2. 100,000 people left homeless</li><li>3. 17,500 structures destroyed</li><li>4. \$222,000 Million damage<ol style="list-style-type: none"><li>a) 2.3 billion today's dollars</li></ol></li><li>5. Estimated to have destroyed 2,000 acres of the city</li></ol> <p>C. Memorialized through fire prevention week each October</p> <ol style="list-style-type: none"><li>1. First Fire Prevention Week was declared by President Coolidge in 1925 to commemorate the fire</li></ol> <p>D. Rumored to have been started by Mrs. O'Leary's cow</p> <ol style="list-style-type: none"><li>1. Cause was made up by a reporter for a "better story"</li><li>2. Evidence points to the fire origin as being in the O'Leary barn</li></ol> <p><b>VII. IROQUOIS THEATER FIRE - CHICAGO</b></p> <p>A. December 30, 1903</p> <ol style="list-style-type: none"><li>1. 603 dead</li></ol>	<p><b>SLIDE: 1-6-5</b></p> <p><b>SLIDE: 1-6-6</b></p> <p><b>SLIDE: 1-6-7</b></p> <p><b>SLIDE: 1-6-8</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. A stage light ignited a curtain</p> <ol style="list-style-type: none"> <li>1. No available fire box</li> <li>2. Fire department had a 13 minute response</li> <li>3. Exit doors had locks on them               <ol style="list-style-type: none"> <li>a) Bascule locks, common in Europe, but not used in U.S.</li> </ol> </li> <li>4. Proscenium curtain failed to work</li> <li>5. Gates on stairs to the balcony were locked to prevent people from sneaking down to the more expensive seats</li> <li>6. Inspectors had been bribed to overlook violations</li> </ol> <p>C. Set the standard for theaters today</p> <ol style="list-style-type: none"> <li>1. First panic device for doors developed as a result of the fire</li> <li>2. Set the basis for fixed seating and egress</li> <li>3. Wider aisles, lit exits, maintained and unobstructed</li> <li>4. Fire sprinklers required on stages</li> <li>5. Fire alarms required for theaters</li> </ol>	<p><b>SLIDE: 1-6-9</b></p> <p><b>SLIDE: 1-6-10</b></p> <p><b>SLIDE: 1-6-11</b></p>
<p><b>VIII. TRIANGLE SHIRTWAIST FACTORY FIRE- NYC</b></p>	
<p>A. March 25, 1911</p> <ol style="list-style-type: none"> <li>1. 148 people killed</li> <li>2. 62 women jumped from the 9th floor</li> <li>3. Worst workplace disaster in NYC until 9/11/2001</li> </ol> <p>B. Fire began on 8th floor</p> <p>C. 9th floor had two exits – one locked</p> <p>D. Showcased suppression limitations</p> <ol style="list-style-type: none"> <li>1. 10-story building</li> </ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Ladders could only reach the 6th floor</li><li>3. Fallen bodies hindered fire fighters</li><li>4. Single exterior fire escape collapsed under the weight of the fleeing workers</li></ul> <p>E. Developments</p> <ul style="list-style-type: none"><li>1. Smoking forbidden around combustibles</li><li>2. Exits clearly marked and unlocked while building occupied</li><li>3. Fire sprinklers required for 25 employees or more</li><li>4. Bureau of Fire Investigation created in New York</li></ul>	<p><b>SLIDE: 1-6-12</b></p> <p><b>SLIDE: 1-6-13</b></p> <p><b>SLIDE: 1-6-14</b></p>
<b>IX. COCOANUT GROVE NIGHT CLUB FIRE – BOSTON</b>	
<ul style="list-style-type: none"><li>A. November 28, 1942</li><li>B. Second worst fire in U.S. history<ul style="list-style-type: none"><li>1. 492 dead</li><li>2. Many people burned<ul style="list-style-type: none"><li>a) Experimentation on burn victims advanced burn treatments</li></ul></li></ul></li><li>C. Over capacity was the major issue<ul style="list-style-type: none"><li>1. Occupant load at the time of the fire was 1,000</li><li>2. Capacity was only supposed to be 460</li></ul></li><li>D. Decorations also a problems<ul style="list-style-type: none"><li>1. Started when a busboy lit a match so he could see while he replaced a light bulb</li><li>2. Paper palm trees, cloth draperies covering the ceiling, flammable furniture</li><li>3. Some decorations obscured exit signs</li></ul></li><li>E. Started in downstairs lounge<ul style="list-style-type: none"><li>1. Complete involvement within 5 minutes</li></ul></li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>F. Exiting again a problem</p> <ol style="list-style-type: none"> <li>1. Main entry/exit door was a revolving door</li> <li>2. Other side doors welded shut to ensure customers would pay their bills</li> <li>3. Plate glass window boarded up</li> <li>4. Bars on windows in kitchen</li> <li>5. Doors that did work swung in, not out</li> </ol> <p>G. Developments</p> <ol style="list-style-type: none"> <li>1. Banned flammable decorations and inward-swinging exit doors</li> <li>2. Required exit signs to be visible at all times</li> <li>3. Revolving doors used for egress               <ol style="list-style-type: none"> <li>a) Must be flanked by at least one normal, outward-swinging door or</li> <li>b) Retrofitted to permit the individual doors to fold flat to permit free-flowing traffic in a panic situation</li> </ol> </li> <li>4. 1997 determined methyl chloride leaking from a refrigerator near the downstairs Melody Lounge caused the flash fire</li> </ol>	<p><b>SLIDE: 1-6-15</b></p>
<p><b>X. OUR LADY OF ANGELS SCHOOL - CHICAGO</b></p> <p>A. December 1, 1958</p> <ol style="list-style-type: none"> <li>1. 95 dead</li> <li>2. 100 injured</li> </ol> <p>B. Elementary and middle school to approximately 1,600 students</p> <ol style="list-style-type: none"> <li>1. Classroom doors had a glass transom above it               <ol style="list-style-type: none"> <li>a) Provided ventilation into the corridor</li> <li>b) Permitted flames and smoke to enter once heat broke the glass</li> </ol> </li> </ol>	<p><b>SLIDE: 1-6-16</b></p> <p><b>SLIDE: 1-6-17</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Protection systems<ul style="list-style-type: none"><li>a) No automatic fire alarm</li><li>b) No rate-of-rise heat detectors</li><li>c) No direct alarm connection to the fire department</li><li>d) No fire-resistant stairwells</li><li>e) No heavy-duty fire doors from the stairwells to the second floor corridor</li></ul></li><li>3. Interior<ul style="list-style-type: none"><li>a) Made almost entirely of combustible wooden materials -- stairs, walls, floors, doors, and roof</li><li>b) Floors had been coated many times with flammable petroleum-based waxes</li><li>c) Acoustical tile ceilings</li></ul></li><li>4. Fire extinguishers<ul style="list-style-type: none"><li>a) Four located in the north wing, each mounted seven feet off the floor</li></ul></li><li>5. Fire escape<ul style="list-style-type: none"><li>a) One near the end of the north wing</li><li>b) Required passing through the main corridor</li></ul></li><li>C. Fire started in a cardboard trash barrel at the foot of the northeast stairwell</li><li>D. Fire Inspection<ul style="list-style-type: none"><li>1. Passed routine inspection weeks before</li><li>2. School was not legally bound to comply with all 1958 fire safety codes due to a grandfather clause in the 1949 standards<ul style="list-style-type: none"><li>a) Existing older schools were not required to retrofit the safety devices that were required by code in all schools built after 1949</li></ul></li></ul></li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>E. Developments</p> <ol style="list-style-type: none"> <li>1. Sweeping changes in school fire safety regulations were enacted nationwide</li> <li>2. 16,500 older school buildings in the U.S. were brought up to code within one year</li> <li>3. NFPA estimated 68% of all U.S. communities inaugurated and completed fire safety improvements after the fire               <ol style="list-style-type: none"> <li>a) Increased number of law-mandated fire drills throughout the academic year</li> </ol> </li> <li>4. NFPA President at the time, Percy Bugbee, said, "There are no new lessons to be learned from this fire; only old lessons that tragically went unheeded"</li> </ol>	<p><b>SLIDE: 1-6-18</b></p>
<p><b>XI. BEVERLY HILLS SUPPER CLUB - SOUTHGATE, KY</b></p> <p>A. May 28, 1977</p> <ol style="list-style-type: none"> <li>1. 165 dead</li> <li>2. 200 injured</li> </ol> <p>B. Factors</p> <ol style="list-style-type: none"> <li>1. Estimated 3,000 patrons and 182 workers at the time of the fire</li> <li>2. Inadequate numbers of exits for the allowable occupant load               <ol style="list-style-type: none"> <li>a) Many intervening rooms</li> </ol> </li> <li>3. No evacuation plan               <ol style="list-style-type: none"> <li>a) Employees not trained in how to evacuate</li> </ol> </li> <li>4. Concealed combustible construction</li> <li>5. Lack of a sprinkler system and audible automatic fire alarms               <ol style="list-style-type: none"> <li>a) Were required by law, but not installed</li> </ol> </li> </ol>	<p><b>SLIDE: 1-6-19</b></p> <p><b>SLIDE: 1-6-20</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>b) Local volunteer fire department had not forced correction of the deficiencies</li> <li>6. Flame spread rating too high</li> <li>7. Aluminum wiring cited as a cause</li> </ul> <p>C. Developments</p> <ul style="list-style-type: none"> <li>1. Improved exiting systems</li> <li>2. Safer interior finishes</li> <li>3. Emergency planning</li> <li>4. Fire alarm and automatic fire suppression systems</li> </ul>	<p><b>SLIDE: 1-6-21</b></p> <p><b>SLIDE: 1-6-22</b></p> <p><b>SLIDE: 1-6-23</b></p>
<b>XII. MGM GRAND HOTEL – LAS VEGAS</b>	
<ul style="list-style-type: none"> <li>A. November 21, 1980 <ul style="list-style-type: none"> <li>1. 85 dead</li> <li>2. 650 injured (14 fire fighters)</li> </ul> </li> <li>B. Fire <ul style="list-style-type: none"> <li>1. Relatively small fire</li> <li>2. Caused by electrical ground fault inside a wall soffit in second restaurant</li> <li>3. Spread to the lobby, fed by wallpaper, PVC piping, glue, and plastic mirrors</li> <li>4. Confined to the casino and restaurant areas</li> </ul> </li> <li>C. No evidence of panic <ul style="list-style-type: none"> <li>1. Towels found around doors (to block out smoke)</li> <li>2. Victims were notifying other occupants and offering refuge in their rooms</li> <li>3. Wet towels were used over the faces</li> </ul> </li> </ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>D. Fire protection</p> <ol style="list-style-type: none"> <li>1. Sprinklers throughout not required at the time               <ol style="list-style-type: none"> <li>a) Not required in areas of buildings occupied 24-hours a day                   <ol style="list-style-type: none"> <li>1) At the time of the fire, the area had ceased 24-hour operation and was closed and unoccupied when the fire broke out</li> </ol> </li> </ol> </li> <li>2. Fire Marshal objected and wanted sprinklers installed               <ol style="list-style-type: none"> <li>a) Building official overruled the Fire Marshal</li> </ol> </li> <li>3. Fire put out by sprinklers in other areas of the hotel</li> </ol> <p>E. Fatalities</p> <ol style="list-style-type: none"> <li>1. Most occurred in the stairwells               <ol style="list-style-type: none"> <li>a) The doors locked behind each person</li> <li>b) Victims died from smoke inhalation</li> </ol> </li> <li>2. Faulty smoke dampers within ventilation ductwork               <ol style="list-style-type: none"> <li>a) Toxic fumes circulated throughout the hotel's air circulation system</li> <li>b) Accelerated the spread of the poisonous air</li> </ol> </li> </ol> <p>F. Set the standard for high-rise</p> <ol style="list-style-type: none"> <li>1. New technologies in stairwell pressurization</li> </ol>	<p><b>SLIDE: 1-6-24</b></p> <p><b>SLIDE: 1-6-25</b></p>
<p><b>XIII TUNNEL FIRE - OAKLAND</b></p>	
<p>A. October 20, 1991</p> <ol style="list-style-type: none"> <li>1. 25 dead</li> <li>2. 150 injured</li> <li>3. 1520 acres burned</li> </ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>B. Many laws changed or created as the result of the fire<ul style="list-style-type: none"><li>1. Hydrants had 2¾" outlets<ul style="list-style-type: none"><li>a) Law made all fire departments in the state use standard coupling sizes except for San Francisco</li></ul></li><li>2. Set roofing standards in California<ul style="list-style-type: none"><li>a) Class A in high fire danger areas</li></ul></li><li>3. Set vegetation management standards.<ul style="list-style-type: none"><li>a) 30- and 100-foot clearances</li></ul></li><li>4. Fire communication standards<ul style="list-style-type: none"><li>a) Use of "White Fire" and "Calcord" frequencies</li></ul></li></ul></li></ul>	<p><b>SLIDE: 1-6-26</b> <b>SLIDE: 1-6-27</b></p>
<p><b>XIV. TWIN TOWERS - NEW YORK CITY</b></p> <ul style="list-style-type: none"><li>A. Established Department of Homeland Security</li><li>B. Established the National Response Plan (NRP)<ul style="list-style-type: none"><li>1. Requires everyone to have ICS training</li><li>2. Details through the use of "Emergency Support Functions (ESFs) how the Federal government helps in a time of an incident of national significance</li></ul></li><li>C. Major impact on today's ICC code development<ul style="list-style-type: none"><li>1. Shaft hardening</li><li>2. Collapse prevention</li><li>3. Fire protection of structural steel</li></ul></li></ul>	<p><b>SLIDE: 1-6-28</b></p>
<p><b>XV. STATION NIGHTCLUB FIRE - WEST WARWICK, RI</b></p> <ul style="list-style-type: none"><li>A. February 20, 2003<ul style="list-style-type: none"><li>1. 100 dead from burns, smoke inhalation, or trampling<ul style="list-style-type: none"><li>a) 96 dead night of fire</li><li>b) 4 died from injuries</li></ul></li></ul></li></ul>	



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>2. Ignited by pyrotechnics</p> <p>3. Foam walls behind stage</p> <p>B. Recent occupancy change from restaurant to nightclub dissolved its exemption and was legally required to have a sprinkler system but did not</p> <p><b>XVI. HURRICANES KATRINA AND RITA</b></p> <p>A. Further refined the National Response Plan, which eventually became the National Response Framework</p> <p>B. Caused many public safety agencies to develop stronger mutual aid plans nationally</p> <p>C. Citywide egress studied</p> <p>1. Failures in New Orleans, LA during Katrina</p> <p>2. Successes in Houston, TX during Rita</p> <p><b>XVII. HISTORY</b></p> <p>A. Use it to justify violations to be corrected</p> <p>B. Establishes laws and precedents</p> <p>C. Don't be the one to go down in history this way</p>	<p><b>SLIDE: 1-6-29</b></p> <p>Why is the history important?</p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

History is littered with tragedies of years past. Large life loss fires such as the Iroquois Theatre, Beverly Hills Supper Club, and the Cocoanut Grove Nightclub have led to enforceable regulations to prevent subsequent tragedies. Other fires like the fires at Our Lady of the Angels, and the MGM Grand Hotel have led to engineering breakthroughs in fire protection. Knowing the prior history of these fires can help you as an inspector become a better educator, helping to prevent further tragedies.

#### **Evaluation:**

The student will complete a formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 22-24 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

**Topic:** 2-1: Terminology Relating To Occupancy Classification And Construction

**Time Frame:** 2:00

**Level of Instruction:** Level I

**Authority:** 2003 NFPA 1031: Sections 3-2.1 and 3-2.2

**Behavioral Objective:**

**Condition:** Given an activity and formative test

**Behavior:** The student will confirm a knowledge of the terminology used regarding occupancy classification and types of building construction

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 2, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 3, 5, 6, 8, and Glossary, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 25-36

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Group Activity 2-1-1: Occupancy Classification and Types of Construction
- Individual Activity 2-1-2: Occupancy Classification and Construction Terminology

**References:**

- California Fire Code, CBSC, 2007 Edition, Chapter 2
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3, 5, 6, 8, and Glossary

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

Attention (attract)

Begin

Curiosity (arouse)

Association

Interest (create)

Students



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### Desire (stimulate)

#### Experience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>NOTE:</b> Completing Group Activity 2-1-1 can be used as an alternative to a lecture in order to cover the material in this topic.</p> <p><b>I. GENERAL TERMS</b></p> <ul style="list-style-type: none"><li>A. Change in use/change in occupancy<ul style="list-style-type: none"><li>1. Changes made in the character or use of an occupancy that would place the building in a different division of the same group of occupancy or in a different group of occupancies</li></ul></li><li>B. Construction classification<ul style="list-style-type: none"><li>1. The rating given to a particular building based on the materials and methods used to construct it and their ability to resist the effects of fire</li></ul></li><li>C. Fire load<ul style="list-style-type: none"><li>1. The maximum amount of heat that can be produced if all the combustible materials in a given area burn</li></ul></li><li>D. Fire resistive rating<ul style="list-style-type: none"><li>1. The amount of time a material or assembly of materials will resist a typical fire as measured on a standard time-temperature curve</li></ul></li><li>E. Floor area<ul style="list-style-type: none"><li>1. The area included within the surrounding exterior walls of a building excluding vent shafts and courts</li></ul></li><li>F. High-rise<ul style="list-style-type: none"><li>1. A building that has floors used for human occupancy located more than 75 feet above the lowest level of fire department vehicle access</li></ul></li></ul>	<p><b>GROUP ACTIVITY 2-1-1:</b> Complete the activity in the student supplement.</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>G. Means of egress</p> <ol style="list-style-type: none"><li>1. A continuous path of travel from any point in a structure leading to a public way, composed of three parts: exit access, exit, and exit discharge</li></ol> <p>H. Mixed occupancy</p> <ol style="list-style-type: none"><li>1. Buildings that have two or more very different types of operations within them</li></ol> <p>I. Noncombustible</p> <ol style="list-style-type: none"><li>1. Incapable of supporting combustion under normal circumstances</li></ol> <p>J. Occupancy</p> <ol style="list-style-type: none"><li>1. The purpose for which a building, or part thereof, is used or intended to be used</li></ol> <p>K. Occupancy classification</p> <ol style="list-style-type: none"><li>1. The classifications given to structures by the model code used in that jurisdiction</li></ol> <p>L. Structural element</p> <ol style="list-style-type: none"><li>1. Components of a building that support the structure<ol style="list-style-type: none"><li>a) Walls</li><li>b) Floors</li><li>c) Ceilings</li><li>d) Roofs</li></ol></li></ol> <p><b>II. OCCUPANCY CLASSES</b></p> <p>A. Assembly</p> <ol style="list-style-type: none"><li>1. Group A occupancies shall include the gathering of 50 or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking and dining, or awaiting transportation</li></ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Business</p> <ol style="list-style-type: none"><li>1. Group B occupancies shall include buildings, structures, or portions thereof, for office, professional, or service type transactions, which are not classified as Group H occupancies</li><li>2. Such occupancies, include occupancies for the storage of records and accounts, and drinking and dining establishments with an occupant load of less than 50</li></ol> <p>C. Camp<sup>1</sup></p> <ol style="list-style-type: none"><li>1. "Organized camp" means a site with program and facilities established for the primary purpose of providing an outdoor group living experience with social, spiritual, educational, or recreational objectives, for five days or more during one or more seasons of the year</li><li>2. Does not include a motel, tourist camp, trailer park, resort, hunting camp, auto court, labor camp, penal or correctional camp nor does it include a child care institution or home-finding agency</li><li>3. Also does not include any charitable or recreational organization which complies with the rules and regulations for recreational trailer parks provided for by subdivision (b) of Health and Safety Code Section 18301<sup>2</sup></li></ol> <p>D. Education</p> <ol style="list-style-type: none"><li>1. Group E occupancies shall include any building used for educational purposes through the 12<sup>th</sup> grade</li><li>2. Any building or portion thereof used for day care purposes for more than six persons, not otherwise classified as residential day care</li></ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>E. Factory/fabricating</p> <ol style="list-style-type: none"><li>1. Group F occupancies shall include the use of a building or structure, or a portion thereof, for assembling, disassembling, fabrication, finishing, manufacturing, packaging, repair or processing operations that are not classified as Group H occupancies</li><li>2. Shall include moderate hazard factory and industrial uses as well as low hazard and industrial occupancies</li></ol> <p>F. Hazardous</p> <ol style="list-style-type: none"><li>1. Group H occupancies shall include buildings or structures, or portions thereof, that involve the manufacturing, processing, generation or storage of materials that constitute a high fire, explosion or health hazard</li></ol> <p>G. Institutional</p> <ol style="list-style-type: none"><li>1. Group I occupancies shall include acute care hospitals, sanitariums, nursing homes and residential care facilities for nonambulatory and ambulatory patients, health care centers for ambulatory patients receiving outpatient medical care, and mental hospitals, jails, prisons, and similar buildings</li></ol> <p>H. Mercantile</p> <ol style="list-style-type: none"><li>1. Group M occupancies shall include buildings, structures, or portions thereof, used for the display and sale of merchandise and involving stocks of goods, wares or merchandise incidental to such purposes and accessible to the public</li></ol> <p>L. Residential</p> <ol style="list-style-type: none"><li>1. Group R occupancies shall include hotel, motel, apartment, single-family dwellings and duplexes, residential care and residential care for the elderly and family day care not otherwise classified as education</li></ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>J. Storage</p> <ol style="list-style-type: none"> <li>1. Group S occupancies shall include the use of a building or structure, or a portion thereof, for storage not classified as a hazardous occupancy</li> <li>2. Storage occupancies shall include moderate hazard storage occupancies not classified as Group H occupancies and low hazard storage occupancies</li> </ol> <p>K. Utility</p> <ol style="list-style-type: none"> <li>1. Group U occupancies shall include private garages, car ports, sheds, agricultural buildings, fences over 6 feet high, tanks, and towers</li> </ol> <p>L. Laboratories</p> <ol style="list-style-type: none"> <li>1. Group L occupancies shall include buildings and structures, or portions thereof, used as laboratories for scientific experimentation or research having quantities in excess of CBC Table 443.1(1) and 443 and not classified as a B occupancy</li> </ol> <p><b>NOTE:</b> Although the reference is in alphabetical order in the CFC, it is not in the occupancy chapter in the CBC. It is Section 443 in the CBC. There is also a discrepancy between the CFC and the CBC. The fire code should read as in item 1 above.</p>	<p><b>INDIVIDUAL ACTIVITY</b>  <b>2-1-2:</b> Complete the activity in the student supplement.</p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

An understanding of technical terms is essential to comprehending the material presented

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapter 2, IFSTA, Sixth Edition Chapters 3, 5, 6, 8, and Glossary, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 25-36 in order to prepare yourself for the upcoming test. Study for our next session.



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

#### GROUP ACTIVITY 2-1-1: OCCUPANCY CLASSIFICATION AND TYPES OF CONSTRUCTION

<b>Time Frame:</b>	0:30
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition, Glossary</li><li>• <u>Fire Prevention 1A (Bridge) Student Supplement</u>, SFT, 2009 Edition, Pages 28-34</li><li>• Pen and pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to identify the different occupancy types and relate to how important this information is to an inspector.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Review the worksheet and the terms that need to be defined.</li><li>2. Find a classmate who knows the definition of one of the terms.</li><li>3. After listening to the student's definition, write the definition given, using your own words, on the worksheet.</li><li>4. Have the student providing the definition sign the worksheet.</li><li>5. You may not talk to any student more than once.</li><li>6. You have 20 minutes to complete this activity.</li><li>7. Be prepared to discuss your answers with the class.</li></ol>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

Occupancy Classification And Types Of Construction Worksheet			
	Term	Definition	Someone Who Knows
1.	Construction classification	<i>The rating given to a particular building based on the materials and methods used to construct it and their ability to resist the effects of a fire station.</i>	
2.	Occupancy classification	<i>The classifications given to structures by the model code used in that jurisdiction.</i>	
3.	Fire resistive rating	<i>The amount of time a material or assembly of materials will resist a typical fire as measured on a standard time-temperature curve.</i>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

Occupancy Classification And Types Of Construction Worksheet			
	Term	Definition	Someone Who Knows
4.	Fire load	<i>The maximum amount of heat that can be produced if all the combustible materials in a given area burn.</i>	
5.	Mixed occupancy	<i>Buildings that have two or more very different types of operations within them.</i>	
6.	Noncombustible	<i>Incapable of supporting combustion under normal circumstances.</i>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

Occupancy Classification And Types Of Construction Worksheet			
	Term	Definition	Someone Who Knows
7.	Means of egress	<b><i>A continuous path of travel from any point in a structure leading to a public way composed of three parts: exit access, exit, and exit discharge.</i></b>	
8.	Assembly	<b><i>Group A shall include the gathering of 50 or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking and dining, or awaiting transportation.</i></b>	
9.	Business	<b><i>Group B shall include buildings, structures, or portions thereof, for office, professional, or service type transactions, which are not classified as Group H occupancies.</i></b> <b><i>Such occupancies include occupancies for the storage of records and accounts, and drinking and dining establishments with an occupant load of less than 50.</i></b>	



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

<b>Occupancy Classification And Types Of Construction Worksheet</b>			
	<b>Term</b>	<b>Definition</b>	<b>Someone Who Knows</b>
10.	Camp	<p><b><i>A site with program and facilities established for the primary purpose of providing an outdoor group living experience with social, spiritual, educational, or recreational objectives, for five days or more during one or more seasons of the year.</i></b></p> <p><b><i>Does not include a motel, tourist camp, trailer park, resort, hunting camp, auto court, labor camp, penal or correctional camp, child care institution, or home-finding agency. Also does not include any charitable or recreational organization that complies with the rules and regulations for recreational trailer parks provided for by subdivision (b) of Health &amp; Safety Code Section 18301.</i></b></p>	
11.	Education	<p><b><i>Group E occupancies shall include any building used for educational purposes through the 12<sup>th</sup> grade.</i></b></p> <p><b><i>Any building or portion thereof used for day care purposes for more than six persons, not otherwise classified as residential day care.</i></b></p>	
12.	Factory/ fabricating	<p><b><i>Group F occupancies shall include the use of a building or structure, or a portion thereof, for assembling, disassembling, fabrication, finishing, manufacturing, packaging, repair, or processing operations that are not classified as Group H occupancies.</i></b></p> <p><b><i>Shall include moderate hazard factory and industrial uses as well as low hazard and industrial occupancies.</i></b></p>	



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

Occupancy Classification And Types Of Construction Worksheet			
	Term	Definition	Someone Who Knows
13.	Hazardous	<i>Group H occupancies shall include buildings or structures, or portions thereof, that involve the manufacturing, processing, generation or storage of materials that constitute a high fire, explosion or health hazard.</i>	
14.	Institutional	<i>Group I occupancies shall include acute care hospitals, sanitariums, nursing homes and residential care facilities for nonambulatory and ambulatory patients, health care centers for ambulatory patients receiving outpatient medical care, and mental hospitals, jails, prisons, and similar buildings.</i>	
15.	Mercantile	<i>Group M occupancies shall include buildings, structures, or portions thereof, used for the display and sale of merchandise and involving stocks of goods, wares or merchandise incidental to such purposes and accessible to the public.</i>	



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

Occupancy Classification And Types Of Construction Worksheet			
	Term	Definition	Someone Who Knows
16.	Residential	<b><i>Group R occupancies shall include hotel, motel, apartment, single-family dwellings and duplexes, residential care and residential care for the elderly and large family day care not otherwise classified as education.</i></b>	
17.	Storage	<b><i>Group S occupancies shall include the use of a building or structure, or a portion thereof, for storage not classified as a hazardous occupancy.</i></b> <b><i>Storage occupancies shall include moderate hazard storage occupancies not classified as Group H occupancies and low hazard storage occupancies.</i></b>	
18.	Utility	<b><i>Group U occupancies shall include private garages, car ports, sheds, agricultural buildings, fences over 6 feet high, tanks and towers</i></b>	



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

#### INDIVIDUAL ACTIVITY 2-1-2: OCCUPANCY CLASSIFICATION AND CONSTRUCTION TERMINOLOGY

**Time Frame:** 0:30

- Materials Needed:**
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Glossary
  - Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 35-36
  - Pen or pencil

**Introduction:** This activity provides the students the opportunity to identify the different occupancy classifications and construction types and relate to how important this information is to an inspector.

- Directions:**
1. Review the worksheet and the terms that need to be defined.
  2. Select the definition in Column 2 that most nearly matches a term in Column 1.
  3. Write the number of the term from Column 1 in the parenthesis that precedes the appropriate response in Column 2.
  4. You have 20 minutes to complete this activity.
  5. Be prepared to discuss your answers with the class.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Occupancy Classification and Construction Terminology Worksheet

#### Column 1

#### Column 2

- |                              |               |  |
|------------------------------|---------------|--|
| 1. Assembly                  | ( <u>10</u> ) | A building that has floors used for human occupancy located more than 75 feet above fire department access.                |
| 2. Business                  | ( <u>14</u> ) | A building that has two or more very different types of operations within them.  |
| 3. Camp                      | ( <u>9</u> )  | A building with materials that constitute a high fire, explosion, or health hazard.  |
| 4. Education                 | ( <u>11</u> ) | Acute care hospitals, sanitariums, nursing homes and residential care facilities for ambulatory and nonambulatory patients |
| 5. Factory                   | ( <u>4</u> )  | Any building used for educational purposes through the 12 <sup>th</sup> grade.   |
| 6. Fire load                 | ( <u>8</u> )  | Area included within the surrounding exterior walls of a building excluding vent shafts and courts.                        |
| 7. Fire resistive            | ( <u>5</u> )  | Buildings used for assembling and disassembling products.  |
| 8. Floor area                | ( <u>13</u> ) | Buildings used for the display and sale of merchandise.  |
| 9. Hazardous                 | ( <u>2</u> )  | Buildings, structures, or portions thereof, for office, professional, or service type transactions.                        |
| 10. High-rise                | ( <u>16</u> ) | Classifications given to structures by the model code used in that jurisdiction.   |
| 11. Institutional            | ( <u>19</u> ) | Components of a building that support the structure (walls, floors, ceilings, roofs).                                      |
| 12. Means of egress          | ( <u>12</u> ) | Continuous path of travel from any point in a structure leading to a public way.   |
| 13. Mercantile               | ( <u>1</u> )  | Gathering of 50 or more persons for such purposes as deliberation, education, instruction, and worship.                    |
| 14. Mixed occupancy          | ( <u>17</u> ) | Hotels, motels, apartments, single-family dwellings, and duplexes.   |
| 15. Noncombustible           | ( <u>15</u> ) | Incapable of supporting combustion under normal circumstances.   |
| 16. Occupancy classification | ( <u>6</u> )  | Maximum amount of heat that can be produced if all the combustible materials in a given area burn.                         |
| 17. Residential              | ( <u>18</u> ) | Occupancies used for storage not classified as a hazard occupancy.   |
| 18. Storage                  | ( <u>20</u> ) | Private garages, carports, sheds, agricultural buildings, fences over six feet high, and tanks.                            |
| 19. Structural element       | ( <u>7</u> )  | Rating that indicates the amount of time a material or assembly of materials will resist a typical fire.                   |
| 20. Utility                  | ( <u>3</u> )  | Site with program and facilitates established for the primary purpose of providing outdoor group living.                   |



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

### ENDNOTES

The endnotes provide support and facilitate instruction. It is recommended you insert the specific code section in the lesson plan where it is used. Please report immediately to State Fire Training Curriculum Development Division of any errors or changes you find to the endnotes.

<sup>1</sup> California Health and Safety Code, Current Edition, Section 18897

<sup>2</sup> California Health and Safety Code, Current Edition, Section 18301, Subdivision (b)



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 2-2: Relationship Of Fire Protection To Building Construction And Occupancy

**Time Frame:** 1:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 3-3.1 and 3-3.5

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of relationship of fire protection to building construction and occupancy

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 3 and 6

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- California Building Code, CBSC, 2007 Edition, Chapters 6 and 7
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 3 and 6

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<b>I. CONSTRUCTION AND DESIGN FEATURES AFFECTING LIFE SAFETY</b>	
A. Several factors have an influence on the design of a building	<b>SLIDE: 2-2-1</b>
1. Occupancy use 2. Type of construction 3. Building area and height 4. Special and unique circumstances	
B. Adding people and contents provide additional factors for consideration	<b>SLIDE: 2-2-2</b>
1. Human factor a) Number and nature of persons in the building 2. Fuel propagation potential a) Fuel load and distribution 1) Amount of combustible material available to burn <ul style="list-style-type: none"><li>• Slight</li><li>• Moderate</li><li>• Moderately severe</li><li>• Severe</li><li>• Very severe</li></ul> b) Finish materials <ul style="list-style-type: none"><li>1) Carpet</li><li>2) Materials on walls</li></ul> c) Vertical openings <ul style="list-style-type: none"><li>1) Open stairwells</li><li>2) Elevators</li></ul>	



**FIRE PREVENTION 1A (BRIDGE)**  
**Introduction To The California Fire Code**

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>d) Concealed spaces               <ul style="list-style-type: none"> <li>1) Attics</li> <li>2) Soffits, cocklofts</li> <li>3) Raised floors                   <ul style="list-style-type: none"> <li>• Computer rooms</li> </ul> </li> </ul> </li> <li>3. Smoke and gas movement               <ul style="list-style-type: none"> <li>a) Heat, ventilation and air condition (HVAC)</li> <li>b) Controlled by natural or mechanical air movement</li> <li>c) Pressurized smoke control system                   <ul style="list-style-type: none"> <li>1) High-rise building pressurized system</li> </ul> </li> <li>d) Open versus enclosed stairwells and shafts                   <ul style="list-style-type: none"> <li>1) Chimney effect</li> <li>2) Los Angeles' Dorothy Mae ordinance                       <ul style="list-style-type: none"> <li>• Result of a 1982 fire in an apartment complex called Dorothy Mae</li> <li>• Requires sprinkler protection in corridors, stair shafts, means of egress, and one sprinkler head inside each unit</li> </ul> </li> </ul> </li> <li>e) Area of refuge concept                   <ul style="list-style-type: none"> <li>1) Americans with Disabilities Act (ADA)</li> <li>2) Required to serve persons not able to self-evacuate from nonsprinklered buildings<sup>1</sup></li> </ul> </li> </ul> </li> </ul>	<p>What does HVAC stand for?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. There has never been a multiple life loss from fire in a fully sprinklered (and operational) building</p> <p><b>II. FIRE SUPPRESSION SYSTEMS</b></p> <p>A. Fire sprinkler systems</p> <p>B. Water spray systems</p> <ol style="list-style-type: none"><li>Used to cool flammable liquid tanks or exposures<ol style="list-style-type: none"><li>LPG tanks</li><li>Transformers</li></ol></li><li>Not the same as sprinkler systems</li></ol> <p>C. Dry chemical systems</p> <p>D. Halon systems</p> <ol style="list-style-type: none"><li>Being replaced with ozone safe products<ol style="list-style-type: none"><li>Inergen – <u>inert</u> gas and nitrogen</li><li>FM 200</li></ol></li></ol> <p>E. CO<sub>2</sub> systems</p> <p>F. Water mist</p> <p>G. Wet chemical systems</p> <p>H. Wet standpipe systems</p> <p>I. Dry standpipe systems</p> <p>J. Combined systems</p> <p>K. Foam systems</p>	<p>What is the comparison of loss of life in sprinklered buildings as compared to unsprinklered buildings in the United States?</p> <p><b>SLIDE: 2-2-3</b></p> <p><b>SLIDE: 2-2-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>III. DETECTION, ALARM, AND COMMUNICATION SYSTEMS</b></p> <ul style="list-style-type: none"><li>A. Initiating devices<ul style="list-style-type: none"><li>1. Manual pull stations</li><li>2. Flow switches</li><li>3. Detectors</li></ul></li><li>B. Types of systems<ul style="list-style-type: none"><li>1. Supervised</li><li>2. Unsupervised</li></ul></li><li>C. Emergency voice/alarm communication system</li><li>D. Action taken by agency that receives signal</li></ul>	<p><b>SLIDE: 2-2-5</b></p>
<p><b>IV. STRUCTURAL INTEGRITY</b></p> <ul style="list-style-type: none"><li>A. Fire resistance of building elements</li><li>B. Compartmentation<ul style="list-style-type: none"><li>1. Limits fire spread</li><li>2. Floor separation</li><li>3. Basic allowable areas</li><li>4. Fire barriers<ul style="list-style-type: none"><li>a) 3-hour found in Type IA, IB, IIIA, and IV construction</li><li>b) 2-hour found in Type IIA, II-N, IIIB, or V construction</li><li>c) Opening protection</li><li>d) Parapet/butterfly</li></ul></li></ul></li><li>C. Stability of building during fire fighting operations<ul style="list-style-type: none"><li>1. Potential for collapse<ul style="list-style-type: none"><li>a) Lightweight construction</li><li>b) Truss joists</li></ul></li></ul></li></ul>	<p><b>SLIDE: 2-2-6</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>c) Gusset plate<ul style="list-style-type: none"><li>1) Holds structural members together</li><li>2) Transmits heat that may cause members to burn and collapse</li></ul></li></ul>	<p>How can a gusset plate affect early structural failure in fire?</p> <p><b>SLIDE: 2-2-7</b></p>
<p><b>V. PROPERTY PROTECTION FOR HIGH VALUE STOCK</b></p> <ul style="list-style-type: none"><li>A. Safe deposit vaults</li><li>B. Communication equipment<ul style="list-style-type: none"><li>1. Exclusive control of a public communications utility</li></ul></li><li>C. Gems and money</li><li>D. Computer tapes and equipment</li></ul>	
<p><b>VI. BUILDING EGRESS</b></p> <ul style="list-style-type: none"><li>A. Means of egress components<ul style="list-style-type: none"><li>1. Stairs</li><li>2. Horizontal exits</li><li>3. Aisles</li><li>4. Fire escapes</li><li>5. Doors</li><li>6. Gates/barriers</li><li>7. Corridors</li><li>8. Egress illumination</li><li>9. Means of egress identification</li><li>10. Discharge, dispersal, and refuge</li></ul></li></ul>	<p><b>SLIDE: 2-2-8</b></p> <p><b>SLIDE: 2-2-9</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>VII. BUILDING SITE DESIGN</b></p> <ul style="list-style-type: none"><li>A. Exposure protection<ul style="list-style-type: none"><li>1. Closeness of buildings<ul style="list-style-type: none"><li>a) Assumed property line</li></ul></li><li>2. Exterior wall protection<ul style="list-style-type: none"><li>a) Significant changes to exterior stairs</li><li>b) Significant changes to exterior exit courts</li></ul></li></ul></li><li>B. Water supply<ul style="list-style-type: none"><li>1. Sufficient to meet fire flow requirements (fire code requires)<ul style="list-style-type: none"><li>a) The amount of water necessary to combat a fully involved structure fire</li><li>b) Public, private, on site</li></ul></li></ul></li><li>C. Slope<ul style="list-style-type: none"><li>1. Access capability</li></ul></li></ul>	<p><b>SLIDE: 2-2-10</b></p>
<p><b>VIII. FIRE FIGHTING CONSIDERATIONS</b></p> <ul style="list-style-type: none"><li>A. Knowledge of building construction<ul style="list-style-type: none"><li>1. Where to anticipate fire walls</li><li>2. How to handle lightweight roofs</li></ul></li></ul>	<p><b>SLIDE: 2-2-11</b></p>
<ul style="list-style-type: none"><li>B. Occupants' knowledge of proper behavior under fire conditions<ul style="list-style-type: none"><li>1. When and how to notify fire department</li><li>2. When and how to use fire extinguisher</li><li>3. Fire drills</li><li>4. Safe handling of hazardous materials</li></ul></li></ul>	<p><b>SLIDE: 2-2-12</b></p>



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

The concept of "occupancy" must be understood to evaluate the fire safety of a structure intelligently. Likewise, the design features of a structure (smoke evacuation, sprinkler and detection systems, and structural integrity) must be understood to appreciate the level of hazard a building holds for its occupants.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 3 and 6 in order to prepare yourself for the upcoming test. Study for our next session.



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### ENDNOTES

The endnotes provide support and facilitate instruction. It is recommended you insert the specific code section in the lesson plan where it is used. Please report immediately to State Fire Training Curriculum Development Division of any errors or changes you find to the endnotes.

<sup>1</sup> California Building Code, CBSC, 2007 Edition, Section 706



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 2-3: Classification Of Occupancies

**Time Frame:** 3:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Section 3-3.1

**Behavioral Objective:**

**Condition:** Given an activity and formative test

**Behavior:** The student will confirm a knowledge of classification of occupancies

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Section 202, General Definitions - Occupancy Classifications, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 5, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 38-40

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 2-3-1: Classification of Occupancies
- Group Activity 2-3-2: Rotating Review

**References:**

- California Building Code, CBSC, 2007 Edition, Chapter 3
- California Fire Code, CBSC, 2007 Edition, Section 202, General Definitions – “Occupancy Classifications”
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 5
- Fire Officer's Handbook of Tactics, Fire Engineering, Second Edition, Chapter 2
- Fire Protection Handbook, NFPA, Eighteenth Edition, Section 9

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

Attention (attract)

Begin

Curiosity (arouse)

Association

Interest (create)

Students



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### Desire (stimulate)

#### Experience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<b>I. OCCUPANCY CLASSIFICATION</b>	
<p>A. Defined as the purpose for which a building or portion of a building is used or intended to be used</p> <p>B. The International Codes recognize ten general occupancy groups that are grouped by the hazard they present to people or property</p> <p>C. The California Building Code recognizes eleven occupancy groups and has further defined special occupancies in the subcategories</p>	<p><b>SLIDE: 2-3-1</b></p>
<ol style="list-style-type: none"><li>1. Assembly - Group A</li><li>2. Business - Group B</li><li>3. Organized Camps - Group C (state regulated)</li><li>4. Education - Group E</li><li>5. Factory (or industrial use) - Group F</li><li>6. Hazardous - Group H</li><li>7. Institutional - Group I</li><li>8. Laboratory – Group L (state regulated for higher education)</li><li>9. Mercantile - Group M</li><li>10. Residential - Group R</li><li>11. Storage - Group S</li><li>12. Utility - Group U</li></ol>	<p><b>SLIDE: 2-3-2</b></p>
<b>II. GROUP A OCCUPANCIES – ASSEMBLY</b>	
<p>A. Defined as "... a building, or portion of a building, used for the gathering together of 50 or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking, or dining, or awaiting transportation."</p>	



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. For a room or building to be considered an assembly use, at least two criteria must be met</p> <ol style="list-style-type: none"> <li>1. The occupant load in a single area must be at least 50</li> <li>2. The individuals must be gathered together for one of the following purposes               <ol style="list-style-type: none"> <li>a) Deliberation                   <ol style="list-style-type: none"> <li>1) Examples                       <ul style="list-style-type: none"> <li>• Court room</li> <li>• City council chambers</li> </ul> </li> <li>b) Education or instruction                       <ol style="list-style-type: none"> <li>1) Education - student listens</li> <li>2) Instruction - may include participation</li> <li>3) Examples                           <ul style="list-style-type: none"> <li>• College classrooms or lecture halls</li> <li>• Training classrooms</li> <li>• Home Depot, "How to lay tile"</li> </ul> </li> </ol> </li> <li>c) Worship                       <ol style="list-style-type: none"> <li>1) Examples                           <ul style="list-style-type: none"> <li>• Church, synagogue, temple</li> </ul> </li> </ol> </li> </ol> </li> </ol> </li> </ol>	<p><b>SLIDE: 2-3-3</b></p> <p>What would be an example of a building used for deliberation?</p> <p>What is the difference between education and instruction?</p> <p>What are some examples of a building used for education and instruction?</p> <p>Any examples?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>d) Entertainment or amusement</p> <ol style="list-style-type: none"><li>1) Entertainment – watch</li><li>2) Amusement - participate</li><li>3) Examples<ul style="list-style-type: none"><li>• Theaters</li><li>• Casinos</li><li>• Billiard halls</li><li>• Arcades</li><li>• Stadiums</li><li>• Convention centers</li><li>• Auditorium</li></ul></li></ol> <p>e) Drinking or dining</p> <ol style="list-style-type: none"><li>1) Examples<ul style="list-style-type: none"><li>• Restaurants</li><li>• Cocktail lounges</li><li>• Banquet rooms</li></ul></li></ol> <p>f) Awaiting transportation</p> <ol style="list-style-type: none"><li>1) Examples<ul style="list-style-type: none"><li>• Train station</li><li>• Airport terminal</li><li>• Waiting room in bus station</li></ul></li></ol>	<p>What is the difference between entertainment and amusement?</p> <p>What are some examples?</p> <p>What are some examples of drinking and dining?</p> <p>What are some examples?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. Group A subgroups</p> <ol style="list-style-type: none"><li>1. Address distinctive hazards based upon both fire hazards and the possibility of panic<ol style="list-style-type: none"><li>a) The occupants are not familiar with their surroundings</li><li>b) Light level is usually low<ol style="list-style-type: none"><li>1) These conditions may influence panic behavior by the occupants</li></ol></li><li>c) The UBC also considers the number of occupants to be a factor exacerbating panic, and therefore uses occupant load in determining the divisions</li></ol></li></ol> <p>D. Group A-1</p> <ol style="list-style-type: none"><li>1. Usually with fixed seating</li><li>2. Intended for the production and viewing of performing arts or motion pictures (with live audiences)</li><li>3. May include<ol style="list-style-type: none"><li>a) Motion picture and television production studio sound stages (with live audiences)</li><li>b) Motion picture theaters</li><li>c) Symphony and concert halls</li><li>d) Theaters</li></ol></li></ol> <p>E. Group A-2</p> <ol style="list-style-type: none"><li>1. Food and/or drinking consumption</li></ol> <p>F. Group A-3</p> <ol style="list-style-type: none"><li>1. Assembly uses<ol style="list-style-type: none"><li>a) Worship</li><li>b) Recreation</li><li>c) Amusement</li><li>d) Other assembly uses not classified elsewhere</li></ol></li></ol>	<p><b>SLIDE: 2-3-4</b></p> <p><b>SLIDE: 2-3-5</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>2. Includes indoor sports, dancing, and exercise</li> <li>3. Generally without spectator seating</li> <li>G. Group A-4               <ul style="list-style-type: none"> <li>1. Viewing of indoor sporting events and activities</li> </ul> </li> <li>H. Group A-5               <ul style="list-style-type: none"> <li>1. Participating or viewing outdoor sporting events or activities</li> <li>2. Includes amusement parks</li> </ul> </li> <li>I. In addition to general fire safety, be aware of exit requirements, positioning of occupant loads, permits, open flame, other special considerations</li> <li>J. Change of use should be a red flag for inspectors               <ul style="list-style-type: none"> <li>1. Changes from Group A-1 to Group A-2 are common                   <ul style="list-style-type: none"> <li>a) In strip malls where the occupancy expands to the next unit                       <ul style="list-style-type: none"> <li>1) Examples                           <ul style="list-style-type: none"> <li>• Restaurant</li> <li>• Arcade</li> <li>• Pool hall, etc.</li> </ul> </li> <li>b) Unused tenant spaces in malls that are being used as community rooms or children's theaters</li> </ul> </li> </ul> </li> </ul> </li> </ul>	<p style="text-align: center;"><b>SLIDE: 2-3-6</b></p> <p>What are some examples of "change of use?"</p> <p style="text-align: center;"><b>SLIDE: 2-3-7</b></p>
<p><b>III. GROUP B OCCUPANCIES – BUSINESS</b></p> <ul style="list-style-type: none"> <li>A. Used for office, professional, or service type transactions which are not classified as Group H occupancies</li> </ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. May include the storage of records and accounts as well as eating and drinking establishments with an occupant load of less than 50</p> <p>1. Examples</p> <ul style="list-style-type: none"><li>a) Animal hospitals, kennels, and pounds</li><li>b) Banks</li><li>c) Barber shops, massage and tattoo parlors</li><li>d) Car wash</li><li>e) Fire stations</li><li>f) Post offices</li></ul> <p>C. Change of use</p> <p>1. Examples</p> <ul style="list-style-type: none"><li>a) Group B to Group A-2<ul style="list-style-type: none"><li>1) Small restaurant to larger one</li><li>2) Office area to classroom use</li></ul></li><li>b) Group B to Group E<ul style="list-style-type: none"><li>1) Providing day care during spring break</li></ul></li><li>c) Group B to Group H<ul style="list-style-type: none"><li>1) Amount of hazardous materials or flammable liquids</li></ul></li><li>d) Group B to Group I-2.1<ul style="list-style-type: none"><li>1) Outpatient surgery centers</li></ul></li></ul> <p><b>IV. GROUP C OCCUPANCIES - ORGANIZED CAMPS</b></p> <p>A. OSFM classification</p> <p>1. Addressed by H&amp;S Code Section 18897.3</p> <p>B. "Sleep away camps" for church and youth groups</p>	<p>What are some examples of change of use for B occupancies?</p> <p><b>SLIDE: 2-3-8</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>V. GROUP E OCCUPANCIES – EDUCATION</b></p> <p>A. Groups E</p> <ol style="list-style-type: none"><li>Used for educational purposes through 12<sup>th</sup> grade</li><li>Sunday school classrooms with less than 100 occupants are a Group A-3 occupancy unless they meet the definition of an E</li></ol> <p>B. Day care</p> <ol style="list-style-type: none"><li>Used for day care purposes<ol style="list-style-type: none"><li>Nonresidential building with more than 6 people</li><li>Residential building with more than 14 people</li></ol></li><li>Over the age of 2½ years</li><li>Examples<ol style="list-style-type: none"><li>Infant care and day care centers</li><li>Day care for mildly ill children</li><li>Adult day care facilities</li></ol></li></ol> <p>C. Change of use concerns</p> <ol style="list-style-type: none"><li>Use of facilities at night and on weekends as assembly use<ol style="list-style-type: none"><li>Examples<ol style="list-style-type: none"><li>Bingo</li><li>Adult education</li><li>Church</li></ol></li></ol></li></ol>	<p><b>SLIDE: 2-3-9</b></p> <p><b>SLIDE: 2-3-10</b></p> <p>What are some examples of an E day care?</p> <p>What "change of use concerns" are common to schools?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>VI. GROUP F OCCUPANCIES – FACTORY</b></p> <p>A. Used for assembling, disassembling, fabrication, finishing, manufacturing, packaging, repair, or processing that are not Group H or a Group S</p> <p>B. Group F-1</p> <ol style="list-style-type: none"><li>1. Moderate fire hazard</li><li>2. Cannot be classified as Group F-2</li><li>3. Examples include production of<ol style="list-style-type: none"><li>a) Aircraft</li><li>b) Appliances</li><li>c) Bakeries</li><li>d) Boats</li><li>e) Brooms</li><li>f) Clothing</li><li>g) Engines (including rebuilding)</li><li>h) Furniture</li><li>i) Hemp products</li><li>j) Laundries</li><li>k) Plastic products</li><li>l) Shoes</li><li>m) Woodworking, cabinet</li></ol></li></ol> <p>C. Group F-2</p> <ol style="list-style-type: none"><li>1. Low fire hazard</li><li>2. Produces noncombustible or nonexplosive materials</li><li>3. Examples<ol style="list-style-type: none"><li>a) Nonalcoholic beverages</li></ol></li></ol>	<p><b>SLIDE: 2-3-11</b></p> <p><b>SLIDE: 2-3-12</b></p> <p>What are some examples of F-2 occupancies?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>b) Brick and masonry</li> <li>c) Ceramic products</li> <li>d) Glass products</li> <li>e) Steel fabrication and assembly</li> <li>4. Change of use               <ul style="list-style-type: none"> <li>a) Group F to Group H                   <ul style="list-style-type: none"> <li>1) Based upon quantities of materials</li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 2-3-13</b></p>
<p><b>VII. GROUP H OCCUPANCIES – HAZARDOUS</b></p> <ul style="list-style-type: none"> <li>A. Involves the manufacturing, processing, generation, or storage of materials that constitute a high fire, explosion, or health hazard</li> <li>B. Group H-1 through H-3 present significant physical hazards</li> <li>C. Group H-4 and H-5 present significant health hazards</li> <li>D. Groups H-1, H-2, and H-3 classified by the types of fires expected           <ul style="list-style-type: none"> <li>1. Quantities in excess of CBC Table 3-D</li> </ul> </li> <li>E. Group H-1           <ul style="list-style-type: none"> <li>1. Presents high explosion hazard</li> <li>2. Examples               <ul style="list-style-type: none"> <li>a) Explosives</li> <li>b) Blasting agents</li> <li>c) Black powder</li> <li>d) Class 4 oxidizers</li> <li>e) Class 4 or Class 3 detonatable unstable (reactive) materials</li> </ul> </li> </ul> </li> <li>F. Group H-2           <ul style="list-style-type: none"> <li>1. Presents moderate explosion hazards</li> </ul> </li> </ul>	<p><b>SLIDE: 2-3-14</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Examples<ul style="list-style-type: none"><li>a) Combustible dust<ul style="list-style-type: none"><li>1) Capable of being suspended in air</li></ul></li><li>b) Class 1 organic peroxides</li><li>c) Pyrophoric gases</li><li>d) Flammable or oxidizing gases</li><li>e) Class 3 oxidizers</li><li>f) Class 3 water reactive materials</li><li>g) Flammable or combustible liquids in open containers or systems, or under pressure</li></ul></li><li>G. Group H-3<ul style="list-style-type: none"><li>1. Presents rapid burning and high physical hazard</li><li>2. Examples<ul style="list-style-type: none"><li>a) Class 1 or Class 2 water reactive materials</li><li>b) Class 1 or Class 2 oxidizers</li><li>c) Flammable and combustible liquids</li></ul></li></ul></li><li>H. Groups H-4<ul style="list-style-type: none"><li>1. Typically presents health hazards</li></ul></li><li>I. Group H-5<ul style="list-style-type: none"><li>1. Presents both physical and health hazards</li><li>2. Quantities in excess of CBC Tables 3X</li><li>3. Semiconductor fabrication</li><li>4. Research and development areas using hazardous production materials</li></ul></li></ul>	<p style="text-align: center;"><b>SLIDE: 2-3-15</b></p>
<b>VIII GROUP I OCCUPANCIES – INSTITUTIONAL</b>	
<ul style="list-style-type: none"><li>A. Hazards of these occupancies include<ul style="list-style-type: none"><li>1. Occupants may be sleeping or unaware of surroundings</li><li>2. Occupants are incapable of self-preservation</li></ul></li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Group I-1</p> <ol style="list-style-type: none"><li>1. Nonambulatory</li><li>2. More than 6 patients</li><li>3. Residential in nature</li><li>4. Example<ol style="list-style-type: none"><li>a) Residential care facilities for the elderly</li></ol></li></ol> <p>C. Group I-1.2</p> <ol style="list-style-type: none"><li>1. Nonambulatory and bedridden patients</li><li>2. More than 6 patients</li><li>3. General acute hospitals and skilled nursing facilities</li></ol>	<p><b>SLIDE: 2-3-16</b></p>
<p>D. Group I-2.1</p> <ol style="list-style-type: none"><li>1. Patients may be rendered incapable of unassisted self-preservation</li><li>2. More than 6 patients</li><li>3. Outpatient medical care</li></ol> <p>E. Group I-3</p> <ol style="list-style-type: none"><li>1. Only division that allows the restraint of occupants</li><li>2. Examples<ol style="list-style-type: none"><li>a) Jails</li><li>b) Prisons</li><li>c) Mental hospitals</li></ol></li></ol>	<p><b>SLIDE: 2-3-17</b></p>
<p>F. Group I-4</p> <ol style="list-style-type: none"><li>1. Day care which is custodial care for periods less than 24 hours<ol style="list-style-type: none"><li>a) Adult day care for more than 6 persons</li><li>b) Child day care for more than 6 persons under the age of 2½ years</li></ol></li></ol>	<p><b>SLIDE: 2-3-18</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>IX. GROUP L OCCUPANCIES - LABORATORY</b></p> <ul style="list-style-type: none"><li>A. OSFM classification</li><li>B. Laboratories with quantities of materials in excess of CBC Tables 443.1(1) or 443.1(2)</li><li>C. Limited to research laboratories not classed as B<ul style="list-style-type: none"><li>1. Comparable to the old H-8 occupancy</li></ul></li><li>D. When multiple hazards are present, all hazards must be addressed</li></ul> <p><b>X. GROUP M OCCUPANCIES – MERCANTILE</b></p> <ul style="list-style-type: none"><li>A. No subdivisions</li><li>B. Used for<ul style="list-style-type: none"><li>1. Display and sale of merchandise</li><li>2. Stocks of goods, wares, or merchandise</li><li>3. Examples<ul style="list-style-type: none"><li>a) Department stores</li><li>b) Drug stores</li><li>c) Markets</li><li>d) Shopping centers</li><li>e) Wholesale and retail stores</li></ul></li></ul></li><li>C. Change of use<ul style="list-style-type: none"><li>1. Addition of assembly use areas</li><li>2. Examples<ul style="list-style-type: none"><li>a) Classes</li><li>b) Community rooms</li><li>c) Drinking or dining areas</li></ul></li></ul></li></ul>	<p><b>SLIDE: 2-3-19</b></p> <p><b>SLIDE: 2-3-20</b></p> <p>What are some examples of Group M occupancies?</p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>XI. GROUP R OCCUPANCIES – RESIDENTIAL</b></p> <p>A. Significant hazards</p> <ol style="list-style-type: none"><li>1. Life safety hazard presented by sleeping occupants</li><li>2. Content hazards may be unregulated<ol style="list-style-type: none"><li>a) May be protected by the fourth amendment to the constitution</li></ol></li></ol> <p>B. Examples</p> <ol style="list-style-type: none"><li>1. Hotel</li><li>2. Motel</li><li>3. Apartment</li><li>4. Single family homes</li><li>5. Residential care facilities</li></ol> <p>C. Group R-1</p> <ol style="list-style-type: none"><li>1. State-regulated occupancy</li><li>2. May include a variety of different occupancies under the same roof</li><li>3. Examples<ol style="list-style-type: none"><li>a) Hotels</li><li>b) Motels</li></ol></li></ol> <p>D. Group R-2</p> <ol style="list-style-type: none"><li>1. State-regulated occupancy</li><li>2. Permanent occupants</li><li>3. Examples<ol style="list-style-type: none"><li>a) Apartments</li></ol></li></ol>	<p><b>SLIDE: 2-3-21</b></p> <p>What are some of the hazards associated with residential occupancies?</p> <p><b>SLIDE: 2-3-22</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>E. Group R-3</p> <ol style="list-style-type: none"><li>1. Single family dwelling with no more than 2 units</li><li>2. Residential daycare for less than 24 hours</li></ol> <p>F. Group R-3.1</p> <ol style="list-style-type: none"><li>1. OSFM classification</li><li>2. Residential care facilities<ol style="list-style-type: none"><li>a) 6 or less (any age)</li><li>b) Ambulatory, nonambulatory, bedridden</li></ol></li></ol> <p>G. Group R-4</p> <ol style="list-style-type: none"><li>1. OSFM classification</li><li>2. Residential licensed facility</li><li>3. Ambulatory residents</li><li>4. More than 6 residents</li></ol>	<p><b>SLIDE: 2-3-23</b></p> <p><b>SLIDE: 2-3-24</b></p> <p><b>SLIDE: 2-3-25</b></p>
<p><b>XII. GROUP S OCCUPANCY – STORAGE</b></p> <p>A. Storage of materials not classified as hazardous</p> <p>B. Group S-1</p> <ol style="list-style-type: none"><li>1. Moderate hazard storage facilities</li><li>2. Anything made in a F-1 can be stored in a S-1</li><li>3. Examples<ol style="list-style-type: none"><li>a) Distribution centers</li><li>b) Warehouses</li><li>c) Storerooms and self-storage facilities for combustible materials</li><li>d) Motor vehicle storage</li></ol></li></ol>	<p><b>SLIDE: 2-3-26</b></p> <p>What is an example of an S-1 occupancy?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. Group S-2</p> <ol style="list-style-type: none"><li>1. Low hazard storage facilities</li><li>2. Anything made in a F-2 can be stored in a S-2</li></ol> <p>3. Examples</p> <ol style="list-style-type: none"><li>a) Airplane hangars</li><li>b) Beer or wine<ol style="list-style-type: none"><li>1) In metal or glass containers</li></ol></li><li>c) Cement in bags</li><li>d) Empty cans</li><li>e) Frozen foods</li><li>f) Canned goods</li><li>g) Meats</li><li>h) Metal furniture</li></ol> <p>D. Change of use</p> <ol style="list-style-type: none"><li>1. Group S to Group A<ol style="list-style-type: none"><li>a) Unpermitted assembly uses such as "raves"</li><li>b) Permitted Group A-4<ol style="list-style-type: none"><li>1) Indoor tennis</li><li>2) Batting cages</li><li>3) Paint ball tournaments</li><li>4) Go-carts</li></ol></li></ol></li></ol> <p><b>XIII. GROUP U OCCUPANCIES – UTILITY</b></p> <p>A. Low hazard occupancies</p> <p>B. Examples</p> <ol style="list-style-type: none"><li>1. Private garages</li><li>2. Carports</li></ol>	<p>What would be an example of an S-2 occupancy?</p> <p><b>SLIDE: 2-3-27</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>3. Sheds</li><li>4. Agricultural buildings</li><li>5. Fences over 6 feet</li><li>6. Tanks</li><li>7. Towers</li></ul> <p><b>XIV. MIXED OCCUPANCIES</b></p> <ul style="list-style-type: none"><li>A. Most buildings contain more than one occupancy group<ul style="list-style-type: none"><li>1. Classified by most common use</li><li>2. Most restrictive requirements applied when there is a conflict between requirements</li></ul></li></ul>	<p><b>SLIDE: 2-3-28</b></p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

Occupancies are classified based upon the defined purpose for which the building or portions of the building are used or intended to be used. Knowledge of the hazards and characteristics of a given occupancy will allow the inspector the ability to better evaluate the risks presented to both the occupants and the responders in the event of a fire. It will also allow the inspector to identify any changes in the use of the occupancy and mitigate the hazards associated with the new use.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Section 202, General Definitions – Occupancy Classifications, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 5, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 38-40 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY 2-3-1: CLASSIFICATION OF OCCUPANCIES

**Time Frame:** 0:15

**Materials Needed:**

- California Fire Code, CBSC, 2007 Edition, Section 202, General Definitions – Occupancy Classifications
- Pen or pencil

**Introduction:** This activity provides the students the opportunity to classify various occupancies.

**Directions:**

1. Using information taken from the table, identify the group classification for the following occupancies.
2. You have 10 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.

Type Of Occupancy	Group Classification
1. Restaurant with occupant load of 77	<b>A-3</b>
2. Day-care center for 30 children, all over 2½ years old	<b>E</b>
3. Nursery for 24-hour care of 2-year-olds	<b>I-2.1</b>
4. A stadium	<b>A-4 or A-5</b>
5. State prison	<b>I-3</b>
6. Welding shop	<b>H-2</b>
7. Woodworking shop	<b>F-1</b>
8. Restaurant with an occupant load of 32	<b>B</b>
9. Service station	<b>S-3</b>
10. Repair garage with welding	<b>H-4</b>
11. Condominium	<b>R-1</b>
12. Nursing home for nonambulatory patients	<b>I-1.1</b>
13. 8-foot high fence	<b>U-2</b>
14. Fiberglass shop where flammable liquids are used	<b>H-2 or H-3</b>
15. Fire station	<b>B</b>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

Type Of Occupancy	Group Classification
16. Clubhouse with an occupant load of 75	<u>A-3</u>
17. College classroom with 49 occupants	<u>B</u>
18. 15-story office building	<u>B</u>
19. Electroplating shop using three 1250-gallon acid tanks	<u>H-7</u>
20. 150,000 square foot retail store	<u>M</u>

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### GROUP ACTIVITY 2-3-2: ROTATING REVIEW

*Adapted from Cooperative Learning  
Dr. Spencer Kagan  
Kagan Cooperative Learning  
San Clemente, California 4/97*

**Time Frame:** 0:40 - 1:00

**Materials Needed:**

- Conference pad (minimum 11 sheets)
- Colored marker (one color for each group)
- Tape

**Introduction:** This activity provides the students the opportunity to develop their ability to identify and understand the 11 general occupancy classifications.

**Directions:**

1. Divide the class into 11 groups.
2. Give each group one sheet from the easel pad and a colored marker.
3. Give each group one of the 11 general occupancy classifications and have them write it at the top of their sheet.
4. Have the groups tape their sheet on a solid surface around the classroom, leaving enough room for the groups to work.
5. Each group has one minute to write as many facts on the occupancy classification as they can. Call "STOP" when the time is up.
6. Have the groups rotate to the next sheet, taking their colored marker with them.
7. Each group has **two minutes** to read and discuss what the previous group has written. Put a question mark (?) by any item with which the group disagrees or has a question. Call "STOP" when the time is up.
8. Each group has **one minute** to write as many **additional** facts on the occupancy classification as they can. Do not let the same person do all the writing. Rotate this assignment. Call "STOP" when the time is up.
9. Have the groups rotate to the next sheet.
10. Continue this procedure until each group has progressed through all occupancy classification and is back to its original sheet.



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

11. Have each group "clean up" their sheet. Answer questions and remove or add material.
12. Have each group select a group leader to present their occupancy classification facts to the class.

#### **Variation**

1. Give each group a set of photos or descriptions of occupancies.
2. Have each group affix to the sheet with the correct occupancy classification.

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 3-1: Terminology Relating To Egress Requirements

**Time Frame:** 0:30

**Level of Instruction:** Level I

**Authority:** 2003 NFPA 1031: Sections 3-2.1 and 3-2.2

**Behavioral Objective:**

**Condition:** Given an activity and formative test

**Behavior:** The student will confirm a knowledge of the terminology relating to egress requirements

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapters 2 and 10, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 41-42

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 3-1-1: Word Search

**References:**

- California Building Code, CBSC, 2007 Edition, Chapters 2 and 10
- California Fire Code, CBSC, 2007 Edition, Chapters 2 and 10
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

Attention (attract)	Begin
Curiosity (arouse)	Association
Interest (create)	Students
Desire (stimulate)	Experience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. MEANS OF EGRESS SYSTEM</b></p> <p><b>A. Means of egress defined</b></p> <ol style="list-style-type: none"><li>1. A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way</li><li>2. Consists of three separate and distinct parts<ol style="list-style-type: none"><li>a) Exit access</li><li>b) Exit</li><li>c) Exit discharge</li></ol></li></ol> <p><b>B. Parts</b></p> <ol style="list-style-type: none"><li>1. Exit access<ol style="list-style-type: none"><li>a) The portion between the occupants' location in the building or structure to the exit</li><li>b) Examples<ol style="list-style-type: none"><li>1) Aisles</li><li>2) Corridors</li></ol></li><li>c) Common components<ol style="list-style-type: none"><li>1) Doors</li><li>2) Gates</li><li>3) Stairways</li><li>4) Ramps</li></ol></li></ol></li><li>2. Exit<ol style="list-style-type: none"><li>a) That portion separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge</li><li>b) Elements<ol style="list-style-type: none"><li>1) Exterior exit doors at ground level</li><li>2) Exit enclosures</li></ol></li></ol></li></ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>3) Exit passageway</li><li>4) Exterior exit stairs</li><li>5) Exterior exit ramps</li><li>6) Horizontal exits</li></ul> <p>3. Exit discharge</p> <ul style="list-style-type: none"><li>a) That portion between the termination of an exit and a public way</li><li>b) Level of exit discharge is the horizontal plane located at the point at which an exit terminates and an exit discharge begins</li><li>c) Elements<ul style="list-style-type: none"><li>1) Egress court</li><li>2) Public way</li></ul></li></ul>	
<p><b>II. EXIT DOOR</b></p> <p>A. Size</p> <ul style="list-style-type: none"><li>1. Minimum size is 80"h x 36"w (32" net opening)</li><li>2. No leaf (door panel) may be more than 48" wide</li><li>3. No exit door may consist of more than two leaves</li></ul> <p>B. Types of door</p> <ul style="list-style-type: none"><li>1. Side hinged swing type</li><li>2. Revolving doors</li><li>3. Power-operated doors</li><li>4. Horizontal sliding doors</li><li>5. Access-controlled egress doors</li></ul>	
<p><b>III. HARDWARE</b></p> <p>A. Panic hardware</p> <ul style="list-style-type: none"><li>1. A door-latching assembly incorporating an unlatching device, the activation portion of which extends across at least one half the width of the door leaf on which it is installed</li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. The unlatching force shall not exceed 15 pounds of force when applied in the direction of travel</li><li>B. Locks and latches<ul style="list-style-type: none"><li>1. All "exit doors" must be operable from the egress side without a key, special knowledge, or effort<ul style="list-style-type: none"><li>a) Simply stated "The door shall open when the knob is turned"</li></ul></li><li>2. All other locking devices are prohibited on doors used for egress<ul style="list-style-type: none"><li>a) Example<ul style="list-style-type: none"><li>1) Flush bolts</li><li>2) Chains</li><li>3) Bars, etc.</li></ul></li></ul></li></ul></li></ul> <p><b>IV. PUBLIC WAY</b></p> <ul style="list-style-type: none"><li>A. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet</li></ul> <p><b>V. OCCUPANT LOAD</b></p> <ul style="list-style-type: none"><li>A. The number of persons for which the means of egress of a building or portion thereof is designed</li><li>B. Based upon all portions of the building being occupied at the same time</li></ul> <p><b>VI. ILLUMINATION</b></p> <ul style="list-style-type: none"><li>A. Illumination of the means of egress by external or natural sources</li><li>B. Emergency illumination is required for up to 90 minutes whenever two or more exits are required</li></ul> <p><b>VII. EXIT SIGN</b></p> <ul style="list-style-type: none"><li>A. Externally or internally illuminated signs to identify the exit</li></ul>	



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Signs must conform with all requirements of the CFC</p> <p><b>VIII. HORIZONTAL EXIT</b></p> <p>A. A wall that completely divides a floor of a building into two or more separate exit-access areas to afford safety from fire and smoke in the exit-access areas of incident origin</p> <p>B. A means of egress from one building to an area of refuge in another building on approximately the same level</p> <p>C. A means of egress through a fire barrier or partition to an area of refuge at approximately the same level in the same building that affords safety from fire and smoke</p>	<p><b>INDIVIDUAL ACTIVITY</b> <b>3-1-1:</b> Complete the activity in the student supplement.</p>



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

Understanding these common terms will assist the fire inspector in interpretation and application of the CFC.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapters 2 and 10, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 38-40 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### ACTIVITY 3-1-1: WORD SEARCH

**Time Frame:** 0:15

- Materials Needed:**
- California Fire Code, CBSC, 2007 Edition, Chapters 2 and 10
  - Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6
  - Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 41-42
  - Pen or pencil

**Introduction:** This activity provides the students the opportunity to become familiar with the terms related to egress requirements.

- Directions:**
1. Locate in the maze the appropriate word for the descriptions listed.
  2. Circle the word once found.
  3. You have 10 minutes to complete this activity.
  4. Be prepared to discuss your answers with the class.





# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

---

- Topic:** 3-2: Determining Adequate Means Of Egress
- Time Frame:** 3:00
- Level of Instruction:** Level II
- Authority:** 2003 NFPA 1031: Sections 3-3.3 and 4-3.5
- Behavioral Objective:**
- Condition:** Given an activity and formative test
- Behavior:** The student will confirm a knowledge of determining adequate means of egress
- Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 10, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 43-45
- Materials Needed:**
- Conference board/pads with markers/erasers
  - Appropriate audiovisual training aids and devices
  - Individual Activity 3-2-1: Determining Occupant Load and Minimum Egress Requirements
- References:**
- California Building Code, CBSC, 2007 Edition, Chapter 10
  - California Fire Code, CBSC, 2007 Edition, Chapter 10
  - Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6
- Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.
- |                             |                     |
|-----------------------------|---------------------|
| <b>A</b> ttention (attract) | <b>B</b> egin       |
| <b>C</b> uriosity (arouse)  | <b>A</b> ssociation |
| <b>I</b> nterest (create)   | <b>S</b> tudents    |
| <b>D</b> esire (stimulate)  | <b>E</b> xperience  |
- Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. DETERMINING THE NUMBER OF EXITS</b></p> <p>A. All rooms and spaces within each story shall be provided with and have access to the minimum number of approved independent exits required by Table 1019.1 based on occupant load (O.L.)</p> <ol style="list-style-type: none"><li>1. O.L. 1-500 persons – 2 exits</li><li>2. O.L. 501-1,000 persons – 3 exits</li><li>3. O.L. more than 1,000 persons – 4 exits</li></ol> <p>B. Buildings with one exit</p> <ol style="list-style-type: none"><li>1. Table 1019.2, CFC</li><li>2. Group R-3 occupancies</li><li>3. Single-level buildings with occupied space at the level of exit discharge</li></ol> <p>C. Two exits or exit access doorways from any space</p> <ol style="list-style-type: none"><li>1. When the O.L. exceeds the values in Table 1015.1</li><li>2. Where the common path of egress travel exceeds the limitations of Section 1014.3</li><li>3. When required for<ol style="list-style-type: none"><li>a) Boiler, incinerator, and furnace rooms over 500 SF and equipment exceeds 400,000 BTUs</li><li>b) Refrigeration machinery rooms over 1,000 SF<ol style="list-style-type: none"><li>a) Refrigerated rooms/spaces over 1,000 SF</li></ol></li></ol></li></ol> <p><b>II. DETERMINING THE OCCUPANT LOAD</b></p> <p>A. Occupant load without fixed seating</p> <ol style="list-style-type: none"><li>1. Determine the square foot of the room or area under consideration</li><li>2. Divide the square footage by the floor area in square feet per maximum floor area allowances per occupant listed in Table 1004.1.1<ol style="list-style-type: none"><li>a) Product is the design occupant load</li></ol></li></ol>	<p><b>SLIDE: 3-2-1</b></p> <p><b>SLIDE: 3-2-2</b></p> <p><b>SLIDE: 3-2-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>3. When approved by the building official, the design occupant load may be the actual number of occupants for whom each occupied space, floor or building is designed</li><li>4. The design occupant load may be increased provided all other requirements of the code are also met and the occupant load does not exceed one occupant per 7 SF<ul style="list-style-type: none"><li>a) The fire code official may require an approved aisle, seating or fixed equipment diagram substantiating any increase in occupant load</li><li>b) Added aisles, seating, equipment substantiating any increase in occupant load shall be posted</li></ul></li><li>5. When exits serve more than one floor, only the occupant load of each floor considered shall be used in computing the required capacity of the exits at the floor</li><li>6. Were means of egress from floors above and below converge a tan intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the two floors</li><li>7. Mezzanines occupant loads shall be added to that room or area's occupant load, and the capacity of the exits shall be designed for the total occupant load thus established</li></ul> <p>B. Occupant load with fixed seating shall be determined by the number of fixed seats installed</p> <ul style="list-style-type: none"><li>1. Adjacent areas without fixed seats shall determine occupant load utilizing the formula and table for areas without fixed seating<ul style="list-style-type: none"><li>a) Does not include aisles between fixed seating</li></ul></li><li>2. For booths or areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches of seating length</li></ul>	<p style="text-align: center;"><b>SLIDE: 3-2-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>3. Occupant load of seating booths shall be based on one person for each 24 inches of booth seat length measured at the backrest of the seating booth</p> <p>C. Outdoor areas</p> <ol style="list-style-type: none"><li>1. Accessible yards, patios, courts and similar outdoor areas shall be provided with means of egress</li><li>2. The occupant load of such outdoor areas shall be assigned by the Fire Code Official in accordance with its use or function</li><li>3. Where outdoor areas are to be used by persons in addition to the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads</li></ol> <p>D. Multiple occupancies</p> <ol style="list-style-type: none"><li>1. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the based on the use of that space</li><li>2. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall be the more stringent requirements of all occupancies served</li></ol>	<p><b>SLIDE: 3-2-5</b></p>
<p><b>III. ARRANGEMENT OF MEANS OF EGRESS</b></p> <p>A. Exit or exit access doorway arrangement</p> <ol style="list-style-type: none"><li>1. Obvious location and availability</li><li>2. Unobstructed at all times</li><li>3. Two exits or exit access doorways shall be arranged as follows<ol style="list-style-type: none"><li>a) A distance apart equal to but not less than 1/2 of the length of the maximum overall diagonal dimension of the building or area for unsprinklered buildings</li></ol></li></ol>	<p><b>SLIDE: 3-2-6</b></p> <p><b>SLIDE: 3-2-7</b></p>



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>b) A distance apart equal to not less than one-third of the length of the maximum overall diagonal dimension of the building or area for sprinklered buildings</li> <li>c) When exit enclosures are connected by an approved 1 hour corridor the required separation shall be measured along the shortest direct line of travel within the corridor</li> </ul> <p>4. Three exits are required</p> <ul style="list-style-type: none"> <li>a) At least two of the exits shall be arranged in accordance with the one-half diagonal or one-third diagonal depending upon fire sprinklers</li> </ul> <p>B. Travel distance</p> <ul style="list-style-type: none"> <li>1. Exits located on each story so that the maximum length of exit access travel shall not exceed Table 1016.1, CFC               <ul style="list-style-type: none"> <li>a) Measured from the most remote point within a story to the entrance to an exit</li> </ul> </li> <li>2. Follow the natural and unobstructed path of egress travel</li> <li>3. In single story sprinklered Group F-1 and S-1 occupancies               <ul style="list-style-type: none"> <li>a) Equipped with heat and smoke vents</li> <li>b) Travel distance may be increased to 400 feet</li> <li>c) Travel distance may be increased up to 100 feet provided that last portion of exit access leading to the exit occurs on an exterior exit balcony</li> </ul> </li> </ul>	<p><b>SLIDE: 3-2-8</b></p> <p><b>SLIDE: 3-2-9</b></p> <p><b>SLIDE: 3-2-10</b></p>
<p><b>IV. MEANS OF EGRESS WIDTH</b></p> <ul style="list-style-type: none"> <li>A. The total width of means of egress in inches shall not be less than the total occupant load served by the means of egress multiplied by the factors in Table 1005.1, CFC</li> </ul>	



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>1. Unless specified elsewhere in the code</li><li>2. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity</li><li>3. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress</li><li>B. Door encroachment opening into the path of egress travel shall not reduce the required width to less than one-half the required width</li></ul>	<p><b>SLIDE: 3-2-11</b></p> <p><b>INDIVIDUAL ACTIVITY</b> <b>3-2-1:</b> Complete the activity in the student supplement.</p>



## **FIRE PREVENTION 1A (BRIDGE)**

Introduction To The California Fire Code

---

### **Summary:**

The determination of adequate egress from buildings is one of the most important activities in which a company officer will engage. No other aspect of the job more directly affects the safety of the public.

### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

### **Assignment:**

Review your notes and the California Fire Code, CBSC, 2007 Edition, Chapter 10, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 43-45 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

## INDIVIDUAL ACTIVITY 3-2-1: DETERMINING OCCUPANT LOAD AND MINIMUM EGRESS REQUIREMENTS

**Time Frame:** 0:20

**Materials Needed:**

- California Fire Code, CBSC, 2007 Edition, Chapter 10
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6
- Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 43-45
- Pen or pencil

**Introduction:** This activity provides the students the opportunity to determine occupant load and minimum egress requirements so the occupants can safely and quickly exit a building.

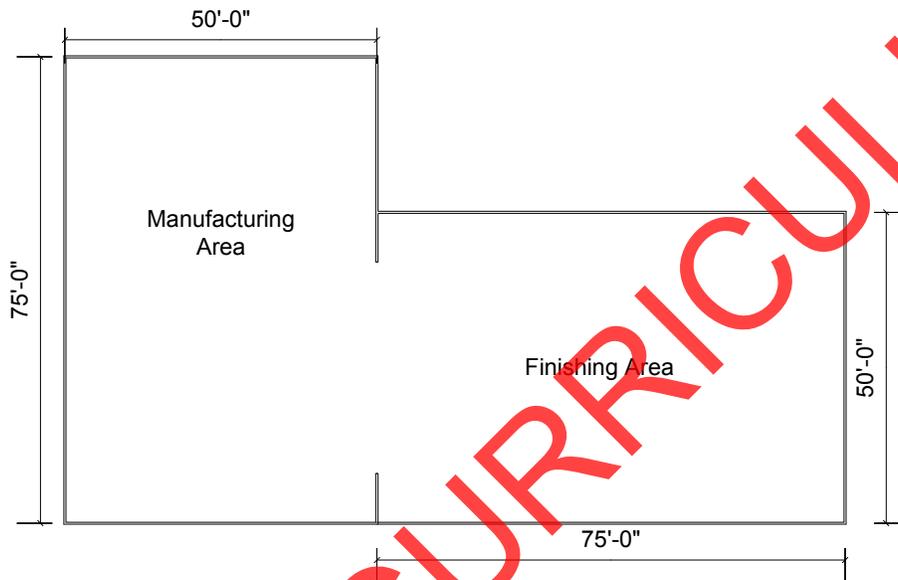
**Directions:**

1. Using information from the texts listed above, answer the following questions.
2. You have 15 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.

1. Your fire company has been assigned to perform an inspection in a building that was formerly a warehouse and has recently been turned into a nightclub. The public area of this facility is a room that measures 100' x 150' with no fixed seats. The Fire Marshal has asked your company to determine the legal occupant load. Determine both the occupant load and minimum number of exits required.

$$\frac{\text{Square footage} = 15,000}{\text{Factor to be used} = 7} = \underline{2143} \text{ Persons} \quad \underline{4} \text{ Exits}$$

- 2 You have been given architectural plans for a new building being construction within your jurisdiction. The building will be a manufacturing facility for charcoal grills and meat smokers. Given the following diagram of the building, determine the legal occupant load for the facility.



Determine the Total Floor Area  $\frac{7,500}{200} = 38$  Persons  $2$  Exits

3. You are assigned to determine the occupant load on a new youth-oriented entertainment facility being constructed within your jurisdiction. The building's principal room is 100' x 250'. Depending on the day of operation, this room is used as either a skating rink or a dance hall.

- Determine floor area of the principal room: 25,000 SF
- Determine the occupancy factor if it were a skating rink without a deck: 50
- Determine the occupancy factor if it were a dance hall: 7

Using the highest occupancy factor, answer the remaining questions.

- What is the general classification of this occupancy? A
- What is the minimum number of exits required by the CFC? 4
- Why? Occupant load is greater than 1,000



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

4. As a code enforcement official, you are given plans for a new restaurant with an attached clothing store in your jurisdiction. You are assigned to determine the occupant load for this structure. The restaurant portion of the building is 100' x 125' and contains tables and chairs that are not fixed. The clothing store portion is 75' x 75'.

Floor Area of Restaurant =	<u>12,500</u>	Floor Area of Clothing Store =	<u>5,625</u>
Occupant Factor =	<u>15</u>	Occupant Factor =	<u>30</u>
Occupant Load of Restaurant =	<u>834</u>	Classification of Restaurant =	<u>A</u>
Occupant Load of Store =	<u>188</u>	Classification of Store =	<u>M</u>
Total Occupant Load =	<u>1022</u>		

5. Identify and assess an egress system with the following components using .2 for level exits and .3 for stairwells. Use the following measurements: the alley= 12', the hallway = 42", and the exit door = 36"

How wide is the exit (inches)?	<u>42"</u>	What is the capacity?	<u>210</u>
How wide is the exit (inches)?	<u>36"</u>	What is the capacity?	<u>180</u>
How wide is the exit discharge (inches)?	<u>144"</u>	What is the capacity?	<u>720</u>
How many people can safely use the means of egress system based on the information given?			<u>180</u>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 3-3: Means Of Egress Requirements

**Time Frame:** 3:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 3.3.10 and 4.3.3

**Behavioral Objective:**

**Condition:** Given an activity and formative test

**Behavior:** The student will confirm a knowledge of means of egress requirements

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 10, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 46-52

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Group Activity 3-3-1: Exiting Requirements

**References:**

- California Fire Code, CBSC, 2007 Edition, Chapter 10
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. GENERAL MEANS OF EGRESS</b></p> <p><b>A. Three components</b></p> <ol style="list-style-type: none"><li>1. Continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way</li><li>2. Exit access</li><li>3. Exit</li><li>4. Exit discharge</li></ol> <p><b>B. Exit access</b></p> <ol style="list-style-type: none"><li>1. That portion of a means of egress system that leads from any occupied portion of a building or structure to an exit</li></ol> <p><b>C. Exit</b></p> <ol style="list-style-type: none"><li>1. That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and the exit discharge</li><li>2. Include exterior exit doors at ground level, exit enclosures, exit passageways, exterior exit stairs, exterior exit ramps and horizontal exits</li></ol> <p><b>D. Exit discharge</b></p> <ol style="list-style-type: none"><li>1. That portion of a means of egress system between the termination of an exit and a public way</li></ol>	<p>If you were asked to inspect an "egress system," what would you look at?</p> <p><b>SLIDE: 3-3-1</b></p> <p><b>SLIDE: 3-3-2</b></p> <p><b>SLIDE: 3-3-3</b></p> <p><b>SLIDE: 3-3-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>E. Public way</p> <ol style="list-style-type: none"><li>1. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm)</li></ol>	<p><b>SLIDE: 3-3-5</b></p>
<p><b>II. EXIT ACCESS</b></p> <p>A. Egress through intervening spaces</p> <ol style="list-style-type: none"><li>1. Shall not pass through adjoining or intervening rooms or areas<ol style="list-style-type: none"><li>a) Unless accessory to the area served, not a high-hazard, and has discernible path to an exit</li><li>b) Intervening room is not prohibited in Group H, S, or F when intervening room is same or lesser hazard</li></ol></li><li>2. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes</li><li>3. Exits shall not pass through any room subject to locking except in Group I-3</li></ol> <p>B. Common path of egress travel</p>	<p><b>SLIDE: 3-3-6</b></p> <p><b>SLIDE: 3-3-7</b></p> <p><b>SLIDE: 3-3-8</b></p>
<p><b>NOTE:</b> See definition of common path of egress travel in Chapter 10 of the CFC.</p> <ol style="list-style-type: none"><li>1. Shall not exceed 75 feet in travel</li><li>2. Group H-1, H-2, and H-3<ol style="list-style-type: none"><li>a) Shall not exceed 25 feet in travel</li></ol></li></ol> <p><b>NOTE:</b> See A Occupancy requirements in §1025 for fixed seating.</p>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. Aisles</p> <ol style="list-style-type: none"><li>1. Aisles shall be provided from all occupied portions which contain seats, tables, furnishings, displays and similar fixtures or equipment</li><li>2. Width of aisles shall be unobstructed<ol style="list-style-type: none"><li>a) Doors when fully opened and handrails shall not reduce width by more than 7"</li><li>b) Doors in any position shall not reduce the required width by more than one-half</li><li>c) Trim and decorative features are permitted to project a maximum of 1½"</li></ol></li><li>3. Minimum clear width in Group B occupancies shall be determined by occupancy load but shall not be less than 36"<ol style="list-style-type: none"><li>a) Sprinklered buildings<ol style="list-style-type: none"><li>1) 36" accommodates 240 occupants</li></ol></li><li>b) Nonsprinklered buildings<ol style="list-style-type: none"><li>1) 36" accommodates 180 occupants</li></ol></li></ol></li><li>4. Minimum width on at least one side of merchandise shall be a minimum of 30"</li></ol> <p>D. Seating and tables</p> <ol style="list-style-type: none"><li>1. Does not apply to fixed seating</li><li>2. Access width<ol style="list-style-type: none"><li>a) For each table, measurement begins at 19" from the edge of a table or counter (or fixed seats)</li><li>b) Intended to accommodate a chair</li></ol></li><li>3. Aisle width<ol style="list-style-type: none"><li>a) Minimum of 12" up to 12 feet</li><li>b) Add an additional ½" to the required width for every additional foot beyond 12 foot of travel</li></ol></li></ol>	<p><b>SLIDE: 3-3-9</b></p> <p><b>SLIDE: 3-3-10</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>E. Exit balconies</p> <ol style="list-style-type: none"><li>1. Same requirements for exit corridors</li><li>2. Similar to corridor widths, headroom, dead end requirements, and projections</li><li>3. Required to be separated by one-hour fire resistive construction when only one exit stair is required</li><li>4. The long side of an egress balcony shall be at least 50% open and shall not be situated to accumulate smoke and gases</li></ol> <p>F. Travel distance</p> <ol style="list-style-type: none"><li>1. From any point in a building shall not exceed the distances given in Table 1016.1</li></ol> <p>G. Corridors</p> <ol style="list-style-type: none"><li>1. Shall be fire rated in accordance with Table 1017.1</li><li>2. Corridor width shall be determined by occupant load but not less than 44"<ol style="list-style-type: none"><li>a) Typically, exit corridors 20 feet in length or more shall not have dead ends</li><li>b) Corridor ceilings shall not be used as an air plenum</li><li>c) Fire resistive corridors shall be continuous and not be interrupted by intervening rooms</li></ol></li></ol>	<p><b>SLIDE: 3-3-11</b></p>
<p><b>III. EXIT</b></p> <p>A. Vertical exits</p> <ol style="list-style-type: none"><li>1. Interior exit stairways and ramps shall be enclosed with fire barriers<ol style="list-style-type: none"><li>a) One-hour fire barriers connecting up to three stories</li><li>b) Two-hour fire barriers connecting up to four stories</li></ol></li></ol>	<p><b>SLIDE: 3-3-12</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Openings shall be protected<ul style="list-style-type: none"><li>a) 60 minute for one-hour fire barriers</li><li>b) 90 minute for two-hour fire barriers</li></ul></li><li>3. Penetrations in enclosures are prohibited<ul style="list-style-type: none"><li>a) Except items serving the enclosure, i.e., doors, pressurization equipment, sprinkler pipes, etc.</li><li>b) No penetrations or communication openings, whether protected or not, between adjacent exit enclosures</li></ul></li><li>4. Ventilation required per the building code</li><li>5. Exit enclosure exterior walls<ul style="list-style-type: none"><li>a) Exterior walls comply with building code</li><li>b) Walls placed within 10 foot of a nonrated enclosure exterior wall located less than 180 degrees from the plane of the enclosure wall<ul style="list-style-type: none"><li>1) Protected one-hour 10 feet above the highest landing</li><li>2) Have protected openings of ¾-hour fire rating</li></ul></li></ul></li><li>6. Barriers shall be placed in vertical enclosures preventing continuation beyond the floor of exit discharge</li><li>7. Stairways shall be identified</li><li>8. Smokeproof enclosures<ul style="list-style-type: none"><li>a) Built in accordance with the building code</li><li>b) Exit directly into a public way or exit passageway, yard or open space having direct access to a public way</li><li>c) Separated by a minimum of 2 hours</li><li>d) Access to a smokeproof enclosure shall be by way of a vestibule or an open exterior balcony</li></ul></li></ul>	<p style="text-align: center;"><b>SLIDE: 3-3-13</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Exit passageways</p> <ol style="list-style-type: none"><li>1. Not be used for any purpose other than as a means of egress</li><li>2. Width determined by occupant load<ol style="list-style-type: none"><li>a) But not be less than 44" wide</li></ol></li><li>3. Width may be reduced as low as 36" wide when serving less than 50</li><li>4. Required width shall be unobstructed<ol style="list-style-type: none"><li>a) May use same exceptions for corridors</li></ol></li><li>5. Construction of exit passageway enclosures<ol style="list-style-type: none"><li>a) Walls, floors, and ceilings rated not less than that required for any connecting exit enclosure</li><li>b) If connected to a 1-hour vertical exit<ol style="list-style-type: none"><li>1) Exit passageway shall be rated 1-hour</li></ol></li><li>c) If connected to a 2-hour vertical exit<ol style="list-style-type: none"><li>1) Exit passageway shall be rated 2-hour</li></ol></li></ol></li><li>6. Openings protected in accordance with the building code<ol style="list-style-type: none"><li>a) 60 minute for 1-hour rated exit passageways</li><li>b) 90 minute for 2-hour rated exit passageways</li></ol></li><li>7. Penetrations into exit passageways are prohibited<ol style="list-style-type: none"><li>a) Except items serving the enclosure<ol style="list-style-type: none"><li>1) Doors</li><li>2) Pressurization equipment</li><li>3) Sprinkler pipes, etc.</li></ol></li></ol></li></ol>	<p><b>SLIDE: 3-3-14</b></p> <p><b>SLIDE: 3-3-15</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) No penetrations or communication openings, whether protected or not, between adjacent exit enclosures</li></ul> <p>C. Horizontal exits</p> <ul style="list-style-type: none"><li>1. Shall not serve as the only exit from a portion of a building where two or more exits are required</li><li>2. Not more than one-half of the total number of exits or exit width shall be horizontal exits</li><li>3. Horizontal exits shall be constructed as a minimum 2-hour fire barrier with protected openings consistent with the building code</li><li>4. A compartment created by the horizontal exit may be considered a refuge area and must provide at least 3 SF/person for the original occupant load plus the occupant load anticipated from the adjoining compartment</li><li>5. Ducts penetrating a horizontal exit shall be protected from the passage of heat and smoke</li></ul> <p>D. Exterior exit ramps and stairs</p> <ul style="list-style-type: none"><li>1. Shall not be used as an element of a required means of egress for Group I-2, high-rise, or buildings with more than 6 stories</li><li>2. One side of an exterior exit ramp or stair shall be opened on at least one side<ul style="list-style-type: none"><li>a) Minimum 35 SF of aggregate open area adjacent to each floor level and the level of each intermediate landing</li><li>b) The required open area located not less than 42" above the adjacent floor or landing level</li></ul></li><li>3. Open areas adjoining exterior exit ramps or stairways<ul style="list-style-type: none"><li>a) Yards</li></ul></li></ul>	<p><b>SLIDE: 3-3-16</b></p> <p><b>SLIDE: 3-3-17</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Courts</li><li>c) Public ways</li><li>4. Exterior ramps and stairways separated from the interior of the building consistent with vertical exits<ul style="list-style-type: none"><li>a) One-hour fire barriers connecting up to three stories</li><li>b) Two-hour fire barriers connecting up to four stories</li></ul></li></ul>	<p><b>SLIDE: 3-3-18</b></p> <p><b>SLIDE: 3-3-19</b></p>
<p><b>IV. EXIT DISCHARGE</b></p> <ul style="list-style-type: none"><li>A. Exits discharge directly to the exterior of the building<ul style="list-style-type: none"><li>1. At grade or provide direct access to grade</li><li>2. Cannot reenter a building</li><li>3. Provide a direct and unobstructed access to a public way</li></ul></li><li>B. Capacity<ul style="list-style-type: none"><li>1. Not be less than the discharge capacity of the exits being served</li></ul></li><li>C. Exterior balconies, stairways, and ramps<ul style="list-style-type: none"><li>1. Located at least 10 feet from adjacent lot lines and from other buildings on the same lot unless protected</li><li>2. Sufficiently open to the exterior so as to minimize the accumulation of smoke and toxic gases</li></ul></li><li>D. Egress courts serving as a portion of the exit discharge<ul style="list-style-type: none"><li>1. Width shall be based upon occupant load but shall not be less than 44" wide</li><li>2. Width serving Group R-3 or U occupancies may be as low as 36" wide</li></ul></li></ul>	<p><b>SLIDE: 3-3-20</b></p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

The inspector must be able to identify the principal components of an exit system and relate them to various occupancy groups. An understanding of proper maintenance of exits is also vital to an inspector's knowledge so that exits not only will be present in a structure, but will be functional as well.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapter 10, Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6, and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 46-52 in order to prepare yourself for the upcoming test. Study for our next session.



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### ACTIVITY 3-3-1: EXITING REQUIREMENTS

**Time Frame:** 1:00

**Materials Needed:**

- California Fire Code, CBSC, 2007 Edition, Chapter 10
- Pen or pencil

**Introduction:** This activity provides the students the opportunity to determine exit requirements so the occupants can safely and quickly exit a building.

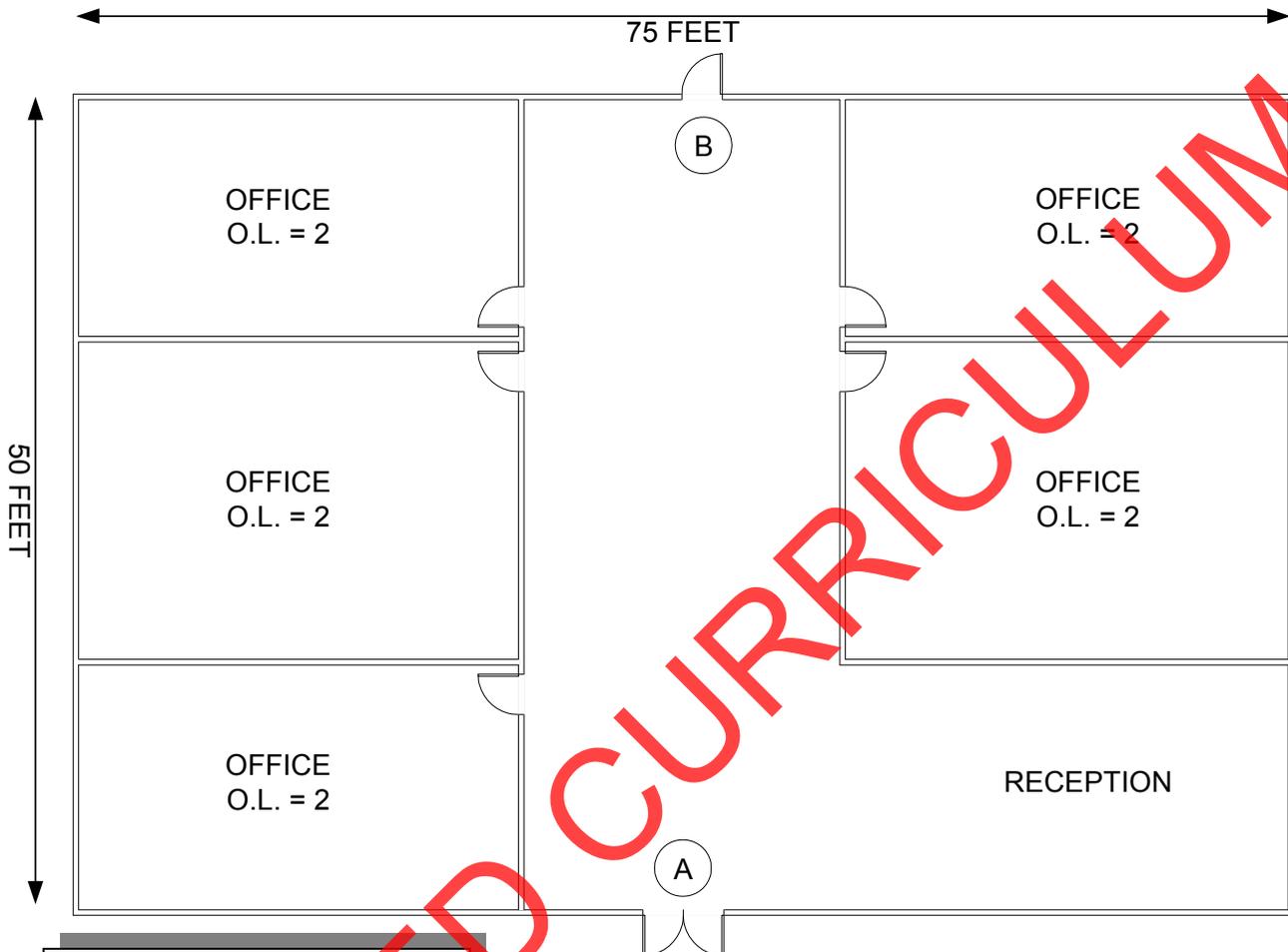
**Directions:**

1. In your group, review the six diagrams and answer the questions for each.
2. You have 45 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code



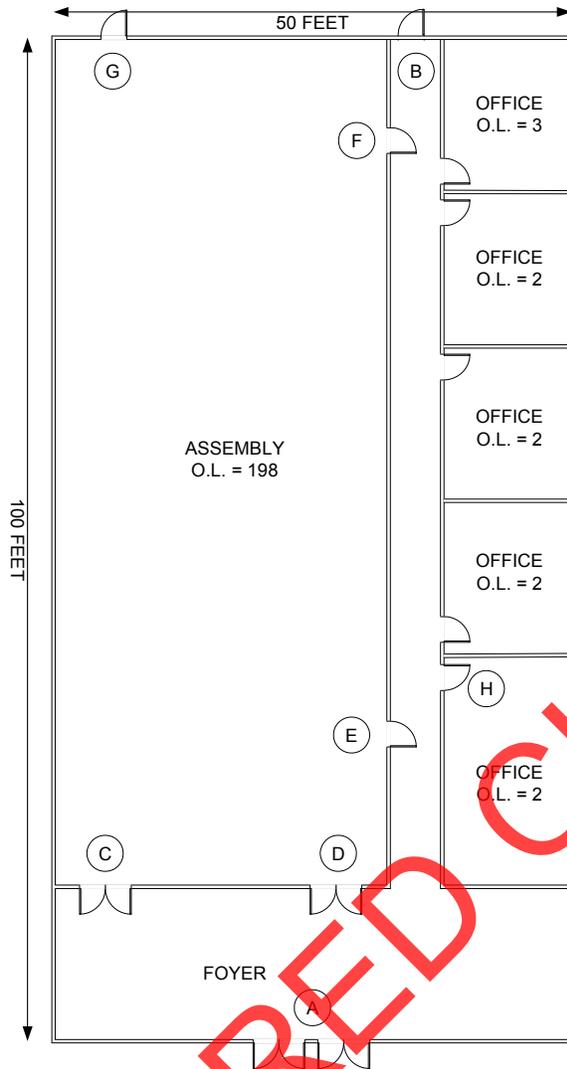
**ABC REAL ESTATE**  
**3,750 Square Feet**

**LEGEND**  
 DB = Deadbolt  
 NK = Not Known  
 PH = Panic Hardware  
 SR = Self-Releasing

Occupancy Classification(s):	<u><b>B</b></u>	
Number Of Exits Required:	<u><b>1</b></u>	
Type of Door Lock/Latch:	<u><b>DB</b></u>	<u><b>NK</b></u>
	A	B
Door Swing In Direction Of Travel Required?	<u><b>N</b></u>	<u><b>N</b></u>
	A	B
Exit Signs Required?	<u><b>N</b></u>	
Emergency Lights Required?	<u><b>N</b></u>	

# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

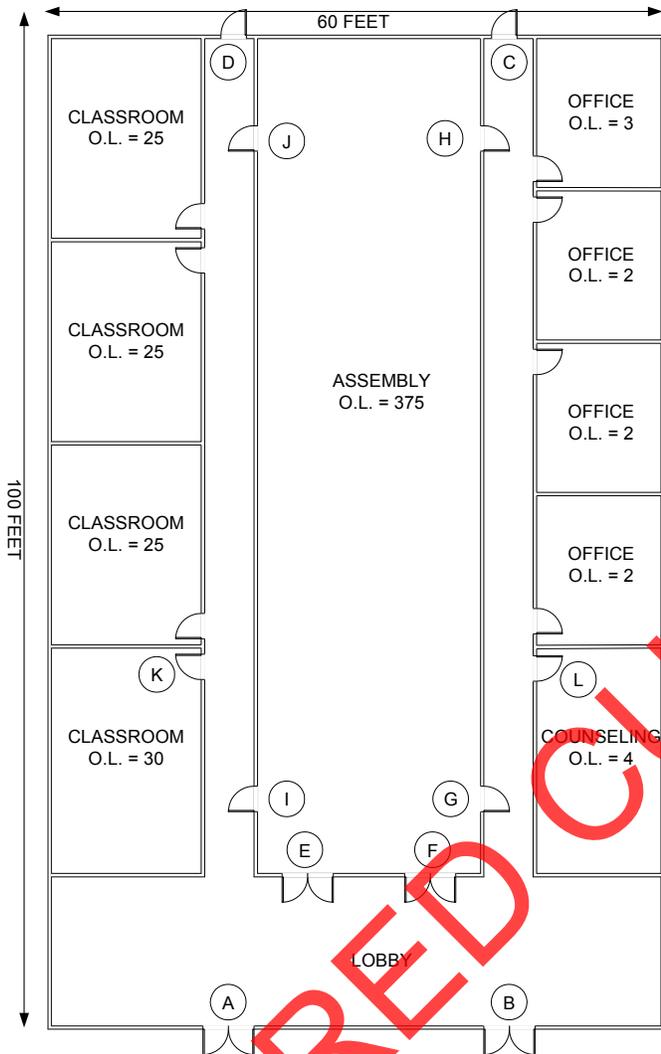


LEGEND	
DB	= Deadbolt
NK	= Not Known
PH	= Panic Hardware
SR	= Self-Releasing

Occupancy Classification(s):	<b>A-3, B</b>							
Number Of Exits Required:	<b>2</b>			<b>2</b>				
	From Room			From Building				
Type of Door Lock/Latch:	<b>DB</b>	<b>PH</b>	<b>PH</b>	<b>PH</b>	<b>PH</b>	<b>PH</b>	<b>PH</b>	
	A	B	C	D	E	F	G	
Door Swing In Direction Of Travel Required?	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>N</b>
	A	B	C	D	E	F	G	H
Exit Signs Required?	<b>Y</b>							
Emergency Lights Required?	<b>Y</b>							

# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code



**MNO CHURCH**  
6,000 Square Feet

**LEGEND**  
DB = Deadbolt  
NK = Not Known  
PH = Panic Hardware  
SR = Self-Releasing

Occupancy Classification(s): **A-3, B, E**

Number of Exits Required: **1**                      **3**                      **3**  
From Classrooms                      From Assembly                      From Building

Type of Door Lock/Latch: **DB PH PH PH PH PH PH PH PH PH**  
A    B    C    D    E    F    G    H    I    J

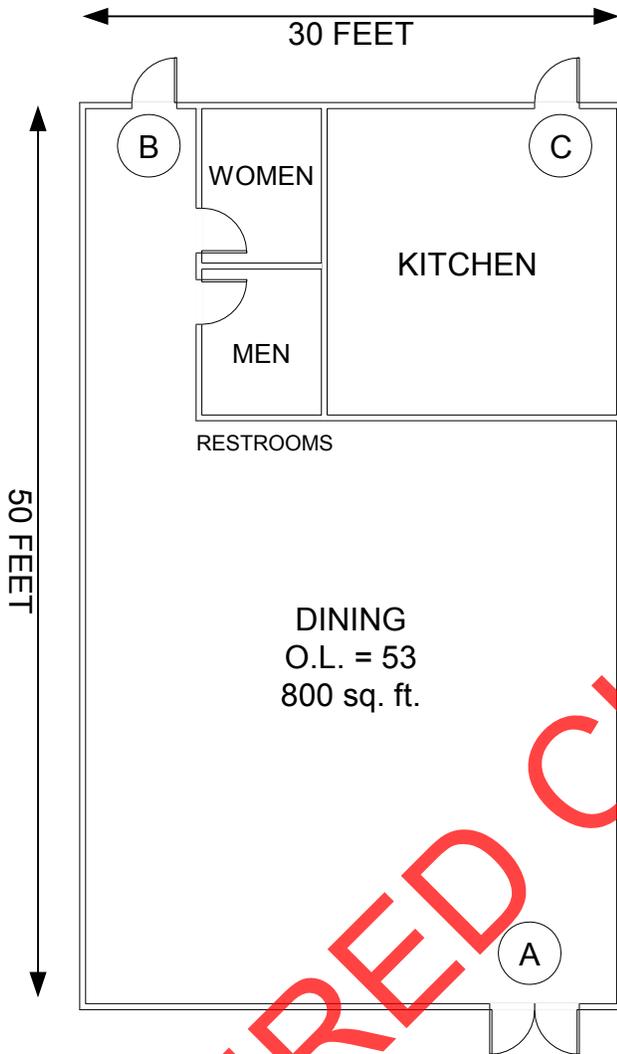
Door Swing In Direction Of Travel Required? **Y Y Y Y Y Y Y Y Y N N**  
A    B    C    D    E    F    G    H    I    J    K    L

Exit Signs Required? **Y**

Emergency Lights Required? **Y**

# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code



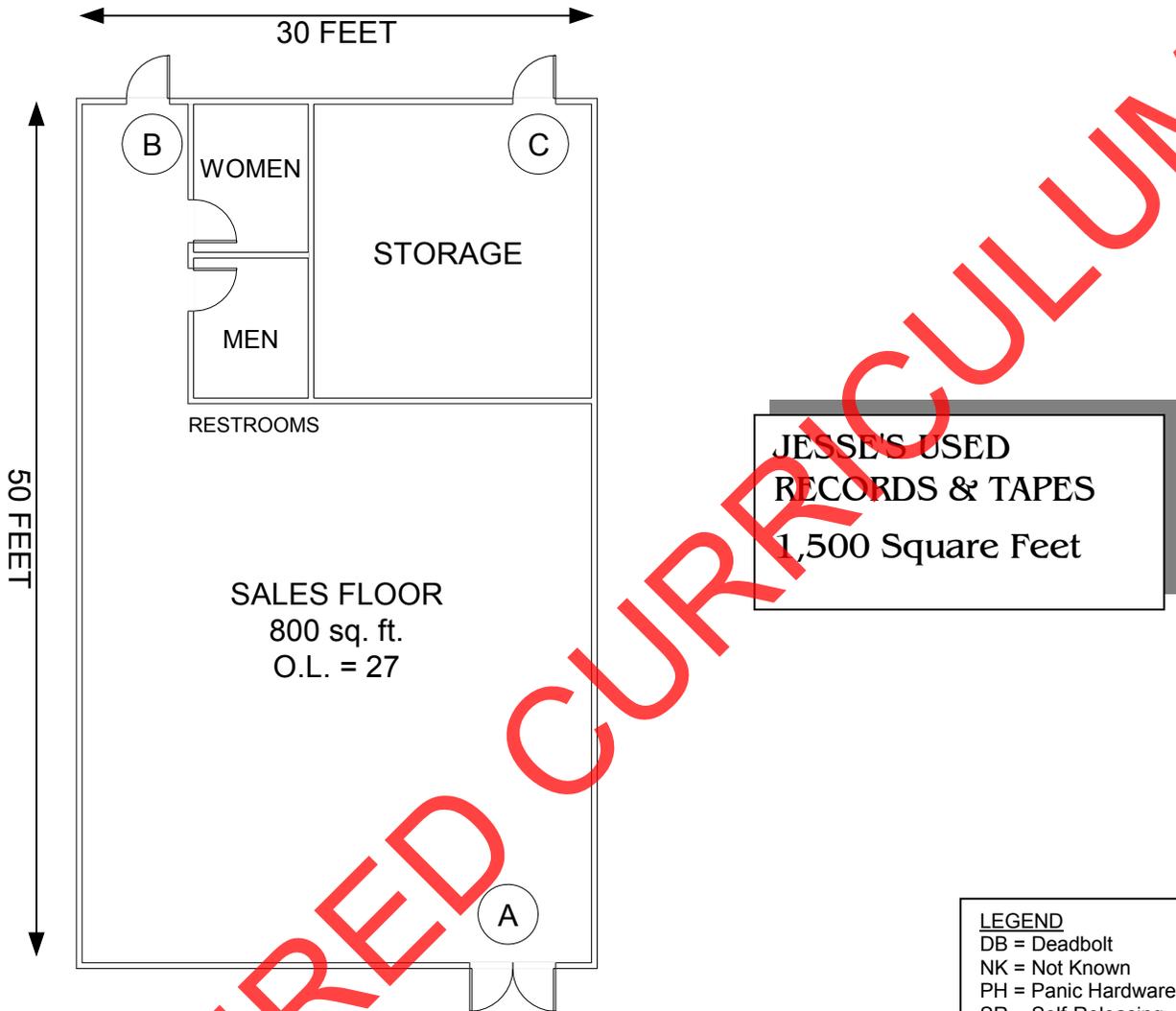
**AMY'S BREAKFAST  
BUNGALOW**  
1,500 Square Feet

**LEGEND**  
DB = Deadbolt  
NK = Not Known  
PH = Panic Hardware  
SR = Self-Releasing

Occupancy Classification(s):	<u><b>A-2</b></u>		
Number of Exits Required:	<u><b>2</b></u>		
Type of Door Lock/Latch:	<u><b>DB</b></u>	<u><b>PH</b></u>	<u><b>NK</b></u>
	A	B	C
Door Swing In Direction Of Travel Required?	<u><b>Y</b></u>	<u><b>Y</b></u>	<u><b>N</b></u>
	A	B	C
Exit Signs Required?	<u><b>Y</b></u>		
Emergency Lights Required?	<u><b>N</b></u>		

# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

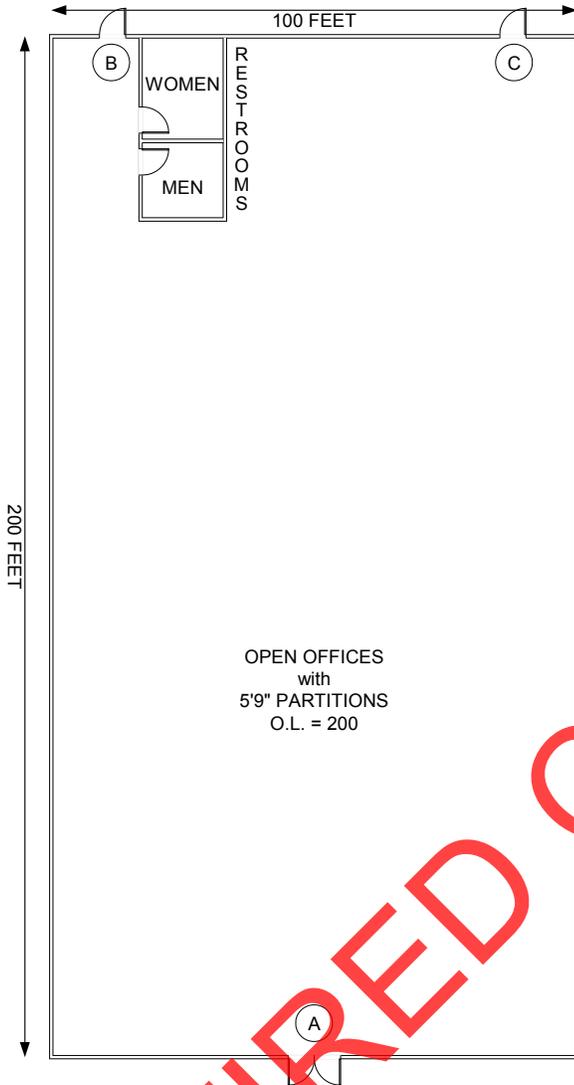


LEGEND	
DB	= Deadbolt
NK	= Not Known
PH	= Panic Hardware
SR	= Self-Releasing

Occupancy Classification(s):	<u><b>M</b></u>		
Number of Exits Required:	<u><b>1</b></u>		
Type of Door Lock/Latch:	<u><b>DB</b></u>	<u><b>NK</b></u>	<u><b>NK</b></u>
	A	B	C
Door Swing In Direction Of Travel Required?	<u><b>N</b></u>	<u><b>N</b></u>	<u><b>N</b></u>
	A	B	C
Exit Signs Required?	<u><b>N</b></u>		
Emergency Lights Required?	<u><b>N</b></u>		

# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code



**TIM'S DATA CENTER**  
20,000 Square Feet

**LEGEND**  
DB = Deadbolt  
NK = Not Known  
PH = Panic Hardware  
SR = Self-Releasing

Occupancy Classification(s):	<u><b>B</b></u>		
Number of Exits Required:	<u><b>2</b></u>		
Type of Door Lock/Latch:	<u><b>DB</b></u>	<u><b>SR</b></u>	<u><b>SR</b></u>
	A	B	C
Door Swing In Direction Of Travel Required?	<u><b>Y</b></u>	<u><b>Y</b></u>	<u><b>Y</b></u>
	A	B	C
Exit Signs Required?	<u><b>Y</b></u>		
Emergency Lights Required?	<u><b>Y</b></u>		



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 3-4: Maintaining The Egress System

**Time Frame:** 1:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 3-3.2 and 3-3.3

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of maintaining the egress system

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 10 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- California Fire Code, CBSC, 2007 Edition, Chapter 10
- Fire Protection Handbook, NFPA, Eighteenth Edition, Sections 3 and 8
- NFPA Inspection Manual, NFPA, Seventh Edition, Chapter 15

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. MAINTAINING/INSPECTING THE EGRESS SYSTEM</b></p> <p>A. Verify the occupancy classification<sup>1</sup></p> <ol style="list-style-type: none"><li>1. Of each room/suite</li><li>2. Of entire building</li></ol> <p>B. Verify the occupant load<sup>2</sup></p> <ol style="list-style-type: none"><li>1. Of each room/suite</li><li>2. Of entire building</li></ol> <p>C. Inspect means of egress system</p> <ol style="list-style-type: none"><li>1. Adequate number of exits<sup>3</sup><ol style="list-style-type: none"><li>a) From each room/suite</li><li>b) From entire building</li></ol></li><li>2. Exit signs<sup>4</sup><ol style="list-style-type: none"><li>a) Present</li><li>b) Illuminated by both premise wiring and backup power source</li></ol></li><li>3. Means of egress illumination (emergency lighting)<sup>5</sup><ol style="list-style-type: none"><li>a) Present when 2 exits are required</li><li>b) Illuminates on backup power source</li></ol></li><li>4. Obstructions<sup>6</sup><ol style="list-style-type: none"><li>a) No obstructions to the means of egress system, including storage</li></ol></li><li>5. Doors<sup>7</sup><ol style="list-style-type: none"><li>a) Door opens freely and fully</li><li>b) Swing in direction of egress travel if serving an occupant load of 50 or more</li></ol></li></ol>	<p><b>SLIDE: 3-4-1</b></p> <p><b>SLIDE: 3-4-2</b></p> <p>When must the exit door swing in direction of travel?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>6. Locking devices<sup>8</sup></p> <ul style="list-style-type: none"><li>a) All exit doors must unlatch and open without the use of any special effort, knowledge, or keys</li><li>b) The main exterior door or doors may have a key-lock in Groups A with less than 300 people; B; F; M, and S occupancies and in all churches if there is a sign over the front door stating<ul style="list-style-type: none"><li>1) "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED"</li><li>2) May read "THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS" in older buildings</li></ul></li><li>c) Panic hardware<ul style="list-style-type: none"><li>1) No other locks than panic hardware on doors serving exit doors of an assembly serving an occupant load of 50 or more</li><li>2) Unlatching force must be less than 15 pounds (very easily)</li></ul></li></ul> <p>7. Corridors<sup>9</sup></p> <ul style="list-style-type: none"><li>a) Must have a fire protection rating tag on both the door and the frame stating a minimum of 20-minute fire-resistive rating</li><li>b) Smoke gaskets</li><li>c) Approved hardware</li></ul>	<p><b>SLIDE: 3-4-3</b></p> <p>Which exit doors can have key locks?</p> <p><b>SLIDE: 3-4-4</b></p> <p><b>SLIDE: 3-4-5</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>d) All windows must have a fire protection rating label, listed or marked with a minimum ¾-hour fire rating</p> <p>e) DOORS MAY NOT BE BLOCKED OPEN!</p> <p>f) Doors entering a corridor shall be closed and latched at all times unless they employ a releasing device that will automatically release the door when activated by the fire alarm system or smoke detector</p>	<p><b>SLIDE: 3-4-6</b></p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### ***Summary:***

The importance of exits cannot be over stressed in fire prevention work. Maintaining these exits in the face of a myriad of factors that can compromise them, is one of the inspector's most important tasks and responsibilities.

#### ***Evaluation:***

The student will complete the formative test at a time determined by the instructor.

#### ***Assignment:***

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapter 10 and Appendix IV-G and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

### ENDNOTES

The endnotes provide support and facilitate instruction. It is recommended you insert the specific code section in the lesson plan where it is used. Please report immediately to State Fire Training Curriculum Development Division of any errors or changes you find to the endnotes.

- <sup>1</sup> California Fire Code, CBSC, 2007 Edition, Section 202 General Definitions, "OCCUPANCY CLASSIFICATIONS"
- <sup>2</sup> California Fire Code, CBSC, 2007 Edition, Section 1004
- <sup>3</sup> California Fire Code, CBSC, 2007 Edition, Section 1019
- <sup>4</sup> California Fire Code, CBSC, 2007 Edition, Section 1011
- <sup>5</sup> California Fire Code, CBSC, 2007 Edition, Section 1006.3
- <sup>6</sup> California Fire Code, CBSC, 2007 Edition, Section 1028.2
- <sup>7</sup> California Fire Code, CBSC, 2007 Edition, Section 1008
- <sup>8</sup> California Fire Code, CBSC, 2007 Edition, Section 1008.1.8
- <sup>9</sup> California Fire Code, CBSC, 2007 Edition, Section 1017



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 4-1: Terminology Relating To Fire-resistive Assemblies

**Time Frame:** 0:30

**Level of Instruction:** Level I

**Authority:** 2003 NFPA 1031: Sections 3.2.3 and 3.3.12

**Behavioral Objective:**

**Condition:** Given a student activity and written test

**Behavior:** The student will confirm a knowledge of the terminology relating to fire-resistive assemblies by completing the activity and written test

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 and Glossary and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 54-57

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 4-1-1: Terminology Crossword

**References:**

- California Building Code, CBSC, 2007 Edition, Chapter 18
- California Health and Safety Code, Current Edition, Section 13132.7
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 and Glossary
- Merriam Webster's Collegiate Dictionary, Merriam-Webster, Inc., Tenth Edition

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>NOTE:</b> Completing Individual Activity 4-1-1 can be used as an alternative to a lecture in order to cover the material.</p> <p><b>I. TERMINOLOGY</b></p> <p>A. Astragal</p> <ol style="list-style-type: none"><li>1. A strip of door material that overlaps the other door to seal the gap between them</li></ol> <p>B. Bitumen</p> <ol style="list-style-type: none"><li>1. Any of various mixtures of hydrocarbons (asphalt) often together with their nonmetallic derivatives that occur naturally or are obtained as residues after heat-refining natural substances (petroleum)</li></ol> <p>C. Brands</p> <ol style="list-style-type: none"><li>1. Large, flying, burning embers that are lifted by a fire's thermal column and carried away with the wind</li><li>2. Small burning pieces of wood or charcoal used to test the fire resistance of roof coverings and roof deck assemblies</li></ol> <p>D. Coordinator</p> <ol style="list-style-type: none"><li>1. A device to ensure that the door without the "astragal" closes first</li></ol> <p>E. Roof covering</p> <ol style="list-style-type: none"><li>1. The final outside cover that is placed on top of a roof deck assembly</li><li>2. Common roof coverings<ol style="list-style-type: none"><li>a) Composite or wood shake shingles</li><li>b) Tile</li><li>c) Slate</li><li>d) Tin</li></ol></li></ol>	<p><b>INDIVIDUAL ACTIVITY 4-1-1:</b> Complete the activity in the student supplement.</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>e) Asphalt and tarpaper</li> <li>f) Concrete</li> <li>F. Roof deck               <ul style="list-style-type: none"> <li>1. The bottom components of the roof assembly that support the roof covering</li> <li>2. The roof deck construction                   <ul style="list-style-type: none"> <li>a) Plywood/OSB (oriented strand board)</li> <li>b) Wood studs (2"x4" [50mm x 100mm] or 2"x6" [50mm x 150mm])</li> <li>c) Lathe strips</li> </ul> </li> </ul> </li> <li>G. Roofing assembly               <ul style="list-style-type: none"> <li>1. Roof deck</li> <li>2. Substrate or thermal barrier</li> <li>3. Insulation</li> <li>4. Vapor barrier</li> <li>5. Underlayment</li> <li>6. Interlayment</li> <li>7. Base plies</li> <li>8. Roofing plies</li> <li>9. Roof covering that is assigned a roofing classification</li> </ul> </li> <li>H. Roofing assembly, fire retardant               <ul style="list-style-type: none"> <li>1. Listed as a Class A, Class B, or Class C roofing assembly</li> </ul> </li> <li>I. State Responsibility Area (SRA)               <ul style="list-style-type: none"> <li>1. Areas in which financial responsibility of preventing and suppressing fire has been determined by the State Board of Forestry to be primarily the responsibility of the State</li> </ul> </li> <li>J. Very High Fire Hazard Severity Zone               <ul style="list-style-type: none"> <li>1. Areas consistent with statewide criteria                   <ul style="list-style-type: none"> <li>a) Fuel loading</li> </ul> </li> </ul> </li> </ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Slope</li><li>c) Fire weather</li><li>d) Other relevant factors</li></ul> <p>K. Wood shakes</p> <ul style="list-style-type: none"><li>1. Split or sawn tapered or nontapered pieces of approved durable wood</li><li>2. Taper-sawn pieces of approved preservative treated wood</li></ul> <p>L. Wood shingle</p> <ul style="list-style-type: none"><li>1. Tapered pieces of approved durable wood, sawn on both sides</li></ul>	

RETIRED CURRICULUM



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

An understanding of the technical terms is essential to comprehending the material presented.

#### **Evaluation:**

The student will complete the activity and a formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 and Glossary and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 54-57 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY 4-1-1: TERMINOLOGY CROSSWORD

**Time Frame:** 0:20

**Materials Needed:**

- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Glossary
- Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 54-57
- Pen or pencil

**Introduction:**

This activity provides the students the opportunity to become familiar with the terms relating to fire-resistive assemblies.

**Directions:**

1. Complete the puzzle using the clues.
2. You have 15 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Clues Across

2. Roof deck material
3. Wrapping
5. Hydrocarbons
6. Made with tapered wood
7. Risk
8. Foundation
9. Burning embers
10. Steam

11. Area on a ship
12. Crown

### Clues Down

1. Harshness
2. Layers
3. Common roof covering
4. Padding
5. Blockade

1 S  
E  
V  
E  
R  
I  
O  
S

2 P L Y W O O D  
L  
I

3 C O V E R I N G  
O S N

4 I N G

5 B I T U M E N  
A Y P  
O

6 S H A K E S  
U  
L

7 H A Z A R D  
R  
I  
E

8 B A S E  
I  
T

9 B R A N D S  
T  
I

10 V A P O R

11 D E C K

12 R O O F  
N

RETIRED CURRICULUM



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 4-2: Types And Classes Of Roof Coverings

**Time Frame:** 1:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 4-3.4 and 4-3.15

**Behavioral Objective:**

**Condition:** Given an activity and formative test

**Behavior:** The student will confirm a knowledge of types and classes of roof coverings

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 58-59

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 4-2-1: Roof Assembly Classifications

**References:**

- California Building Code, CBSC, 2007 Edition, Chapter 15
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3
- NFPA 256: Standard Tests of Fire Tests of Roof Coverings, NFPA, 2003 Edition

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. CHARACTERISTICS OF A GOOD ROOF COVERING</b></p> <ul style="list-style-type: none"><li>A. Resists direct fire exposure<ul style="list-style-type: none"><li>1. Severe</li><li>2. Moderate</li><li>3. Light</li></ul></li><li>B. Resists communication of fire across the roof deck</li><li>C. Resists slippage of the roof covering</li><li>D. Resists production of flying brands</li><li>E. Withstands weathering</li></ul>	<p><b>SLIDE: 4-2-1</b></p>
<p><b>II. ROOF COVERINGS AND CONSTRUCTION</b></p> <ul style="list-style-type: none"><li>A. Made from many materials<ul style="list-style-type: none"><li>1. Masonry</li><li>2. Metal</li><li>3. Asphalt felt and tar</li><li>4. Glass fiber composition</li><li>5. Wood</li><li>6. Concrete</li></ul></li><li>B. General types of roof coverings</li></ul>	<p><b>SLIDE: 4-2-2</b></p>
<ul style="list-style-type: none"><li>1. Prepared coverings<ul style="list-style-type: none"><li>a) Factory produced units ready for attachment to the deck<ul style="list-style-type: none"><li>1) Tile or concrete shingles</li><li>2) Metal</li><li>3) Shingles</li><li>4) Slate</li><li>5) Sheet goods</li></ul></li><li>b) Sufficient slope is required</li></ul></li></ul>	<p><b>SLIDE: 4-2-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>c) Shingle and sheet materials are made of organic, glass, felt, or other felt base coated with asphalt and surfaced with granules</li> </ul> <p>2. Composition built-up coverings</p> <ul style="list-style-type: none"> <li>a) Consists of alternate layers of felt and bitumen built into a weather-proof membrane</li> <li>b) May be hot or cold asphalt or hot coal tar pitch</li> <li>c) Finished surface may be solid bitumen or may be gravel over bitumen, granular surfaced cap sheet, or slag               <ul style="list-style-type: none"> <li>1) Reflects the heat to prevent flow and cracking of the bitumen</li> </ul> </li> <li>d) Flat and low pitched roofs can accept this type of covering</li> </ul> <p>C. Wood shingles and shakes</p> <ul style="list-style-type: none"> <li>1. Usually made from red cedar, redwood, or cypress wood</li> <li>2. Untreated shingles and shakes are unacceptable for use in California               <ul style="list-style-type: none"> <li>a) Exception                   <ul style="list-style-type: none"> <li>1) Roof patching where less than 50% of the roof is replaced</li> </ul> </li> </ul> </li> <li>3. Sufficient slope is required</li> <li>4. Shingles are sawed with a taper</li> <li>5. Shakes are split pieces</li> </ul>	<p><b>SLIDE: 4-2-4</b></p> <p>Why is gravel or slag used on the finished surface?</p> <p><b>SLIDE: 4-2-5</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>D. Elastomer coverings</p> <ol style="list-style-type: none"><li>1. One-ply covering having elastic properties</li><li>2. Usually 20-60 mils thick</li><li>3. Flat or low pitched roof decks can accept this type of covering</li><li>4. Made of the following materials<ol style="list-style-type: none"><li>a) Synthetic rubber or plastic in sheet form cemented to deck</li><li>b) Liquid form for brush, spray, or roller application</li></ol></li></ol>	<p><b>SLIDE: 4-2-6</b></p>
<p><b>III. ROOF CLASSIFICATIONS BY CODE</b></p> <p>A. Classification descriptions</p> <ol style="list-style-type: none"><li>1. Class A roof covering<ol style="list-style-type: none"><li>a) Withstands a severe fire test exposure</li><li>b) High degree of fire protection to the roof deck</li><li>c) Does not slip from position</li><li>d) Does not produce flying brands</li></ol></li></ol>	<p><b>SLIDE: 4-2-7</b></p>
<ol style="list-style-type: none"><li>2. Class B roof covering<ol style="list-style-type: none"><li>a) Withstands a moderate fire test exposure</li><li>b) Moderate degree of fire protection to the roof deck</li><li>c) Does not slip from position</li><li>d) Does not produce flying brands</li></ol></li></ol>	<p><b>SLIDE: 4-2-8</b></p>
<ol style="list-style-type: none"><li>3. Class C roof covering<ol style="list-style-type: none"><li>a) Withstands a light fire test exposure</li></ol></li></ol>	<p><b>SLIDE: 4-2-9</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>b) Light degree of fire protection to the roof deck</p> <p>c) Does not slip from position</p> <p>d) Does not produce flying brands</p> <p>B. <u>NFPA 256: Standard Tests of Fire Tests of Roof Coverings</u></p> <p>1. Six required tests to achieve the Class A, B, and C roof covering designations</p> <p>a) Intermittent flame exposure test</p> <p>1) A flame is applied intermittently for specified periods and time intervals</p> <p>b) Spread of flame test</p> <p>1) Flame is continuously applied for specified times</p> <ul style="list-style-type: none"><li>• 10 minutes for class A and B roofs</li><li>• 4 minutes for class C roofs</li></ul> <p>c) Burning brand test</p> <p>1) A brand is ignited and placed on the roof covering</p> <p>d) Flying brand test</p> <p>1) A continuous flame is applied to the roof covering and a 12 mph (18 mph for treated wood shakes) air current is simultaneously applied</p> <p>2) Test is designed to see if the roof will produce flying brands if its on fire</p> <p>e) Rain test</p> <p>1) Designed to see if water will affect flame retardant characteristics</p> <ul style="list-style-type: none"><li>• Water is applied over 12 one-week cycles</li></ul>	<p><b>SLIDE: 4-2-10</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>• Intermittent flame, burning brand, and flying brand tests are done</li></ul> <p>f) Weathering test</p> <ul style="list-style-type: none"><li>1) Used where fire-retardant characteristics could be affected by weather</li><li>2) Test samples are placed outdoors for 1, 2, 3, 5, and 10 years</li><li>3) Intermittent flame, burning brand, and flying brand tests are done</li></ul>	<p><b>SLIDE: 4-2-11</b></p>
<p>C. California Building Code</p> <ul style="list-style-type: none"><li>1. Indicates a fire retardant roof can include<ul style="list-style-type: none"><li>a) Class A roof assembly<ul style="list-style-type: none"><li>1) 2007 CBC 1505.2</li></ul></li><li>b) Class B roof assembly<ul style="list-style-type: none"><li>1) 2007 CBC 1505.3</li></ul></li><li>c) Class C roof assembly<ul style="list-style-type: none"><li>1) 2007 CBC 1505.4</li></ul></li></ul></li></ul>	<p><b>SLIDE: 4-2-12</b></p>
<ul style="list-style-type: none"><li>2. Noncombustible roof covering<ul style="list-style-type: none"><li>a) Cement shingles or sheets</li><li>b) Exposed concrete slab roof</li><li>c) Ferrous or copper shingle sheets</li><li>d) Slate shingles</li><li>e) Clay or concrete roofing tile</li><li>f) Approved roof covering of noncombustible material</li></ul></li></ul>	<p><b>SLIDE: 4-2-13</b></p>
<ul style="list-style-type: none"><li>3. Nonrated roofing<ul style="list-style-type: none"><li>a) 2007 CBC 1505.5</li></ul></li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>b) Approved material not listed as Class A, B, or C roofing assembly</p> <p>4. Roof coverings required by California Health and Safety Code and adopted in the CBC</p> <p>a) Very high fire hazard severity zones</p> <p>1) 2007 CBC 1505.1.1</p> <p>2) Class A</p> <p>b) State Responsibility Areas</p> <p>1) 2007 CBC 1505.1.2</p> <p>2) Class B</p> <p>c) All other areas</p> <p>1) 2007 CBC 1505.1.3</p> <p>2) Class C</p> <p>D. Roof coverings must be fire retardant treated by a pressure impregnation process and pass the tests set forth in <u>NEPA 256</u></p>	<p><b>SLIDE: 4-2-14</b></p> <p>Can a nonrated roof covering be topically treated with a fire retardant product to produce a Class A, B, or C rating?</p> <p><b>ACTIVITY 4-2-1:</b> Complete the activity in the student supplement.</p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

Roof coverings and roofing assemblies are rated as Class A, Class B, or Class C, as well as described by their materials of construction. This gives the inspector an insight into relative fire safety of roof coverings that can be encountered in the field.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 58-59 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY SHEET 4-2-1: ROOF ASSEMBLY CLASSIFICATIONS

**Time Frame:** 0:30

**Materials Needed:**

- Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 58-59
- Pen or pencil

**Introduction:** This activity provides you the opportunity to develop your ability to match the correct roof covering to the construction type and occupancy.

**Directions:**

1. Identify the required roof covering assembly classification using Chapter 15 and CBC Table 1505.1 found in your student supplement
2. You have 20 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.

Occupancy	Construction	Roof Classification
F-1	VB	C
A-4	IIA	B
H-1	IA	B
R-2	IIIA	B
R-3 (In State Responsibility Area)	VB	B
R-3 (In a Very High Fire Hazard Severity Zone)	VB	A
I-3	IIA	B
B	VA	B
S-1	IIB	C
M	IIB	C
S-1	VB	C
A-2	IIIA	B
E	VA	B
S-1 (In SRA)	IIB	B
U	VB	C



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

---

<b>Topic:</b>	4-3: Purpose And Location Of Fire-Resistance-Rated Building Construction And Components								
<b>Time Frame:</b>	1:30								
<b>Level of Instruction:</b>	Level II								
<b>Authority:</b>	2003 NFPA 1031: Section 4-3.4								
<b>Behavioral Objective:</b>									
<b>Condition:</b>	Given a formative test								
<b>Behavior:</b>	The student will confirm a knowledge of purpose and location of fire rated building construction and components								
<b>Standard:</b>	With a minimum 80% accuracy according to the information contained in the <u>California Fire Code, CBSC, 2007 Edition, Chapter 7</u> and <u>Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3</u>								
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• Conference board/pads with markers/erasers</li><li>• Appropriate audiovisual training aids and devices</li></ul>								
<b>References:</b>	<ul style="list-style-type: none"><li>• <u>California Building Code, CBSC, 2007 Edition, Chapter 7</u></li><li>• <u>California Fire Code, CBSC, 2007 Edition, Chapter 7</u></li><li>• <u>Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3</u></li></ul>								
<b>Preparation:</b>	<p>Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.</p> <table><tr><td><b>A</b>ttention (attract)</td><td><b>B</b>egin</td></tr><tr><td><b>C</b>uriosity (arouse)</td><td><b>A</b>ssociation</td></tr><tr><td><b>I</b>nterest (create)</td><td><b>S</b>tudents</td></tr><tr><td><b>D</b>esire (stimulate)</td><td><b>E</b>xperience</td></tr></table> <p>Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.</p>	<b>A</b> ttention (attract)	<b>B</b> egin	<b>C</b> uriosity (arouse)	<b>A</b> ssociation	<b>I</b> nterest (create)	<b>S</b> tudents	<b>D</b> esire (stimulate)	<b>E</b> xperience
<b>A</b> ttention (attract)	<b>B</b> egin								
<b>C</b> uriosity (arouse)	<b>A</b> ssociation								
<b>I</b> nterest (create)	<b>S</b> tudents								
<b>D</b> esire (stimulate)	<b>E</b> xperience								



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. PURPOSES OF FIRE SAFE DESIGN</b></p> <ul style="list-style-type: none"><li>A. Life safety</li><li>B. Protection of property</li><li>C. Maintaining building operations</li><li>D. Construction designed to withstand fire for a given period of time</li></ul> <p><b>II. PURPOSES OF FIRE-RESISTANCE-RATED CONSTRUCTION</b></p> <ul style="list-style-type: none"><li>A. Keep initial fire small</li><li>B. Prevent the rapid spread of fire</li><li>C. Limit fire growth</li><li>D. Limit structural failure of the building elements</li><li>E. Restrict lateral and horizontal movement of fire and smoke<ul style="list-style-type: none"><li>1. Compartmentation</li><li>2. Separation of incompatible occupancies</li><li>3. Fire-rated shafts</li></ul></li><li>F. Allow for safe egress<ul style="list-style-type: none"><li>1. Corridor construction</li></ul></li><li>G. Aid fire department operations<ul style="list-style-type: none"><li>1. Building area limitations</li><li>2. Building protection from exposures</li></ul></li></ul> <p><b>III. BUILDING ELEMENTS WHICH REQUIRE RATED CONSTRUCTION</b></p> <ul style="list-style-type: none"><li>A. Depending upon the construction classification, building elements are required to be constructed to specific fire ratings</li></ul>	<p><b>SLIDE: 4-3-1</b></p> <p>What does the term "rated" mean?</p> <p><b>SLIDE: 4-3-2</b></p> <p><b>SLIDE: 4-3-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>1. Example<ul style="list-style-type: none"><li>a) Type I construction is required to have some building elements with a higher fire rating than Type II construction</li></ul></li><li>B. California Building Code<ul style="list-style-type: none"><li>1. Required ratings for the building elements in Types I-V construction are found in 2007 CBC Table 601</li><li>2. Building elements in a Type VB building are not required to have any fire rating</li><li>3. Examples of building elements mentioned in the CBC<ul style="list-style-type: none"><li>a) Exterior bearing walls</li><li>b) Interior bearing walls</li><li>c) Exterior nonbearing walls</li><li>d) Structural frame</li><li>e) Permanent partitions</li><li>f) Shaft enclosures</li><li>g) Floors and floor-ceilings</li><li>h) Exterior doors and windows</li><li>i) Stairway construction</li></ul></li></ul></li></ul>	<p><b>SLIDE: 4-3-4</b></p>
<p><b>IV. TYPES OF FIRE RESISTANCE RATED WALLS</b></p> <ul style="list-style-type: none"><li>A. Fire walls<ul style="list-style-type: none"><li>1. Divides the building into compartments when the area of the building exceeds the allowed area for the construction type</li><li>2. Can only be constructed as a vertical wall<ul style="list-style-type: none"><li>a) Cannot be run horizontally</li></ul></li></ul></li></ul>	<p><b>SLIDE: 4-3-5</b></p>



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>3. Must be continuous from floor to the roof<ul style="list-style-type: none"><li>a) Could have a parapet, vertical or horizontal (butterfly), depending upon how constructed</li></ul></li><li>4. Must be capable of remaining standing after collapse of the construction on either side of it while maintaining its fire-resistance-rating</li><li>5. Will be either a 2, 3, or 4 hour rated wall depending on the occupancy group</li><li>6. Openings<ul style="list-style-type: none"><li>a) Need to be protected in accordance with 2007 CBC Table 715.4</li><li>b) The total amount of openings shall not exceed 120 SF</li><li>c) The aggregate width of openings on any floor should not exceed 25% of the length of the wall</li></ul></li></ul> <p>B. Fire barriers</p> <ul style="list-style-type: none"><li>1. Separates spaces in a building into different fire areas</li><li>2. May also separate occupancies in a building of mixed occupancy classes</li><li>3. Used to separate construction features from the surrounding building<ul style="list-style-type: none"><li>a) Shaft enclosures</li><li>b) Exit enclosures</li><li>c) Exit passageway</li><li>d) Horizontal exits</li><li>e) Atriums</li><li>f) Incidental use areas (accessory use)</li><li>g) Control areas</li></ul></li></ul>	<p><b>SLIDE: 4-3-6</b></p> <p><b>SLIDE: 4-3-7</b></p>



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>4. Rated walls, floors, and ceilings are used to separate occupancies</li><li>5. Can be constructed horizontally or vertically</li><li>6. Openings in fire barriers<ul style="list-style-type: none"><li>a) Need to be protected in accordance with 2007 CBC Table 715.4.</li><li>b) The total amount of openings shall not exceed 120 SF</li><li>c) The aggregate width of openings on any floor should not exceed 25% of the length of the wall</li></ul></li></ul>	<p><b>SLIDE: 4-3-8</b></p>
<p>C. Fire partition</p> <ul style="list-style-type: none"><li>1. Used to provide fire protection under certain conditions<ul style="list-style-type: none"><li>a) Corridor walls</li><li>b) Dwelling unit separation for apartment buildings</li><li>c) Elevator lobbies</li><li>d) Walls between tenant spaces in covered mall buildings</li><li>e) Residential aircraft hangers</li></ul></li><li>2. Usually 1-hour construction</li></ul>	<p><b>SLIDE: 4-3-9</b></p>
<p>D. Smoke barriers and smoke partitions</p> <ul style="list-style-type: none"><li>1. Constructed to create compartments that resist smoke travel in certain occupancies</li><li>2. Main purpose is to allow for the relocation of occupants to a "safe" area without total evacuation of the building</li><li>3. Smoke barriers are required to have a 1-hour fire-resistance-rating</li><li>4. Smoke partitions are not required to be rated</li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>E. Exterior walls</p> <ol style="list-style-type: none"><li>1. Required to be rated when a building is built near a property line, or adjacent to another building on the same property<ol style="list-style-type: none"><li>a) This distance is called "fire separation distance"</li></ol></li><li>2. Openings<ol style="list-style-type: none"><li>a) Limited in area according to CBC Table 704-B</li><li>b) May or may not be protected</li></ol></li><li>3. May require a parapet</li><li>4. Protects the building from exposure fires</li></ol>	<p><b>SLIDE: 4-3-10</b></p>
<p><b>V. SHAFT ENCLOSURES</b></p> <p>A. Designed to prohibit or limit vertical fire spread</p> <ol style="list-style-type: none"><li>1. Fire ratings differ depending on the component</li><li>2. Openings required to be protected</li></ol>	<p><b>SLIDE: 4-3-11</b></p>
<p>B. Examples of places needing shaft enclosures</p> <ol style="list-style-type: none"><li>1. Elevators</li><li>2. Conveyors</li><li>3. Utility shafts<ol style="list-style-type: none"><li>a) Pipe shafts</li><li>b) Electrical utility shafts</li><li>c) Mechanical ventilation shafts</li></ol></li><li>4. Chutes<ol style="list-style-type: none"><li>a) Laundry</li><li>b) Rubbish</li><li>c) Packages</li><li>d) Dumbwaiters</li></ol></li></ol>	<p><b>SLIDE: 4-3-12</b></p>



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>5. Openings around chimneys and incinerator flues</li><li>6. Ducts for ventilating, air conditioning, and heating</li><li>7. Exterior walls</li></ul>	<p><b>SLIDE: 4-3-13</b></p>
<p><b>VI. CONCEALED SPACES</b></p> <ul style="list-style-type: none"><li>A. In combustible construction, concealed spaces are required to have elements that will resist the spread of smoke and fire</li></ul> <ul style="list-style-type: none"><li>1. Fireblocking<ul style="list-style-type: none"><li>a) Designed to resist the passage of flame in concealed spaces of combustible construction</li><li>b) Locations (partial list)<ul style="list-style-type: none"><li>1) At the top of stud walls</li><li>2) Connections between vertical and horizontal spaces</li><li>3) In stairways between stringers</li></ul></li></ul></li><li>2. Draftstopping<ul style="list-style-type: none"><li>a) Divides floor-ceiling assemblies</li><li>b) Divides attic spaces into smaller spaces in large buildings</li><li>c) Mostly required in residential occupancies</li></ul></li></ul>	<p><b>SLIDE: 4-3-14</b></p> <p><b>SLIDE: 4-3-15</b></p>
<p><b>VII. DRAFT CURTAINS</b></p> <ul style="list-style-type: none"><li>A. Formerly called curtain boards</li><li>B. Used to contain smoke and heat within a given area in sprinklered buildings, and are used in conjunction with smoke and/or heat vents</li><li>C. Limit horizontal travel of heat and smoke</li><li>D. Specific details are found in CBC Section 910</li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>E. Can be constructed of approved materials that resist the passage of smoke</li> <li>F. Must have smoke tight joints</li> </ul>	<p><b>SLIDE: 4-3-16</b></p>
<p><b>VIII. FIRE-RESISTANCE RATING OF STRUCTURAL MEMBERS</b></p> <ul style="list-style-type: none"> <li>A. Protection of items such as columns, beams, or trusses may be required depending on the type of construction</li> <li>B. Places a protective cover over those members of the structure needing protection.</li> </ul>	<p><b>SLIDE: 4-3-17</b></p>
<p><b>IX. OPENING PROTECTIVES</b></p> <ul style="list-style-type: none"> <li>A. Openings in fire-resistance-rated construction are required to be protected by opening protectives               <ul style="list-style-type: none"> <li>1. Fire door and shutter assemblies</li> <li>2. Glazing</li> </ul> </li> </ul>	
<p><b>X. DUCTS AND AIR TRANSFER OPENINGS</b></p> <ul style="list-style-type: none"> <li>A. Fire dampers</li> <li>B. Smoke dampers</li> <li>C. Areas of buildings may require either type of damper, or both dampers as determined by CBC Section 716</li> </ul>	<p><b>SLIDE: 4-3-18</b></p>
<p><b>XI. PENETRATIONS</b></p> <ul style="list-style-type: none"> <li>A. System of materials designed to resist the passage of fire through penetrations of fire-resistance-rated construction</li> <li>B. May include pipes, wires, or other items that need to pass through the rated elements</li> <li>C. Works on the premise that items that penetrate fire-resistance-rated construction should not reduce the fire-resistance-rating of the element in question</li> </ul>	



## **FIRE PREVENTION 1A (BRIDGE)**

Introduction To The California Fire Code

---

### **Summary:**

Rated building construction bears an important relationship to building size and exposure resistance to internal fire spread. Knowledge of the key elements of building construction is necessary to an understanding of this relationship.

### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

### **Assignment:**

Review your notes and read Fire Inspection and Code Enforcement, IFSTA, Sixth Edition in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 4-4: Fire Doors And Windows

**Time Frame:** 0:30

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 3-2.3 and 4-3.3

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of fire doors and windows

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 61-62

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3
- NFPA Inspection Manual, NFPA, Seventh Edition, Chapter 5
- NFPA 80: Standard for Fire Doors and Fire Windows, NFPA, 1999 Edition

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. CLASSIFICATION OF PROTECTED OPENINGS</b></p> <p>A. Standards for fire doors and windows are found in <u>NFPA 80: Standard for Fire Doors and Fire Windows</u>, NFPA, 1999 Edition, with portions repeated in many codes</p> <p>B. These devices serve to prevent the spread of fire, heat, and smoke through openings allowed in rated walls, floor/ceiling assemblies, or shafts</p> <p>C. <u>NFPA 80</u> defines <u>openings</u> in rated assemblies</p> <ol style="list-style-type: none"><li>1. Size of opening</li><li>2. Type of glass or clear ceramic</li><li>3. Method of installation of opening</li></ol> <p>D. Door labels must state the type of opening for which they are designed</p>	<p><b>SLIDE: 4-4-1</b></p> <p><b>SLIDE: 4-4-2</b></p>
<p><b>II. FIRE DOORS AND ASSEMBLIES</b></p> <p>A. Fire assembly</p> <ol style="list-style-type: none"><li>1. The assembly of a fire door, fire window, or fire damper including required hardware, anchorage, frames, and sills</li></ol> <p>B. Fire door construction</p> <ol style="list-style-type: none"><li>1. May be constructed in many designs and styles</li><li>2. May consist of many components</li><li>3. Composite type<ol style="list-style-type: none"><li>a) Pieces of wood, steel or plastic sheets bonded to a solid core</li></ol></li><li>4. Hollow metal type<ol style="list-style-type: none"><li>a) Metal of 20 gage or heavier</li><li>b) May be insulated inside</li></ol></li></ol>	<p><b>SLIDE: 4-4-3</b></p> <p><b>SLIDE: 4-4-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>5. Metal clad type<ul style="list-style-type: none"><li>a) Wood core covered by metal panels<ul style="list-style-type: none"><li>1) Also known as a Kalamein door</li></ul></li></ul></li><li>6. Sheet metal type<ul style="list-style-type: none"><li>a) Metal of 22 gage or lighter steel panel or sheets</li></ul></li><li>7. Tin clad type<ul style="list-style-type: none"><li>a) Wood core door (2 or 3 ply) covered by 30 gage steel or terneplate</li></ul></li><li>C. Door and window assembly components<ul style="list-style-type: none"><li>1. Assemblies are specifically addressed in building codes and must be listed</li><li>2. Frames and facings</li><li>3. Latching devices<ul style="list-style-type: none"><li>a) Must be positive latching</li></ul></li><li>4. Hinges and closing devices</li><li>5. Sills</li><li>6. Side lights<ul style="list-style-type: none"><li>a) Openings and frames are factory installed</li><li>b) Glass is field installed</li></ul></li><li>7. Glass<ul style="list-style-type: none"><li>a) ¼" glass, reinforced with wire mesh</li><li>b) Fire rated double pane glass with a gel center</li><li>c) Fire rated clear ceramic materials</li></ul></li><li>8. Coordinator and astragal on double doors<ul style="list-style-type: none"><li>a) The coordinator is a device to ensure that the door without the "astragal" closes first</li></ul></li></ul></li></ul>	<p><b>SLIDE: 4-4-5</b></p> <p><b>SLIDE: 4-4-6</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>b) Astragal (overlapping or wrap-around)</p> <ol style="list-style-type: none"><li>1) A horizontal or vertical molding attached to the meeting edge of one leaf of a pair of doors</li><li>2) To protect against weather conditions</li><li>3) To minimize the passage of light between the doors</li><li>4) To retard the passage of smoke, flame, or gases during a fire</li><li>5) To ensure that the lower leaf of the door closes in conjunction with the upper leaf</li></ol> <p>c) Astragal (split)</p> <ol style="list-style-type: none"><li>1) A vertical molding attached to both leaves of a pair of doors at the meeting edges</li><li>2) To protect against weather conditions</li><li>3) Permitted to be used where both leaves are active</li></ol> <p>9. Louvers</p> <ol style="list-style-type: none"><li>a) Must be protected with the same rating as the door</li></ol> <p><b>III. FIRE DOOR RATINGS</b></p> <p>A. Fire doors are rated by nationally recognized testing laboratories in hours of fire duration</p> <ol style="list-style-type: none"><li>1. List label is found on the hinge side or top of the door</li></ol>	<p>What is an overlapping astragal?</p> <p>What is a split astragal?</p> <p><b>SLIDE: 4-4-7</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. A matching label should be found on the door frame</li></ul>	<b>SLIDE: 4-4-8</b>
<ul style="list-style-type: none"><li>B. 3-hour doors<ul style="list-style-type: none"><li>1. Used in 3 and 4-hour fire walls</li><li>2. No glass is allowed in this type door</li><li>3. Must be automatic-closing</li></ul></li></ul>	<b>SLIDE: 4-4-9</b>
<ul style="list-style-type: none"><li>C. 1½-hour doors<ul style="list-style-type: none"><li>1. Used in 2-hour walls</li><li>2. Up to 100 square inches of wired glass are allowed<ul style="list-style-type: none"><li>a) Factory installed frame</li><li>b) Field installed glass</li></ul></li><li>3. Automatic-closing or self-closing required</li></ul></li></ul>	<b>SLIDE: 4-4-10</b>
<ul style="list-style-type: none"><li>D. 1-hour doors<ul style="list-style-type: none"><li>1. Used in 1-hour walls</li><li>2. Up to 100 square inches of wired glass are allowed<ul style="list-style-type: none"><li>a) Factory installed frame</li><li>b) Field installed glass</li><li>c) 10"x10" panel with a minimum dimension of 4 inches<ul style="list-style-type: none"><li>1) When doors are used in pairs (1½- or 1-hour), the glazed openings shall not exceed 100 square inches per door</li></ul></li></ul></li><li>3. Automatic-closing or self-closing required</li></ul></li></ul>	<b>SLIDE: 4-4-11</b>
<ul style="list-style-type: none"><li>E. ¾-hour doors<ul style="list-style-type: none"><li>1. Used at exposure openings</li></ul></li></ul>	





# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>E. Proximity of storage to doors and windows<ul style="list-style-type: none"><li>1. Stored items must be kept away from fire doors and windows</li></ul></li><li>F. Fusible link detector-operated fire doors<ul style="list-style-type: none"><li>1. <u>Warning!</u><ul style="list-style-type: none"><li>a) Do <u>not</u> operate fusible link assemblies unless you are certain you know how to restore it!</li></ul></li><li>2. Should be tested annually by a competent person<ul style="list-style-type: none"><li>a) Inspector should request written verification of the test</li></ul></li><li>3. Check links for presence of wire in place of fusible link</li></ul></li></ul>	<p><b>SLIDE: 4-4-15</b></p>
<ul style="list-style-type: none"><li>G. Tin clad doors<ul style="list-style-type: none"><li>1. Primarily visual</li><li>2. Check that the door will close properly</li></ul></li><li>H. Operation of fire shutters and roll-down fire windows<ul style="list-style-type: none"><li>1. Some are operated by detectors</li></ul></li></ul>	<p><b>SLIDE: 4-4-16</b></p>
<ul style="list-style-type: none"><li>I. Corridor doors<ul style="list-style-type: none"><li>1. Do self-closing devices function?</li><li>2. Are smoke seals in place?</li></ul></li><li>J. Fire door signs in place<ul style="list-style-type: none"><li>1. "FIRE DOOR – DO NOT OBSTRUCT"</li></ul></li></ul>	<p><b>SLIDE: 4-4-17</b></p>



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

The fire door is a basic fire protection feature of any complex structure. Being able to recognize and identify such assemblies, to check for the correctness of the components of the assemblies, and to check for their proper operation are critical tasks for the inspector.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 61-62 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

- Topic:** 5-1: General Fire Safety
- Time Frame:** 1:15
- Level of Instruction:** Level II
- Authority:** 2003 NFPA 1031: Section 4-2.5
- Behavioral Objective:**
- Condition:** Given a formative test
  - Behavior:** The student will confirm a knowledge of general fire safety
  - Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapters 3, 5, and 6 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6
- Materials Needed:**
- Conference board/pads with markers/erasers
  - Appropriate audiovisual training aids and devices
- References:**
- Barclays Official California Code of Regulations Title 19, West Group, Article 3
  - California Fire Code, CBSC, 2007 Edition, Chapters 3, 5, and 6
  - Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6
- Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.
- |                             |                     |
|-----------------------------|---------------------|
| <b>A</b> ttention (attract) | <b>B</b> egin       |
| <b>C</b> uriosity (arouse)  | <b>A</b> ssociation |
| <b>I</b> nterest (create)   | <b>S</b> tudents    |
| <b>D</b> esire (stimulate)  | <b>E</b> xperience  |
- Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. FIRE DEPARTMENT ACCESS<sup>1</sup></b></p> <p><b>A. General<sup>2</sup></b></p> <ol style="list-style-type: none"><li>1. Fire apparatus access roads when required shall be marked as a fire lane</li><li>2. Fire protection equipment and hydrants shall be marked to prevent obstruction</li><li>3. Premises identification<ol style="list-style-type: none"><li>a) Approved numbers</li><li>b) Visible from the street</li></ol></li></ol> <p><b>B. Access roads<sup>3</sup></b></p> <ol style="list-style-type: none"><li>1. Required if the structure is more than 150 feet from fire apparatus access</li><li>2. Approved route around the exterior of the building</li></ol> <p><b>C. Specifications of roads</b></p> <ol style="list-style-type: none"><li>1. Dimensions<ol style="list-style-type: none"><li>a) Shall not be obstructed</li><li>b) Minimum width 20 feet</li><li>c) Unobstructed vertical clearance is 13'-6"</li></ol></li><li>2. Surface<ol style="list-style-type: none"><li>a) Designed/maintained to support fire apparatus</li><li>b) All weather driving capabilities</li></ol></li><li>3. Turning radius<ol style="list-style-type: none"><li>a) Shall be approved by fire official</li><li>b) Can fire apparatus make the turn</li></ol></li></ol>	<p><b>SLIDE: 5-1-1</b></p> <p><b>SLIDE: 5-1-2</b></p> <p><b>SLIDE: 5-1-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
4. Dead ends a) Roads in excess of 150 feet shall be provided with approved turning provision	
D. Access to buildings	<b>SLIDE: 5-1-4</b>
1. Required access a) Exterior doors and openings maintained readily accessible for emergency access b) Maintenance 1) Maintain operable 2) Rendered nonfunctional <ul style="list-style-type: none"><li>Signed placed on exterior side stating "THIS DOOR BLOCKED"</li></ul>	<b>SLIDE: 5-1-5</b>
E. Key boxes <sup>4</sup> 1. Access to secured building 2. Immediate life hazard 3. Fire fighting 4. Approved type a) Knox box 5. Key quantity a) Depends of size of building 6. Requirements are agency specific	
<b>II. HOUSEKEEPING PRACTICES</b>	<b>SLIDE: 5-1-6</b>
A. Trash (combustible materials) <sup>5</sup> 1. Proper disposal in approved containers a) Metal or noncombustible material 2. Removed daily if spontaneously combustible materials are present	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>B. Oily rags or similar material<ul style="list-style-type: none"><li>1. Metal or metal lined container with a tight fitting cover</li><li>2. Removed daily</li></ul></li> <li>C. Dumpsters<ul style="list-style-type: none"><li>1. 1.5 cubic yards or larger shall not be stored inside of or placed within 5 feet of combustible walls<ul style="list-style-type: none"><li>a) Openings or combustible roof eaves</li><li>b) Exception<ul style="list-style-type: none"><li>1) Areas protected by automatic sprinklers</li></ul></li></ul></li></ul></li></ul>	<p><b>SLIDE: 5-1-7</b></p>
<p><b>III. SMOKING<sup>6</sup></b></p> <ul style="list-style-type: none"><li>A. When determined by the Fire Chief to be a fire hazard, smoking shall not be permitted<ul style="list-style-type: none"><li>1. Piers</li><li>2. Wharves</li><li>3. Warehouses</li><li>4. Stores</li><li>5. Industrial plants</li><li>6. Institutions</li><li>7. Schools</li><li>8. Places of assembly</li><li>9. Open spaces</li></ul></li> <li>B. When smoking is prohibited, the Fire Chief shall designate specific safe locations</li></ul>	<p><b>SLIDE: 5-1-8</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>IV. BURNING</b></p> <p>A. Incinerators<sup>7</sup></p> <ol style="list-style-type: none"><li>1. May be regulated by Air Resources or Air Quality Management Districts</li><li>2. Construction<ol style="list-style-type: none"><li>a) Concrete or masonry</li><li>b) Enclosed combustion chamber</li><li>c) Spark arrestor</li></ol></li><li>3. Location<ol style="list-style-type: none"><li>a) Freestanding</li><li>b) 10 feet away from combustibles</li></ol></li><li>4. Maintenance<ol style="list-style-type: none"><li>a) Good condition at all times</li></ol></li><li>5. Discontinuance<ol style="list-style-type: none"><li>a) Immediate, if emissions are offensive</li></ol></li></ol> <p>B. Open burning<sup>8</sup></p> <ol style="list-style-type: none"><li>1. May be regulated by Air Pollution or Air Resources Districts</li><li>2. Notification<ol style="list-style-type: none"><li>a) Prior to commencement</li></ol></li><li>3. Material restriction<ol style="list-style-type: none"><li>a) Paper products</li></ol></li><li>4. Time and atmosphere restrictions<ol style="list-style-type: none"><li>a) Time of day</li><li>b) Weather conditions</li></ol></li><li>5. Location<ol style="list-style-type: none"><li>a) Minimum 50 feet from any structure</li></ol></li></ol>	<p><b>SLIDE: 5-1-9</b></p> <p><b>SLIDE: 5-1-10</b></p> <p><b>SLIDE: 5-1-11</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>6. Fire extinguishing equipment<ul style="list-style-type: none"><li>a) Garden hose, connected</li></ul></li><li>7. Attendance<ul style="list-style-type: none"><li>a) Constant attendance required</li></ul></li><li>8. Discontinuance<ul style="list-style-type: none"><li>a) Immediately</li><li>b) Smoke emissions</li></ul></li><li>C. Recreational fires<sup>9</sup><ul style="list-style-type: none"><li>1. Barbecue pit<ul style="list-style-type: none"><li>a) Location<ul style="list-style-type: none"><li>1) Minimum of 25 feet from structure</li></ul></li><li>b) Fire extinguishing equipment<ul style="list-style-type: none"><li>1) Buckets</li><li>2) Shovels</li><li>3) Garden hose,</li></ul></li><li>c) Attendance<ul style="list-style-type: none"><li>1) Constant attendance required</li></ul></li><li>d) Discontinuance<ul style="list-style-type: none"><li>1) Required if hazardous conditions exist</li></ul></li></ul></li></ul></li><li>D. Commercial barbecue pit<sup>10</sup><ul style="list-style-type: none"><li>1. Indoor<ul style="list-style-type: none"><li>a) Commercial cooking shall be construed as commercial food heat processing in accordance with the CMC</li></ul></li><li>2. Outdoor<ul style="list-style-type: none"><li>a) Constructed of concrete or approved noncombustible materials</li></ul></li></ul></li></ul>	<p><b>SLIDE: 5-1-12</b></p> <p><b>SLIDE: 5-1-13</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Locations<ul style="list-style-type: none"><li>1) Shall not be located within 10 feet of combustible walls or roofs</li></ul></li></ul>	<p><b>SLIDE: 5-1-14</b></p>
<p><b>V. WEED ABATEMENT<sup>11,12</sup></b></p> <ul style="list-style-type: none"><li>A. Weeds, grass, vines, and other vegetation shall be removed when determined to be a fire hazard</li><li>B. Total removal of vegetation is the standard requirement</li><li>C. If the total removal is impractical, fire breaks may be installed when approved by AHJ</li></ul>	
<p><b>VI. INDOOR STORAGE<sup>13,14</sup></b></p> <ul style="list-style-type: none"><li>A. Ceiling clearance<ul style="list-style-type: none"><li>1. Maintain not less than 24 inches in nonsprinklered buildings</li></ul></li><li>B. Combustible materials shall not be stored in equipment rooms<ul style="list-style-type: none"><li>1. Boiler, mechanical, or electrical</li></ul></li><li>C. Fueled equipment shall not be stored, operated, or repaired within a building except when permitted or in a room constructed for such use<ul style="list-style-type: none"><li>1. Including but not limited to<ul style="list-style-type: none"><li>a) Motorcycles</li><li>b) Mopeds</li><li>c) Lawn care equipment</li><li>d) Portable cooking equipment</li></ul></li><li>2. In covered malls, battery shall be disconnected and fuel tanks drained and sealed for auto display</li></ul></li></ul>	<p><b>SLIDE: 5-1-15</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>D. Attics, underfloors, and concealed spaces</p> <ol style="list-style-type: none"><li>1. Combustible materials storage is prohibited unless the area is protected as 1-hour fire-resistive construction</li><li>2. Storage shall not be placed on exposed joists<ol style="list-style-type: none"><li>a) Building code requires structural load calculations for attic storage</li></ol></li><li>3. Storage is permitted in sprinklered attics</li></ol>	<p><b>SLIDE: 5-1-16</b></p>
<p><b>VII. OUTDOOR STORAGE</b></p>	
<p>A. Combustibles</p> <ol style="list-style-type: none"><li>1. Minimum 10 feet from property line</li><li>2. No storage under building or structure</li><li>3. No storage outside buildings with eaves, canopies, projections, or overhangs that are not sprinklered</li><li>4. Maximum height 20 feet</li></ol>	<p><b>SLIDE: 5-1-17</b></p>
<p>B. Tires</p> <ol style="list-style-type: none"><li>1. Maximum 5,000 SF or 50,000 cubic feet or 10 feet in height</li><li>2. 40 feet of clear space between piles</li><li>3. 50 feet from any property line or building</li><li>4. Piles 6 feet or higher when stored inside a building constitutes high-pile storage</li></ol>	<p><b>SLIDE: 5-1-18</b></p>
<p><b>VIII. ABOVEGROUND GAS METERS</b><sup>15</sup></p>	
<p>A. Regulators exposed to vehicular damage shall be protected with posts</p>	<p><b>SLIDE: 5-1-19</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>IX. CANDLES AND OTHER OPEN-FLAME DECORATIVE DEVICES<sup>16</sup></b></p> <ul style="list-style-type: none"><li>A. Class I and II liquids and LPG shall not be used</li><li>B. Devices or holders constructed to prevent spillage of liquid or wax</li><li>C. Religious ceremonies<ul style="list-style-type: none"><li>1. May carry handheld candles<ul style="list-style-type: none"><li>a) Seek approval from Fire Chief</li></ul></li><li>2. Shall not pass candles from one person to another</li><li>3. However, Title 19, Section 3.25(b) states "under no circumstances shall hand-held open flame devices such as exposed candles be permitted for any purpose in any occupancy within the scope of these regulations"</li></ul></li><li>D. Additional requirements found in 2007 CFC Section 1109.8 and Section 2501.17</li></ul>	<p><b>SLIDE: 5-1-20</b></p> <p><b>SLIDE: 5-1-21</b></p> <p><b>SLIDE: 5-1-22</b></p>
<p><b>X. VACANT BUILDINGS<sup>17</sup></b></p> <ul style="list-style-type: none"><li>A. Shall be free of combustible materials or hazardous materials</li><li>B. Shall be maintained, securely locked, or barricaded</li></ul>	



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

The following key components should be remembered about general fire safety: 1) smoking hazards, 2) housekeeping practices, 3) open burning, 4) weed abatement, 5) indoor and outside storage, 6) fire department access/key boxes, 7) incident reporting, and 8) standby personnel.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapters 3, 5, and 6 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

### ENDNOTES

The endnotes provide support and facilitate instruction. It is recommended you insert the specific code section in the lesson plan where it is used. Please report immediately to State Fire Training Curriculum Development Division of any errors or changes you find to the endnotes.

- <sup>1</sup> California Fire Code, CBSC, 2007 Edition, Section 503
- <sup>2</sup> California Fire Code, CBSC, 2007 Edition, Section 501
- <sup>3</sup> California Fire Code, CBSC, 2007 Edition, Section 503
- <sup>4</sup> California Fire Code, CBSC, 2007 Edition, Section 506
- <sup>5</sup> California Fire Code, CBSC, 2007 Edition, Section 304
- <sup>6</sup> California Fire Code, CBSC, 2007 Edition, Section 310
- <sup>7</sup> California Fire Code, CBSC, 2007 Edition, Section 603.8
- <sup>8</sup> California Fire Code, CBSC, 2007 Edition, Section 307
- <sup>9</sup> California Fire Code, CBSC, 2007 Edition, Section 307
- <sup>10</sup> California Fire Code, CBSC, 2007 Edition, Section 308
- <sup>11</sup> California Fire Code, CBSC, 2007 Edition, Section 304.1.2
- <sup>12</sup> Barclays Official California Code of Regulations Title 19, West Group, Section 3.19
- <sup>13</sup> California Fire Code, CBSC, 2007 Edition, Section 315
- <sup>14</sup> Barclays Official California Code of Regulations Title 19, West Group, Section 3.19
- <sup>15</sup> California Fire Code, CBSC, 2007 Edition, Section 603.9
- <sup>16</sup> California Fire Code, CBSC, 2007 Edition, Section 308.3.2
- <sup>17</sup> California Fire Code, CBSC, 2007 Edition, Section 311



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 5-2: Fire Safety Requirements For Decorative Materials And Furnishings

**Time Frame:** 1:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Section 4-3.15

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of the fire safety requirements for decorative materials and furnishings

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 8 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- California Building Code, CBSC, 2007 Edition, Chapter 8
- California Fire Code, CBSC, 2007 Edition, Chapter 8
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. FLAME SPREAD AND SMOKE PRODUCTION CHARACTERISTICS OF INTERIOR FINISHES</b></p> <p>A. Have contributed to heavy fire losses in the past</p> <ol style="list-style-type: none"><li>Including loss of life</li></ol> <p>B. Must be matched with the occupancy at hand to ensure a fire safe occupancy</p> <ol style="list-style-type: none"><li>It significantly contributes to the generation of smoke and the spread of fire</li></ol> <p>C. Includes any covering material applied to walls and ceilings</p> <ol style="list-style-type: none"><li>Wood</li><li>Plastic</li><li>Wainscoting</li><li>Carpeting</li><li>Related combustibles</li></ol> <p>D. Does not include</p> <ol style="list-style-type: none"><li>Trim</li><li>Baseboards</li><li>Picture moldings</li><li>Materials less than <math>\frac{1}{28}</math>" thick</li></ol> <p>E. Based on flame spread and smoke developed ratings</p>	<p><b>SLIDE: 5-2-1</b></p> <p>Why does the nature of the interior finish of a building play such an important part in its fire safety?</p> <p><b>SLIDE: 5-2-2</b></p> <p><b>SLIDE: 5-2-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>F. CBC uses Classifications A, B, or C</p> <ol style="list-style-type: none"><li>1. Class A<ol style="list-style-type: none"><li>a) Flame spread 0-25</li><li>b) Smoke developed index 0-450</li></ol></li><li>2. Class B<ol style="list-style-type: none"><li>a) Flame spread 26-75</li><li>b) Smoke developed index 0-450</li></ol></li><li>3. Class C<ol style="list-style-type: none"><li>a) Flame spread 76-200</li><li>b) Smoke developed index 0-450</li></ol></li><li>4. NFPA classes are A, B, C, D, and E</li></ol>	<p><b>SLIDE: 5-2-4</b></p>
<p><b>II. METHODS OF EVALUATING FLAME SPREAD RATINGS</b></p> <p>A. Steiner tunnel test</p> <ol style="list-style-type: none"><li>1. Test is based on a standardized ASTM-E84 test</li><li>2. Used by NFPA, Factory Mutual, and Underwriters Laboratories</li><li>3. Process<ol style="list-style-type: none"><li>a) Material is placed in the tunnel</li><li>b) Flame is on top of material</li><li>c) Burn rate is measured</li><li>d) Smoke production is measured</li></ol></li><li>4. The test does not evaluate the materials as they are actually used or installed in the "real world"</li></ol>	<p><b>SLIDE: 5-2-5</b></p> <p><b>SLIDE: 5-2-6</b></p> <p>What is one shortcoming of this test procedure?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>a) Example</p> <p>1) Wall paneling is tested in the horizontal position, but is installed in the vertical position</p> <ul style="list-style-type: none"><li>• Burning characteristics, therefore, are dramatically different</li></ul> <p>5. Test results are expressed as</p> <p>a) Flame spread</p> <p>b) Fuel contributed</p> <p>c) Smoke developed</p> <p>d) Compared to "Red Oak" and asbestos</p> <p>e) Does not measure toxicity</p> <p>f) Does not reflect "real world" installation practices</p> <p>B. Radiant panel test</p> <p>1. Test consists of a horizontal test area and a radiant heating panel set at a 45° angle to the test area</p> <p>2. Used primarily for evaluating flame retardancy of carpeting</p> <p>a) May be used for paneling</p> <p>3. Results are expressed in terms of energy required to sustain burning on the test surface</p> <p>a) Measured in watts per centimeter squared</p> <p>b) 4.5 watts per centimeter squared equals a Class C rating (NFPA)</p> <p>C. Corner test</p> <p>1. Used to determine burning characteristics of high-piled stock and plastics</p>	<p><b>SLIDE: 5-2-7</b></p> <p><b>SLIDE: 5-2-8</b></p> <p><b>SLIDE: 5-2-9</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>III. FIRE RETARDANT PAINTS AND IMPREGNATION TREATMENTS</b></p> <p>A. Can be used to reduce or retard both the rate of burning and the rate at which fuel is contributed to the combustion process</p> <p>B. Four basic methods of fire retarding</p> <ol style="list-style-type: none"><li>1. The flame spread characteristics of interior finishes can be improved by<ol style="list-style-type: none"><li>a) Chemical change<ol style="list-style-type: none"><li>1) Plastics and synthetics</li><li>2) Altering the chemical compounds</li></ol></li><li>b) Impregnation<ol style="list-style-type: none"><li>1) Saturated into the material</li></ol></li><li>c) Pressure impregnation<ol style="list-style-type: none"><li>1) Forced into the material</li></ol></li><li>d) Coating<ol style="list-style-type: none"><li>1) Spray-on</li></ol></li></ol></li></ol> <p>C. Intumescent paint</p> <ol style="list-style-type: none"><li>1. A paint that will expand upon application of heat to insulate the surface on which it is applied<ol style="list-style-type: none"><li>a) Paint blisters and bubbles when subjected to heat</li></ol></li><li>2. Required on wooden flammable liquid storage cabinets</li><li>3. May be used on several different products</li><li>4. Disadvantages<ol style="list-style-type: none"><li>a) Difficult to prove its presence</li><li>b) Expensive</li></ol></li></ol>	<p><b>SLIDE: 5-2-10</b></p> <p><b>SLIDE: 5-2-11</b></p> <p><b>SLIDE: 5-2-12</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>c) May not perform as expected</li> <li>d) Hard to find</li> <li>e) Looks like regular paint</li> </ul> <p><b>IV. FLAME SPREAD FIELD DETERMINATION</b></p> <ul style="list-style-type: none"> <li>A. Flame spread of interior finish materials may be determined in several ways</li> <li>B. Sample materials evaluated based on the length of char and duration of burning after the test flame is removed               <ul style="list-style-type: none"> <li>1. Stamped on back of sheets of paneling</li> <li>2. Labels placed in the corners of drapes/curtains</li> <li>3. Tags on Christmas trees</li> </ul> </li> <li>C. Note markings stamped on finish materials               <ul style="list-style-type: none"> <li>1. Very reliable method</li> <li>2. Must be observed at time of application or construction                   <ul style="list-style-type: none"> <li>a) Ceiling tile listing on original package</li> <li>b) Reflective insulation is marked on sides</li> </ul> </li> </ul> </li> <li>D. Letter of documentation from a testing laboratory               <ul style="list-style-type: none"> <li>1. Do not accept documentation stating, "Meets minimum flame spread requirements"</li> <li>2. Flame spread <u>must</u> be given</li> <li>3. Must be specific to the material in question</li> </ul> </li> <li>E. Conducting flame spread test               <ul style="list-style-type: none"> <li>1. May include a test on fabrics, paper, natural vegetation, or wall hangings                   <ul style="list-style-type: none"> <li>a) Only with owner's permission</li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 5-2-13</b></p> <p>What are some easily found methods for determining flame spread ratings for materials?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Only in accordance to department policy</li><li>c) As a last resort</li><li>d) Not scientific</li></ul> <p>2. Small scale fabric test</p> <ul style="list-style-type: none"><li>a) Test samples are 2½" x 12½"</li><li>b) Flame is applied at the bottom of the fabric for 12 seconds, then withdrawn</li><li>c) Maximum allowable char is 3½ inches</li><li>d) Maximum allowable afterglow is 2 seconds</li></ul> <p>3. Large scale fabric test</p> <ul style="list-style-type: none"><li>a) Test samples are 5" x 7'</li><li>b) Flame is applied at the bottom of the fabric for 2 minutes, then withdrawn</li><li>c) Maximum allowable char is 10"</li><li>d) Maximum allowable afterglow is 2 seconds</li></ul>	<p><b>SLIDE: 5-2-14</b></p> <p><b>SLIDE: 5-2-15</b></p>
<p><b>V. INTERIOR FINISHES</b></p> <p>A. Floors</p> <ul style="list-style-type: none"><li>1. Usually not regulated by most codes</li><li>2. Carpet is not considered a major factor in fire spread</li><li>3. Carpet on walls or ceiling must have flame spread rating not to exceed 25<ul style="list-style-type: none"><li>a) Adhesives more hazardous than carpet</li></ul></li></ul> <p>B. Decorative materials</p> <ul style="list-style-type: none"><li>1. Draperies and curtains</li><li>2. Decorative hangings</li></ul>	<p><b>SLIDE: 5-2-16</b></p> <p><b>SLIDE: 5-2-17</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. Other interior finishes</p> <ol style="list-style-type: none"> <li>1. In evaluating wall coverings, do not rule out materials such as flocked wallpaper</li> </ol> <p>D. Furniture and vegetation</p> <ol style="list-style-type: none"> <li>1. Heavily regulated in A occupancies</li> <li>2. I-1 and I-2 also strictly regulated</li> </ol> <p><b>VI. FLAME SPREAD CLASSIFICATION MAXIMUMS</b></p> <p>A. Identified under appropriate sections of Chapter 8 for finishes and materials used on interior walls and ceilings</p> <p><b>NOTE:</b> Use CBC Table 803.3.</p> <p>B. Table breaks the requirements down into 3 areas</p> <ol style="list-style-type: none"> <li>1. Class A             <ol style="list-style-type: none"> <li>a) Exit enclosures and passageways</li> </ol> </li> <li>2. Class A and B             <ol style="list-style-type: none"> <li>a) Corridors</li> </ol> </li> <li>3. Class B and C             <ol style="list-style-type: none"> <li>a) Rooms and enclosed spaces</li> </ol> </li> </ol> <p>C. Further breaks down into occupancy type</p> <ol style="list-style-type: none"> <li>1. The greater the hazard of the occupancy, the more restrictive the finish             <ol style="list-style-type: none"> <li>a) I-3 vs. F</li> <li>b) A-2 vs. R-3</li> </ol> </li> </ol> <p>D. Lastly, sprinklered vs. unsprinklered</p> <p>E. Many exceptions in the table footnotes</p>	<p><b>SLIDE: 5-2-18</b></p>
<p><b>VII. TENT REGULATIONS</b></p> <p>A. Response to the Hartford Connecticut circus fire in 1944</p> <p>B. All tents sold or offered for sale in California are required to be made from flame retardant fabric</p>	<p><b>SLIDE: 5-2-19</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>C. Require a permanently attached label denoting fabric treatment<ul style="list-style-type: none"><li>1. Fabric name</li><li>2. Date of fire retardant application</li></ul></li><li>D. Certificate of Flame Retardance</li><li>E. CSFM has a list on their website of approved fabrics, and companies</li></ul>	

RETIRED CURRICULUM



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### ***Summary:***

The Steiner tunnel test, radiant panel test, and other methods can evaluate the fire hazard potential of decorative materials. It is important that the inspector recognizes these hazards and relates them to the appropriate section of the California Fire and Building Codes.

#### ***Evaluation:***

The student will complete the formative test at a time determined by the instructor.

#### ***Assignment:***

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapter 8 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 3 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 5-3: Fire Drills And Emergency Evacuation Plans

**Time Frame:** 0:30

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Section 4-3.10

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of fire drills and emergency evacuation plans

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 4 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- Barclays Official California Code of Regulations Title 19, West Group, Articles 3-13
- California Fire Code, CBSC, 2007 Edition, Chapter 4
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. FIRE DRILL REQUIREMENTS</b></p> <p>A. Fire drills are required in certain occupancies, while only evacuation plans are required in others</p> <p>B. Drill procedures range from partial evacuation and relocation of the occupants to total evacuation of the building</p> <p>C. Group E occupancy requirements</p> <ol style="list-style-type: none"><li>1. Required monthly<ol style="list-style-type: none"><li>a) Elementary and intermediate level</li></ol></li><li>2. Required twice annually<ol style="list-style-type: none"><li>a) Secondary level</li></ol></li><li>3. Record of all required fire drills</li><li>4. Drill to be initiated by activation of alarm</li><li>5. Complete evacuation of all persons</li></ol> <p>D. Group C occupancy requirements</p> <ol style="list-style-type: none"><li>1. Required at the beginning of each camp session</li></ol> <p>E. Existing high-rise</p> <ol style="list-style-type: none"><li>1. Fire drills for staff and employees every 120 days</li></ol> <p>F. Responsibility for conducting the drill</p> <ol style="list-style-type: none"><li>1. Hospitals<ol style="list-style-type: none"><li>a) By the administration</li></ol></li><li>2. Schools<ol style="list-style-type: none"><li>a) By the principal</li></ol></li><li>3. High-rise<ol style="list-style-type: none"><li>a) By the property management</li></ol></li></ol>	<p><b>SLIDE: 5-3-1</b></p> <p><b>SLIDE: 5-3-2</b></p> <p><b>SLIDE: 5-3-3</b></p> <p><b>SLIDE: 5-3-4</b></p> <p><b>SLIDE: 5-3-5</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>II. EMERGENCY EVACUATION PLAN REQUIREMENTS</b></p> <ul style="list-style-type: none"><li>A. Group H occupancy requirements</li><li>B. Group I occupancy requirements</li><li>C. High-rise buildings</li></ul> <p><b>III. CONDUCTING FIRE DRILLS</b></p> <ul style="list-style-type: none"><li>A. In some instances, the inspector may conduct the drill<ul style="list-style-type: none"><li>1. In most cases, the inspector will simply observe and evaluate others who actually conduct the drill</li></ul></li><li>B. Correct responses<ul style="list-style-type: none"><li>1. Occupants<ul style="list-style-type: none"><li>a) Students</li><li>b) Patients</li><li>c) Staff</li><li>d) Public</li></ul></li><li>2. Of those in authority upon hearing the alarm<ul style="list-style-type: none"><li>a) Notify fire department</li><li>b) Assist occupants to leave</li><li>c) Other specific functions<ul style="list-style-type: none"><li>1) Close doors, etc.</li></ul></li></ul></li></ul></li><li>C. Proper selection of alternative escape routes, if needed</li><li>D. Check for "stragglers"</li><li>E. Maintaining control of persons exiting<ul style="list-style-type: none"><li>1. No premature returns</li></ul></li></ul>	<p><b>SLIDE: 5-3-6</b></p> <p><b>SLIDE: 5-3-7</b></p> <p><b>SLIDE: 5-3-8</b></p> <p><b>SLIDE: 5-3-9</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. No persons excused from exit drill</li><li>3. No horseplay</li></ul> <p>F. Drill documentation</p> <ul style="list-style-type: none"><li>1. A report documenting each drill is vital</li></ul>	<p><b>SLIDE: 5-3-10</b></p>

RETIRED CURRICULUM



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

Fire drills and emergency evacuation procedures should include 1) drill requirements, 2) occupancy requirements, 3) evacuation plan, 4) conducting drills, and 5) documentation.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read California Fire Code, CBSC, 2007 Edition, Chapter 4 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 6 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

- Topic:** 5-4: High-piled Combustible Storage
- Time Frame:** 1:00
- Level of Instruction:** Level II
- Authority:** 2003 NFPA 1031: Sections 4-3.8 and 4-3.14
- Behavioral Objective:**
- Condition:** Given an activity and a formative test
  - Behavior:** The student will confirm a knowledge of high-piled combustible storage
  - Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 23 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 66-67
- Materials Needed:**
- Conference board/pads with markers/erasers
  - Appropriate audiovisual training aids and devices
  - Individual Activity 5-4-2: Class III Commodity
- References:**
- California Fire Code, CBSC, 2007 Edition, Chapter 23
- Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.
- |                             |                     |
|-----------------------------|---------------------|
| <b>A</b> ttention (attract) | <b>B</b> egin       |
| <b>C</b> uriosity (arouse)  | <b>A</b> ssociation |
| <b>I</b> nterest (create)   | <b>S</b> tudents    |
| <b>D</b> esire (stimulate)  | <b>E</b> xperience  |
- Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. CFC DEFINITION</b></p> <ul style="list-style-type: none"><li>A. Combustible materials in closely packed piles more than 12 feet high<ul style="list-style-type: none"><li>1. Height is measured from the floor to the top of the storage<ul style="list-style-type: none"><li>a) Not to the top of the shelf</li></ul></li></ul></li><li>B. Combustible materials on pallets or in racks more than 12 feet high</li><li>C. Special hazard commodities over 6 feet high<ul style="list-style-type: none"><li>1. Tires</li><li>2. Plastics</li><li>3. Flammable liquids</li><li>4. Idle pallets</li></ul></li></ul> <p><b>II. CFC PERMIT REQUIREMENTS</b></p> <ul style="list-style-type: none"><li>A. Areas greater than 500 SF<ul style="list-style-type: none"><li>1. Permit required to store combustibles in a high-piled configuration</li></ul></li><li>B. Areas less than 500 SF<ul style="list-style-type: none"><li>1. <u>May</u> not need a permit</li></ul></li></ul> <p><b>III. COMMODITY CLASSIFICATION PRODUCTS</b></p> <ul style="list-style-type: none"><li>A. Classed according to their potential for supporting combustion in order of increasing hazard</li><li>B. Class I<ul style="list-style-type: none"><li>1. Noncombustible product stored on <u>solid</u> deck pallets or stacked on floor, not slatted pallets</li></ul></li></ul>	<p>What constitutes high-piled storage?</p> <p><b>SLIDE: 5-4-1</b></p> <p><b>SLIDE: 5-4-2</b></p> <p><b>SLIDE: 5-4-3</b></p> <p><b>SLIDE: 5-4-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>a) Solid decks restrict the movement of air currents and thus retard the spread of fire</li><li>2. Examples<ul style="list-style-type: none"><li>a) Ceramics</li><li>b) Frozen foods</li><li>c) Glass metal products</li></ul></li><li>C. Class II<ul style="list-style-type: none"><li>1. Class I products packaged in combustible materials</li></ul></li><li>D. Class III<ul style="list-style-type: none"><li>1. Commodity of wood, paper, cloth, and some plastics</li><li>2. Examples<ul style="list-style-type: none"><li>a) Fiberboard</li><li>b) Lumber</li><li>c) Oil based paint</li><li>d) Paper</li></ul></li></ul></li><li>E. Class IV<ul style="list-style-type: none"><li>1. Class I, II, or III commodity containing Group A plastics</li><li>2. Examples<ul style="list-style-type: none"><li>a) Synthetic cloth</li><li>b) Furniture with plastic padding</li><li>c) Paints in combustible containers</li></ul></li></ul></li></ul>	<p>How do solid decks affect fire spread?</p> <p><b>SLIDE: 5-4-5</b></p> <p><b>SLIDE: 5-4-6</b></p> <p><b>SLIDE: 5-4-7</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>F. High-hazard commodities</p> <ol style="list-style-type: none"><li>1. Extreme hazard products beyond other commodity classes</li><li>2. Examples<ol style="list-style-type: none"><li>a) Aerosols</li><li>b) Lacquers</li><li>c) Idle pallets</li><li>d) Foam mattresses</li><li>e) Rubber tires</li></ol></li></ol> <p>G. Plastics</p> <ol style="list-style-type: none"><li>1. Group A<ol style="list-style-type: none"><li>a) Much higher heat release than ordinary combustibles</li></ol></li><li>2. Group B<ol style="list-style-type: none"><li>a) Higher heat release than ordinary combustible by not as high as Group A</li></ol></li><li>3. Group C<ol style="list-style-type: none"><li>a) Combustible rate similar to those of ordinary combustibles</li></ol></li></ol>	<p><b>SLIDE: 5-4-8</b></p> <p><b>SLIDE: 5-4-9</b></p> <p><b>SLIDE: 5-4-10</b></p>
<p><b>IV. HOUSEKEEPING AND MAINTENANCE</b></p> <p>A. Structural integrity of racks maintained</p> <p>B. Smoking prohibited</p> <ol style="list-style-type: none"><li>1. Post an approved sign</li></ol> <p>C. Aisle kept clear of storage and waste material</p> <ol style="list-style-type: none"><li>1. Exception is restocking<ol style="list-style-type: none"><li>a) Manual<ol style="list-style-type: none"><li>1) Aisle needs to be 24" in a 48-inch aisle</li></ol></li><li>b) Mechanical<ol style="list-style-type: none"><li>1) Minimum clearance of 44"</li></ol></li></ol></li></ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>D. Sprinkler considerations<ul style="list-style-type: none"><li>1. Very important to maintain flue spaces in racks<ul style="list-style-type: none"><li>a) Space between racks when 2 racks are back to back</li><li>b) Sprinklers will not work properly if flue space is obstructed</li><li>c) Very common problem</li></ul></li><li>2. Look for damaged in rack sprinklers</li><li>3. Be mindful of obstructions to early-suppression fast-response (ESFR) sprinklers</li></ul></li><li>E. Curtain board/draft curtain damage</li><li>F. Testing of smoke vents</li></ul>	
<b>V. FIRE PROTECTION AND LIFE-SAFETY FEATURES</b>	
<ul style="list-style-type: none"><li>A. Largely depends on<ul style="list-style-type: none"><li>1. Size of building</li><li>2. Type of commodity</li><li>3. Height of racks</li></ul></li></ul>	<b>SLIDE: 5-4-11</b>
<ul style="list-style-type: none"><li>B. May include<ul style="list-style-type: none"><li>1. Building sprinklers</li><li>2. In-rack sprinklers</li><li>3. Smoke detectors</li><li>4. Hose cabinets</li><li>5. Fire extinguishers</li></ul></li></ul>	<b>SLIDE: 5-4-12</b>
<ul style="list-style-type: none"><li>C. Building access<ul style="list-style-type: none"><li>1. Roadways<ul style="list-style-type: none"><li>a) Shall be provided to within 150 feet of all portions of the building</li></ul></li></ul></li></ul>	<b>SLIDE: 5-4-13</b>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>2. Access doors</p> <ul style="list-style-type: none"><li>a) Readily accessible</li><li>b) 1 or more access doors shall be provided in each 100 linear feet of exterior wall</li></ul> <p>3. Locking devices</p> <ul style="list-style-type: none"><li>a) Shall be approved</li><li>b) Openable from the inside without keys or special knowledge</li></ul> <p>D. Verify compliance with approved plans and specifications for high-piled combustible storage</p>	<p><b>SLIDE: 5-4-14</b></p> <p><b>SLIDE: 5-4-15</b></p> <p><b>INDIVIDUAL ACTIVITY 5-4-1:</b> Complete the activity in the student supplement.</p> <p><b>INDIVIDUAL ACTIVITY 5-4-2:</b> Complete the activity in the student supplement. May be completed as homework.</p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

Being able to recognize the hazards and associated fire prevention methods for high-piled combustible storage is becoming more and more of a necessity for fire inspection personnel today. Automated equipment designed for storage facilities has allowed businesses to use high-piled storage more routinely. Your fire prevention activities will focus on the control of storage quantities and the maintenance of fire protection systems specifically designed to address this type of storage.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapter 23 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 66-67 in order to prepare yourself for the upcoming test. Study for our next session.



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

**INDIVIDUAL ACTIVITY 5-4-1: CLASS I COMMODITY**

**Time Frame:** 0:15

**Materials Needed:**

- California Fire Code, CBSC, 2007 Edition, Chapter 23, Table 2306.2
- Pen or pencil

**Introduction:** This activity provides the students the opportunity to determine needed requirements for all storage areas.

**Directions:**

1. Using Table 2306.2, identify the requirements for the following storage area.
2. You have 10 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.

**CLASS I COMMODITY**  
Storage Area is 2,455 Square Feet

- |  |  |
|--|--|
| 1. Automatic Fire Extinguishing System | <u>NR - with exception</u>                   |
| 2. Fire Detection System               | <u>Yes</u>                                   |
| 3. Building Access                     | <u>NR but FD access code section applies</u> |
| 4. Smoke and Heat Removal              | <u>NR</u>                                    |
| 5. Draft Curtains                      | <u>NR</u>                                    |



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

**ACTIVITY 5-4-2: CLASS III COMMODITY**

**Time Frame:** 0:15

**Materials Needed:**

- California Fire Code, CBSC, 2007 Edition, Chapter 23, Table 2306.2
- Pen or pencil

**Introduction:** This activity provides the students the opportunity to determine needed requirements for all storage areas.

**Directions:**

1. Using Table 2306.2, identify the requirements for the following storage area.
2. You have 10 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.

**CLASS III COMMODITY**  
Area is 502,100 Square Feet

- |   |   |
|---|---|
| 1. Automatic Fire Extinguishing System          | Yes   |
| 2. Fire Detection System                        | NR  |
| 3. Building Access                              | Yes   |
| 4. Smoke and Heat Removal                       | Yes   |
| 5. Draft Curtains                               | NR  |
| 7. Can any additional requirements be included? | <p><b><i>Additional special fire protection provisions may be required by the Fire Chief.</i></b></p> |



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 5-5: Electrical Fire Hazards And Safety Devices

**Time Frame:** 0:45

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 4-3.8 and 4-3.14

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of electrical fire hazards and safety devices

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapter 6 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 4

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- California Fire Code, CBSC, 2007 Edition, Chapter 6
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 4
- Fire Protection Handbook, NFPA, Eighteenth Edition, Chapter 3
- NFPA 70: National Electrical Code®, NFPA, 2002 Edition

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. ELECTRICAL FIRE HAZARDS</b></p> <p>A. Major reasons for electrical fires</p> <ol style="list-style-type: none"><li>1. Old or worn electrical equipment</li><li>2. Improper use of electrical equipment</li><li>3. Defective installation of electrical equipment</li><li>4. Accidental contact of electrical equipment with grounds or other circuits</li></ol> <p>B. Primary effects of electrical overloads</p> <ol style="list-style-type: none"><li>1. Overheating<ol style="list-style-type: none"><li>a) Forcing too much current through the wire<ol style="list-style-type: none"><li>1) Increase in resistance from a coiled versus a straight extension cord</li><li>2) Too many appliances attached to cord or circuit</li></ol></li></ol></li><li>2. Arcs and sparks<ol style="list-style-type: none"><li>a) Usually due to loose connections</li></ol></li></ol> <p><b>II. ELECTRICAL EQUIPMENT AND PROTECTION</b></p> <p>A. Wiring and associated apparatus exist to distribute electrical power to desired locations within structures</p> <p>B. Components of wiring systems</p> <ol style="list-style-type: none"><li>1. Conductors or wires</li><li>2. Cables</li><li>3. Raceways and cabinets</li><li>4. Overcurrent protection</li><li>5. Appliances</li><li>6. Lamps</li></ol>	<p><b>SLIDE: 5-5-1</b></p> <p>What causes wires to overheat?</p> <p><b>SLIDE: 5-5-2</b></p> <p><b>SLIDE: 5-5-3</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>7. Motors</li><li>8. Transformers</li> <li>C. Grounding<ul style="list-style-type: none"><li>1. Provided to conduct fault currents safely to ground rather than through people</li><li>2. Grounds provided between two metal objects<ul style="list-style-type: none"><li>a) Ground rod<ul style="list-style-type: none"><li>1) Service ground</li><li>2) Equipment ground</li><li>3) Ground at fuel transfer</li></ul></li></ul></li><li>3. Bond is a connection of two metal objects together to eliminate potential differences<ul style="list-style-type: none"><li>a) Prevents the accumulation of static electricity</li></ul></li></ul></li> <li>D. Overcurrent protection<ul style="list-style-type: none"><li>1. Used to protect conductors and appliances from heat produced by excess flow<ul style="list-style-type: none"><li>a) Heat sensitive</li></ul></li><li>2. Circuit will open when current reaches a value excessive for the conductor or insulation at hand<ul style="list-style-type: none"><li>a) Gets too hot</li></ul></li><li>3. Types of overcurrent protection<ul style="list-style-type: none"><li>a) Screw fuses<ul style="list-style-type: none"><li>1) Edison base and type "S"</li><li>2) Edison type is wide and easy to defeat with a penny</li><li>3) "S" type is narrow and hard to defeat</li></ul></li></ul></li></ul></li></ul>	<p><b>SLIDE: 5-5-4</b></p> <p><b>SLIDE: 5-5-5</b></p> <p><b>SLIDE: 5-5-6</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Cartridge type<ul style="list-style-type: none"><li>1) Some have replaceable elements</li></ul></li><li>c) Circuit breaker<ul style="list-style-type: none"><li>1) Heat sensitive; operates from excessive resistance</li></ul></li><li>d) Combination screw-in circuit breaker<ul style="list-style-type: none"><li>1) Pop-out button</li></ul></li><li>e) Ground fault interrupter (GFI)<ul style="list-style-type: none"><li>1) GFI senses current going to ground</li></ul></li></ul> <p>E. Equipment using electricity</p> <ul style="list-style-type: none"><li>1. AHJ can require testing laboratory approval for all appliances<ul style="list-style-type: none"><li>a) Underwriters Laboratories</li><li>b) Factory Mutual</li></ul></li><li>2. Nameplate on appliance requires voltage, current or wattage, and other information</li><li>3. Motors use electricity to create rotary motion</li><li>4. Lighting equipment<ul style="list-style-type: none"><li>a) Incandescent</li><li>b) Fluorescent</li><li>c) Vapor discharge</li></ul></li><li>5. Resistance heating<ul style="list-style-type: none"><li>a) Space heaters</li><li>b) Toasters</li><li>c) Irons</li><li>d) Electric ranges</li><li>e) Water heaters</li></ul></li><li>6. Other equipment<ul style="list-style-type: none"><li>a) Transformers</li><li>b) Microwave ovens</li></ul></li></ul>	<p><b>SLIDE: 5-5-7</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>III. ELECTRICAL INSTALLATION IN HAZARDOUS LOCATIONS</b></p> <p>A. Electrical installation is regulated by California Electrical Code (<u>NFPA 70: National Electrical Code®</u>)</p> <p>B. Class I locations are those where flammable liquids or gases are present</p> <ol style="list-style-type: none"><li>1. Division 1<ol style="list-style-type: none"><li>a) Materials present under normal conditions</li><li>b) Spray booth</li></ol></li><li>2. Division 2<ol style="list-style-type: none"><li>a) Materials present only under abnormal conditions</li><li>b) Flammable liquid storage room where no dispensing is done</li></ol></li></ol> <p>C. Class II locations are those where combustible dusts are found</p> <ol style="list-style-type: none"><li>1. Division 1<ol style="list-style-type: none"><li>a) Dust present only under normal conditions</li><li>b) Grain elevators</li></ol></li><li>2. Division 2<ol style="list-style-type: none"><li>a) Dust present only under abnormal conditions</li></ol></li></ol> <p>D. Class III locations are those where easily ignitable fibers or materials are found</p> <ol style="list-style-type: none"><li>1. Division 1<ol style="list-style-type: none"><li>a) Fibers are handled, used, or manufactured</li></ol></li></ol>	<p><b>SLIDE: 5-5-8</b></p> <p><b>SLIDE: 5-5-9</b></p> <p><b>SLIDE: 5-5-10</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>2. Division 2</p> <p>a) Fibers are stored or handled</p> <p><b>IV. INSPECTING PROPERTIES FOR ELECTRICAL HAZARDS</b></p> <p>A. Building service equipment</p> <p>1. Properly fused</p> <p>2. Properly grounded</p> <p>a) Green or bare wire carries current only under equipment failure conditions</p> <p>3. Circuits identified on panel</p> <p>4. Main shutoff available</p> <p>a) The main shutoff shall be clearly identified</p> <p>b) Unobstructed access</p> <p>1) Minimum width of 30 inches</p> <p>2) Minimum height of 78 inches</p> <p>B. Overcurrent protection</p> <p>1. Plug fuses not bridged</p> <p>a) Inside or outside</p> <p>C. Conductors, junction boxes, outlet boxes</p> <p>1. No splices except in boxes</p> <p>2. Boxes fitted with covers</p> <p>3. Only one specific appliance per circuit</p> <p>D. Extension and flexible cords<sup>1</sup></p> <p>1. Not to be used as a substitute for permanent wiring</p> <p>2. Used with portable appliances only</p>	<p><b>SLIDE: 5-5-11</b></p> <p><b>SLIDE: 5-5-12</b></p> <p><b>SLIDE: 5-5-13</b></p> <p><b>SLIDE: 5-5-14</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>3. Plugged directly into approved receptacle or multiplug adaptor<ul style="list-style-type: none"><li>a) Except for approved multiplug adaptor, shall serve only one portable appliance</li></ul></li><li>4. Shall be in good condition with no splices, deterioration, or damage</li><li>5. Shall not be affixed to structures, extend through walls, ceilings, floors, or under doors or floor coverings</li><li>6. Special events and holidays<ul style="list-style-type: none"><li>a) Temporary wiring for power and lighting installations is allowed for a period not to exceed 90 days for Christmas decorative lighting, carnivals, and similar purposes<sup>2</sup></li></ul></li></ul>	<p><b>SLIDE: 5-5-15</b></p>
<ul style="list-style-type: none"><li>E. Multiplug adaptors and power taps<sup>3</sup><ul style="list-style-type: none"><li>1. Shall be approved and listed</li><li>2. Shall be equipped with overcurrent protection</li><li>3. Shall not be plugged into another multiplug adaptor</li><li>4. Cords shall not pass through walls, ceilings, floors, or under doors or floor coverings</li></ul></li></ul>	<p><b>SLIDE: 5-5-16</b></p>
<ul style="list-style-type: none"><li>F. Lighting fixtures<ul style="list-style-type: none"><li>1. Sufficient clearance to combustibles</li><li>2. Lamps not oversized for appliance</li><li>3. Lamp guards in place</li></ul></li></ul>	<p><b>SLIDE: 5-5-17</b></p>
<ul style="list-style-type: none"><li>G. Motors<sup>4</sup><ul style="list-style-type: none"><li>1. Clean</li><li>2. Suitable for location</li></ul></li></ul>	<p><b>SLIDE: 5-5-18</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>H. Static electricity control</p> <ol style="list-style-type: none"><li>1. Bonding, grounding, and other methods of drawing off static must be provided</li></ol> <p>I. Access to switch boards and panel boards<sup>5</sup></p> <ol style="list-style-type: none"><li>1. Clear and unobstructed<ol style="list-style-type: none"><li>a) Minimum width is 30 inches</li><li>b) Minimum height is 78 inches</li></ol></li></ol> <p>J. Labeling</p> <ol style="list-style-type: none"><li>1. Doors into electrical control panel rooms must have a sign stating,<ol style="list-style-type: none"><li>a) "ELECTRICAL ROOM"</li></ol></li></ol>	<p><b>SLIDE: 5-5-19</b></p> <p><b>SLIDE: 5-5-20</b></p> <p><b>SLIDE: 5-5-21</b></p>



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

Electrical hazard is extremely technical in nature. An understanding of the following components will enhance the inspector's ability to perform: 1) fire safety inspection, 2) electrical equipment and protection, 3) bonding and grounding, 4) electrical installation, and 5) inspection procedures.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapter 6 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 4 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

### ENDNOTES

The endnotes provide support and facilitate instruction. It is recommended you insert the specific code section in the lesson plan where it is used. Please report immediately to State Fire Training Curriculum Development Division of any errors or changes you find to the endnotes.

<sup>1</sup> California Fire Code, CBSC, 2007 Edition, Section 605.5

<sup>2</sup> California Fire Code, CBSC, 2007 Edition, Section 605.9

<sup>3</sup> California Fire Code, CBSC, 2007 Edition, Sections 605.4 and 605.4.1

<sup>4</sup> California Fire Code, CBSC, 2007 Edition, Section 605.8

<sup>5</sup> California Fire Code, CBSC, 2007 Edition, Section 605.3



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 6-1: Factors Relating To Life Safety

**Time Frame:** 2:00

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 3-2.1, 3-2.2, and 3-2.6

**Behavioral Objective:**

**Condition:** Given an activity and a formative test

**Behavior:** The student will confirm a knowledge of factors relating to life safety

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 1, 2, and 5 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 69-81

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 6-1-1: Human Behavior

**References:**

- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 1, 2, and 5
- Fire Protection Handbook, NFPA, Eighteenth Edition, Section 1, Chapter 2, Section 8, Chapter 1, and Section 9, Chapter 1
- NFPA Inspection Manual, NFPA, Seventh Edition

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

**A**ttention (attract)

**B**egin

**C**uriosity (arouse)

**A**ssociation

**I**nterest (create)

**S**tudents

**D**esire (stimulate)

**E**xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. THE LIFE SAFETY GOAL</b></p> <p>A. Avoid exposure to harmful levels of products of combustion</p> <p>B. Keep the occupants separated from the products of combustion</p> <ol style="list-style-type: none"> <li>1. Heat</li> <li>2. Smoke</li> <li>3. Toxic gases</li> </ol> <p><b>II. ACHIEVING LIFE SAFETY</b></p> <p>A. Prevent fire</p> <ol style="list-style-type: none"> <li>1. Never 100% effective</li> <li>2. Not all energy sources or fuels can be regulated</li> <li>3. Human element</li> </ol>	<p><b>SLIDE: 6-1-1</b></p> <p>What is the life safety goal in terms of building design?</p> <p>How can a building provide safety to the lives of the occupants?</p> <p>How do we achieve life safety in buildings?</p> <p><b>SLIDE: 6-1-2</b></p> <p>What is the problem with fire prevention?</p> <p>How can we manage the fire's impact?</p> <p>List on easel chart or white board. Sort the answers and label the columns.</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Manage fire impact</p> <ol style="list-style-type: none"><li>1. Control combustion process<ol style="list-style-type: none"><li>a) Altering fuel or environment</li></ol></li><li>2. Control by construction<ol style="list-style-type: none"><li>a) Ventilation or containment</li></ol></li><li>3. Suppress fire<ol style="list-style-type: none"><li>a) Manual or automatic suppression</li></ol></li></ol> <p>C. Manage individuals in danger</p> <ol style="list-style-type: none"><li>1. Separate them from the products of combustion<ol style="list-style-type: none"><li>a) Engineering<ol style="list-style-type: none"><li>1) Egress design<ul style="list-style-type: none"><li>• Provision of adequate exits</li></ul></li><li>2) Defend in place<ul style="list-style-type: none"><li>• Provide compartmentalization</li></ul></li><li>3) Provide designated areas of refuge</li></ol></li><li>b) Enforcement<ol style="list-style-type: none"><li>1) Egress design<ul style="list-style-type: none"><li>• Proper maintenance of exits</li></ul></li><li>2) Defend in place<ul style="list-style-type: none"><li>• Control of fuel load</li><li>• Areas of refuge compartmentalization</li></ul></li></ol></li></ol></li></ol>	<p><b>SLIDE: 6-1-3</b></p> <p>How can we manage the occupants threatened by fire?</p> <p><b>SLIDE: 6-1-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>c) Education               <ul style="list-style-type: none"> <li>1) Egress design                   <ul style="list-style-type: none"> <li>• Knowledge and ability to reach exits quickly</li> </ul> </li> <li>2) Defend in place                   <ul style="list-style-type: none"> <li>• Knowledge of areas of refuge, and self-preservation techniques; staff training</li> </ul> </li> <li>3) Areas of refuge                   <ul style="list-style-type: none"> <li>• Knowledge of areas and self preservation</li> </ul> </li> </ul> </li> </ul>	<p><b>INDIVIDUAL ACTIVITY</b>  <b>6-1-1:</b> Complete the activity in the student supplement.</p>
<p><b>III. HUMAN BEHAVIOR</b></p> <p>A. Predicting human behavior</p> <ul style="list-style-type: none"> <li>1. In addition to understanding the characteristics that influence the occupants' ability to survive, we must also try to predict the probable behavior of the occupants</li> <li>2. Human behavior is predictable           <ul style="list-style-type: none"> <li>a) Panic, even in the most severe fire condition, is rare</li> <li>b) Behavior in fire can be understood as a logical attempt to deal with a complex, rapidly changing situation, in which minimal information upon which to act is available</li> <li>c) Information, current or previous, is the keystone to understanding human behavior</li> </ul> </li> </ul>	<p>Is human behavior predictable?</p> <p><b>SLIDE: 6-1-5</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>d) Most behavior in fires is determined by information analysis               <ul style="list-style-type: none"> <li>1) Cooperative, altruistic behavior being the most common reaction</li> </ul> </li> <li>B. To predict human behavior, we should consider               <ul style="list-style-type: none"> <li>1. How people first become aware of a fire</li> <li>2. How people investigate "ambiguous threat cues"</li> <li>3. How people decide there really is a fire</li> <li>4. How people react in response to perceived threat</li> </ul> </li> <li>C. Awareness of fire               <ul style="list-style-type: none"> <li>1. How someone becomes aware of a fire may determine the degree of perceived threat</li> <li>2. Notification by others the most common method of initial fire awareness                   <ul style="list-style-type: none"> <li>a) When combined with notified by others and notified by family</li> <li>b) By itself, smell of smoke most common means of becoming aware of a fire situation</li> <li>c) Noise                       <ul style="list-style-type: none"> <li>1) Detector</li> <li>2) People moving</li> <li>3) Breaking glass</li> <li>4) Arrival of fire apparatus</li> </ul> </li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 6-1-6</b></p> <p><b>SLIDE: 6-1-7</b></p> <p>How do most people first become aware of a fire?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>3. Recognition, reaction, and reporting of ambiguous threat cues may be inhibited by the presence of other people</p> <ul style="list-style-type: none"><li>a) A study of students in a room with smoke introduced found<ul style="list-style-type: none"><li>1) Students alone in the room, left and reported the smoke 75% of the time</li><li>2) Students alone in the room reacted to the smell of smoke within 5 seconds of its introduction</li><li>3) Students in the room with others, left and reported the smoke 10% of the time</li><li>4) Students in the room with others had a mean reaction time of 20 seconds</li></ul></li></ul> <p>4. Inhibition of adaptive and assistance behavior is generally due to</p> <ul style="list-style-type: none"><li>a) Social inhibition and mimicking<ul style="list-style-type: none"><li>1) The tendency to adopt cues from others</li><li>2) People are influenced by the reaction of others, particularly when others are passive</li></ul></li></ul>	<p>What variables will influence their ability to recognize and report the fire?</p> <p><b>SLIDE: 6-1-8</b></p> <p>Why does the presence of others negatively affect reaction and response?</p> <p><b>SLIDE: 6-1-9</b></p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>3) May delay evacuation and lead to nonadaptive flight when the available time for safe evacuation has lapsed</p> <p>b) Diffusion of responsibility</p> <p>1) Assumption that someone more capable is handling the situation</p> <p>2) May explain why calls to the fire department may be made long after the fire is underway</p> <p>3) Occupancies most prone to nonadaptive responses</p> <ul style="list-style-type: none"> <li>• Restaurants, theaters, department stores, hotels, and other assembly uses</li> </ul> <p>5. Occupant notification</p> <p>a) Alarm bells</p> <p>1) Response less than optimum</p> <p>2) Confusion as to whether it is or is not a fire alarm</p> <p>3) Skepticism about whether it is a real alarm or a false alarm</p> <p>4) Coded alarm systems have the longest delay in response times</p> <p>b) Vocal alerting systems</p> <p>1) Variation in voice quality</p> <p>2) Pitch</p>	<p>What occupancies are most prone to nonadaptive responses?</p> <p>How can a building effectively alert the occupants of a fire?</p> <p><b>SLIDE: 6-1-10</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>3) Volume</li> <li>4) Message content</li> <li>5) Directive public announcement combined with alerting bell most effective for immediate evacuation</li> <li>c) Verbal directive messages               <ul style="list-style-type: none"> <li>1) Most effective in reducing delay in evacuation initiation</li> <li>2) May be more effective than bells</li> <li>3) Most classrooms will not evacuate during an alarm until the instructor provides verbal direction</li> <li>4) May be ineffective if the message conflicts with other cues</li> <li>5) Sight or smell of smoke may override verbal instruction to remain in the building</li> </ul> </li> </ul>	
<p><b>IV. DECISION PROCESSES OF THE INDIVIDUAL</b></p> <ul style="list-style-type: none"> <li>A. Processes have been identified that an individual may use when trying to structure and evaluate situational threat cues in a fire situation</li> <li>B. Recognition of the threat           <ul style="list-style-type: none"> <li>1. Occurs when the individual perceives cues that indicate a threatening fire               <ul style="list-style-type: none"> <li>a) Ambiguous cues may not be noticed initially</li> <li>b) Cues are usually continuous, with increasing intensity</li> <li>c) Recognition may be delayed until there are large amounts of smoke or sudden and threatening flames are present</li> </ul> </li> </ul> </li> </ul>	<p><b>SLIDE: 6-1-11</b></p> <p><b>SLIDE: 6-1-12</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2. Based upon most probable occurrences<ul style="list-style-type: none"><li>a) Usually in relation to past experiences</li><li>b) Usually in the form of an optimistic wish</li></ul></li><li>3. Important for adaptive fire protection actions<ul style="list-style-type: none"><li>a) Initiation of alarm</li><li>b) Evacuation of building occupants</li><li>c) Fire suppression activities</li></ul></li><li>4. Influenced by the presence of others</li></ul>	<p><b>SLIDE: 6-1-13</b></p>
<p>C. Validation</p> <ul style="list-style-type: none"><li>1. Attempts by an individual to determine the seriousness of the threat cues</li><li>2. May question others or check for themselves</li><li>3. Influenced by the presence of others</li></ul>	<p><b>SLIDE: 6-1-14</b></p>
<p>D. Definition</p> <ul style="list-style-type: none"><li>1. Attempt to relate the information concerning the threat to some variable<ul style="list-style-type: none"><li>a) Nature of threat</li><li>b) Intensity of threat</li><li>c) Time context</li></ul></li></ul>	<p><b>SLIDE: 6-1-15</b></p>
<p>E. Evaluation</p> <ul style="list-style-type: none"><li>1. Cognitive and psychological activities required to respond to the threat</li><li>2. Motivation is to reduce the individual's stress level</li><li>3. Involved in the decision to fight or flee</li><li>4. May be accomplished within a matter of seconds</li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>5. The individual's perception of time available for evacuation or refuge is important to the estimation of fire threat</p> <ul style="list-style-type: none"><li>a) Based upon the information and communication about the fire's location and development</li><li>b) Variables of the physical environment are an important source of information<ul style="list-style-type: none"><li>1) Location of the individual relative to the egress route</li><li>2) Other people</li><li>3) The untenable effects of the fire</li><li>4) The behavior of other individuals</li></ul></li><li>c) Other factors<ul style="list-style-type: none"><li>1) Past training</li><li>2) What the person knows (or believes) of the situation</li><li>3) Whether person is alone or part of a group</li><li>4) Normal roles that people hold within the occupancy</li><li>5) Presence of leadership and the form which that leadership takes</li></ul></li><li>d) Familiarity of the building<ul style="list-style-type: none"><li>1) Regular occupants tend to<ul style="list-style-type: none"><li>• Choose more effective evacuation routes</li><li>• Engage in fire fighting actions</li><li>• Alert or assist others</li></ul></li></ul></li></ul>	<p><b>SLIDE: 6-1-16</b></p> <p>How does familiarity with a building influence the occupant's behavior?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>e) Occupants unfamiliar with the building primarily engaged in evacuation behavior</li><li>6. Commitment<ul style="list-style-type: none"><li>a) Defensive methods the individual will use to complete the defense plans decided upon in the evaluation stage</li><li>b) If the actions succeed, anxiety and stress is reduced and relieved</li><li>c) If the action fails, individual moves into the reassessment process</li></ul></li><li>7. Reassessment<ul style="list-style-type: none"><li>a) The most stressful of the processes because previous attempts to adjust have failed<ul style="list-style-type: none"><li>1) Increased frustration</li><li>2) More likely to use windows for escape</li></ul></li><li>b) May result in<ul style="list-style-type: none"><li>1) Hyperactive or frantic activity</li><li>2) Complete immobility</li><li>3) Loss of ability to communicate coherently</li><li>4) May withdraw psychologically and cease any attempt at adaptive behavior</li></ul></li></ul></li><li>F. All processes are dynamic, constantly being modified due to variations in<ul style="list-style-type: none"><li>1. Magnitude</li><li>2. Velocity</li><li>3. Intensity</li></ul></li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>V. INFLUENCES TO BEHAVIOR</b></p> <ul style="list-style-type: none"><li>A. Presence of others</li><li>B. Age</li><li>C. Gender</li><li>D. Familiarity</li><li>E. Training</li><li>F. Environment</li></ul> <p><b>VI. BEHAVIOR ACTIONS OF OCCUPANTS</b></p> <ul style="list-style-type: none"><li>A. Dependent upon the presence of others</li><li>B. Evacuation<ul style="list-style-type: none"><li>1. Rarely the first action people take</li><li>2. May be interrupted by<ul style="list-style-type: none"><li>a) Smoke or heat</li><li>b) Crowding</li><li>c) Locked doors</li><li>d) Breathing difficulty</li><li>e) Fear</li><li>f) Poor visibility</li></ul></li><li>3. May be initiated early if egress passages are clear of smoke, or smoke is perceived to be nonthreatening</li><li>4. Heavy smoke will lead to refuge actions rather than evacuation</li><li>5. Occupant movement through smoke is dependent upon<ul style="list-style-type: none"><li>a) Recognition of exit location<ul style="list-style-type: none"><li>1) Travel distance</li></ul></li></ul></li></ul></li></ul>	<p><b>SLIDE: 6-1-17</b></p> <p><b>SLIDE: 6-1-18</b></p> <p><b>SLIDE: 6-1-19</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Appearance of smoke<ul style="list-style-type: none"><li>1) Smoke density</li><li>2) Visibility distance &lt;12 feet most people will turn back</li></ul></li><li>c) Presence or absence of heat</li></ul> <p>C. Fighting or containing fire</p> <ul style="list-style-type: none"><li>1. Most common in occupancies in which the individuals have emotional or economic involvement<ul style="list-style-type: none"><li>a) Homes</li><li>b) Where such behavior is an assigned role as a result of training</li></ul></li><li>2. Usually by the person discovering the fire</li><li>3. More common in men than women<ul style="list-style-type: none"><li>a) May be a culturally determined and expected aspect of the male role</li></ul></li><li>4. More common in people ages 18-47<ul style="list-style-type: none"><li>a) Most common in people ages 28-37</li></ul></li></ul> <p>D. Alerting others</p> <ul style="list-style-type: none"><li>1. Common initial reaction<ul style="list-style-type: none"><li>a) Role assignments play important role</li><li>b) Examples<ul style="list-style-type: none"><li>1) Employees helping customers</li><li>2) Nurses helping patients</li></ul></li></ul></li></ul> <p>E. Alerting fire department/brigade</p> <ul style="list-style-type: none"><li>1. More common in women<ul style="list-style-type: none"><li>a) Will usually report only fires thought to be uncontrollable</li></ul></li></ul>	<p><b>SLIDE: 6-1-20</b></p> <p><b>SLIDE: 6-1-21</b></p>





## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

Human behavior is predictable. Although panic is rare, we know the physical conditions that will induce panic; the presence of heat and thick dark smoke, the inability to escape, and the occupants' knowledge of the fire situation are all factors that may lead to panic. The life safety goal, then, is to keep the occupants separated from the products of combustion. We can accomplish this by instituting fire prevention measures, managing the fire impact, managing the individuals in danger through building design and maintenance, as well as through training, education, and practice.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 1, 2, and 5 and Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 69-81 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### INDIVIDUAL ACTIVITY 6-1-1: HUMAN BEHAVIOR

<b>Time Frame:</b>	0:30
<b>Materials Needed:</b>	<ul style="list-style-type: none"><li>• Pen or pencil</li></ul>
<b>Introduction:</b>	This activity provides the students the opportunity to relate human behavior with life safety.
<b>Directions:</b>	<ol style="list-style-type: none"><li>1. Answer briefly each of the following questions.</li><li>2. You have 20 minutes to complete this activity.</li><li>3. Be prepared to discuss your answers with the class.</li></ol>

1. You are at the opening of a new movie. The theater is full. As the movie runs, the theater begins to fill with smoke. The movie continues to run. What will the audience do and why?

---

---

---

---

2. You are at the opening of a new movie. The theater is full. As the movie runs, the theater begins to fill with smoke, and you hear a faint bell ringing. The movie continues to run. What will the audience do and why? Will their behavior differ from Question 1? Why or why not?

---

---

---

---



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

3. You are at the opening of a new movie. The theater is full. As the movie runs, the theater begins to fill with smoke, and you hear a faint bell ringing. The movie continues to run. Someone screams, "A fire!" What will the audience do and why? Will their behavior differ from Questions 1 and 2? Why or why not?

---

---

---

---

4. You are at the opening of a new movie. The theater is full. As the movie runs, the theater begins to fill with smoke, and you hear a faint bell ringing. The movie continues to run. Someone screams, "A fire!" Another person, at the exit near the screen screams, "Oh no! We are locked in!" What will the audience do and why? Will their behavior differ from Questions 1, 2, and 3? Why or why not?

---

---

---

---

5. Design a sequence of events involving a fire in a theater filled with people. What elements will ensure the proper response from the audience and why?

---

---

---

---



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 6-2: Conducting A Life Safety Assessment

**Time Frame:** 1:30

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Section 3-3.2

**Behavioral Objective:**

**Condition:** Given an activity and a formative test

**Behavior:** The student will confirm a knowledge of conducting a life safety assessment

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 82-106

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Individual Activity 6-2-1: Life Safety Assessment

**References:**

- Fire Protection Handbook, NFPA, Eighteenth Edition, Section 8, Chapter 1 and Section 9, Chapter 1

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

**A**ttention (attract)

**B**egin

**C**uriosity (arouse)

**A**ssociation

**I**nterest (create)

**S**tudents

**D**esire (stimulate)

**E**xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. LIFE SAFETY ASSESSMENT OVERVIEW</b></p> <p>A. The process of estimating the quality of security against fire and its effects</p> <p>B. Components of a life safety assessment</p> <ol style="list-style-type: none"><li>1. Predict fire development</li><li>2. Predict characteristics of exposed occupants and potential behavior</li><li>3. Determine if an acceptable level of safety has been achieved or if there is a need for improvement</li><li>4. Identify the safety measures that will reduce the hazard</li><li>5. Understand the interrelationship of all of the above<ol style="list-style-type: none"><li>a) Use RECEO priorities to evaluate each component</li></ol></li></ol> <p><b>II. STARTING POINT: OCCUPANCY REVIEW</b></p> <p>A. All occupancies have similar basic life safety requirements</p> <ol style="list-style-type: none"><li>1. Exits</li><li>2. Doors</li><li>3. Electrical safety</li></ol> <p>B. Each occupancy group has some needs that are different from the general needs of all other occupancy groups</p>	<p>How safe are the occupants from fire and the products of combustion?</p> <p><b>SLIDE: 6-2-1</b></p> <p><b>SLIDE: 6-2-2</b></p> <p>What are some of the life safety requirements you will find in <u>all</u> buildings?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ol style="list-style-type: none"><li>1. Probability of panic (Group A) versus sleeping occupants (Group R-2)</li><li>2. Sleeping/nonambulatory lockdown (Group I) versus ambulatory, fire load (Group M)</li></ol>	<p>How do the needs of a Group A occupancy differ from the needs of a Group R-1 occupancy?</p> <p>How do the needs of a Group I occupancy differ from the needs of a Group M occupancy?</p>
<b>III. STEP 1: OCCUPANT CHARACTERISTICS</b>	
<ol style="list-style-type: none"><li>A. Wide variations among building occupants' characteristics<ol style="list-style-type: none"><li>1. Physical</li><li>2. Mental</li><li>3. Individual</li><li>4. Group</li></ol></li><li>B. Individual susceptibility to fire and fire products differ</li><li>C. The ability to undertake and follow procedures necessary for their safety differ</li><li>D. Taking these variables into consideration, we find three characteristics that most influence an individual or groups ability to survive fire</li></ol>	<p>Why is the population at risk the most difficult component of life safety to evaluate?</p> <p><b>SLIDE: 6-2-3</b></p>
<ol style="list-style-type: none"><li>1. Reaction: The ability to become aware of a fire emergency</li></ol>	<p><b>SLIDE: 6-2-4</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>a) Sleeping</li><li>b) Drug or alcohol impairment</li><li>c) Mental or physical disabilities (loss of senses)</li><li>d) Assessment may be dependent upon alerting devices or procedures correspond to the reaction characteristics of the occupants</li></ul> <p>2. Response: The ability to receive, comprehend, and follow instructions during an emergency or in previous training</p> <ul style="list-style-type: none"><li>a) Impaired comprehension may be a result of age or other factors</li><li>b) Prior knowledge including training and drills<ul style="list-style-type: none"><li>1) May increase self-preservation</li><li>2) May increase assistance to others</li></ul></li></ul>	<p>What conditions might impair an occupant's ability to become aware of a fire?</p> <p><b>SLIDE: 6-2-5</b></p> <p>What conditions might impair an occupant's ability to respond to a fire?</p> <p>In what type of occupancies are occupants familiar with the building?</p> <p>In what type of occupancies would you find a transient population?</p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>c) Familiarity with the building (Groups R-3, B, F, E, I) versus transient occupants (Groups M, I, A, R-1)</li> <li>d) Discipline               <ul style="list-style-type: none"> <li>1) Characteristic of groups more than individuals</li> <li>2) People who are regularly exposed to control and training more likely to respond to authority</li> <li>3) Less likely to engage in endangering behavior</li> <li>4) Group discipline is more evident in schools</li> <li>5) Certain industries with fire brigades</li> <li>6) Organized camps</li> <li>7) Theaters, etc.</li> </ul> </li> <li>3. Rate of travel: Direct function of mobility               <ul style="list-style-type: none"> <li>a) Direct relation to age of the occupants                   <ul style="list-style-type: none"> <li>1) Very young, very old</li> </ul> </li> <li>b) Persons who are immobile                   <ul style="list-style-type: none"> <li>1) Hospitals</li> <li>2) Hospice</li> </ul> </li> </ul> </li> </ul>	<p>Which would be more difficult to evacuate, an elementary school or a Kmart?</p> <p>What are some other examples?</p> <p><b>SLIDE: 6-2-6</b></p> <p>What factors might influence how quickly occupants can escape/evacuate the building?</p>



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>c) Physical capabilities               <ul style="list-style-type: none"> <li>1) Ambulatory versus nonambulatory</li> <li>2) ADA requirements have increased the accessibility of most public buildings</li> <li>3) People with limited mobility may be found in almost all occupancies</li> </ul> </li> <li>d) Persons with average agility, incapable of self-preservation               <ul style="list-style-type: none"> <li>1) Restrained</li> <li>2) Incarcerated</li> </ul> </li> <li>e) Population density is an important consideration               <ul style="list-style-type: none"> <li>1) The greater number of people in a given area, the greater potential loss of life</li> <li>2) Assembly use                   <ul style="list-style-type: none"> <li>• Hotels</li> <li>• High-rise buildings</li> </ul> </li> </ul> </li> </ul>	<p>In what types of occupancies is population density a primary consideration?</p> <p><b>SLIDE: 6-2-7</b></p>
<p><b>IV. STEP 2: PREDICT FIRE DEVELOPMENT</b></p> <p>A. The importance of time</p> <ul style="list-style-type: none"> <li>1. At ignition environment is normal</li> <li>2. Most fires develop slowly, so initial hazard is small</li> <li>3. Fire intensity will increase more rapidly, building up the level of dangerous products of combustion</li> </ul>	<p><b>SLIDE: 6-2-8</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>4. Fire will be discovered by automatic fire detectors or personal detection (sight, smell, sound)</p> <ul style="list-style-type: none"><li>a) The level of hazard at which discovery occurs corresponds to a specific time in the course of the fire<ul style="list-style-type: none"><li>1) The discovery time</li></ul></li><li>b) The onset of lethal or incapacitating conditions occurs later<ul style="list-style-type: none"><li>1) The critical time</li><li>2) Dependent upon the interaction of three sets of conditions<ul style="list-style-type: none"><li>• Elevated environmental temperatures</li><li>• Toxic effects of products of combustion</li><li>• Pre-existing or current psychophysiological attributes of the occupants</li></ul></li></ul></li></ul> <p>Pre-existing heart condition may contribute in fire deaths</p> <p>B. Interval for action</p> <ul style="list-style-type: none"><li>1. Occurs between discovery and criticality</li><li>2. Allows for action to prevent occupants from being exposed to the critical hazard level<ul style="list-style-type: none"><li>a) Activation of automatic equipment</li><li>b) Evacuation of occupants</li><li>c) Quicker discovery = more interval time<ul style="list-style-type: none"><li>1) The greater the personal susceptibility of the occupants, the lower the personal critical level<ul style="list-style-type: none"><li>• Will have less time to react, or a smaller interval time</li></ul></li></ul></li></ul></li></ul>	<p><b>SLIDE: 6-2-9</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. Sources of risk</p> <ol style="list-style-type: none"><li>1. Assess the hazard posed by ignition sources<ol style="list-style-type: none"><li>a) Building use, people, acts of god<ol style="list-style-type: none"><li>1) Cooking equipment</li><li>2) Electrical hazards</li><li>3) Open flames</li><li>4) Heating appliances<ul style="list-style-type: none"><li>• Space</li><li>• Fixed</li></ul></li><li>5) Processes involving or creating heat</li><li>6) Machinery</li><li>7) Smoking materials</li><li>8) Arson/vandalism</li></ol></li><li>2. Combustible materials<ol style="list-style-type: none"><li>a) Assess hazard posed by combustibles</li><li>b) Building contents<ol style="list-style-type: none"><li>1) Examine use and storage</li><li>2) Flammable, combustible, and hazardous liquids and gases</li><li>3) Bulk storage of goods</li><li>4) Fabrics</li><li>5) Furnishings</li><li>6) Waste</li></ol></li><li>c) Building construction<ol style="list-style-type: none"><li>1) Wall and ceiling coverings</li><li>2) Void spaces</li><li>3) Maintenance and condition of structural members</li><li>4) Exterior exposures</li></ol></li></ol></li></ol></li></ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>3. Fire prevention and management</p> <p>a) Assess the fire prevention and fire safety management measures</p> <ol style="list-style-type: none"> <li>1) Fire safety training               <ul style="list-style-type: none"> <li>• Escape</li> <li>• Fire fighting</li> </ul> </li> <li>2) Fire drills</li> <li>3) Emergency planning</li> <li>4) Housekeeping standards</li> <li>5) Assigned responsibilities for fire management</li> <li>6) Prior history</li> <li>7) Self-assessment of fire risk</li> <li>8) Maintenance and recording of fire safety features               <ul style="list-style-type: none"> <li>• Detection, alarm, extinguishers, lighting, etc.</li> <li>• Permits</li> </ul> </li> </ol> <p>D. Fire growth and hazard</p> <ol style="list-style-type: none"> <li>1. Predict the deterioration of the environment           <ol style="list-style-type: none"> <li>a) Assess the methods for detection and communication of a fire incident               <ol style="list-style-type: none"> <li>1) Manual fire detection policies by building occupants</li> <li>2) Automatic fire detection systems and equipment</li> <li>3) Fire reporting policies</li> <li>4) Fire response training and information</li> </ol> </li> <li>b) Assess structural fire protection               <ol style="list-style-type: none"> <li>1) Fire resistance</li> </ol> </li> </ol> </li> </ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>2) Separation and compartmentalization</li><li>3) Concealed and void spaces</li><li>4) Protection of openings and fire stopping</li><li>5) Setbacks and distance to exposures</li><li>6) Sprinklers and other auto suppression systems</li><li>7) Occupancy specific requirements<ul style="list-style-type: none"><li>• Change of use</li></ul></li><li>c) Assess means of escape<ul style="list-style-type: none"><li>1) Exits</li><li>2) Escape routes</li><li>3) Travel distances</li><li>4) Doors and door hardware</li><li>5) Emergency lighting</li><li>6) Mechanical ventilation systems</li><li>7) Places of special fire risk</li><li>8) Design for horizontal/vertical escape</li><li>9) Special considerations for<ul style="list-style-type: none"><li>• Auditoriums</li><li>• Air supported structures</li></ul></li></ul></li><li>d) Evaluate fire department access and manual fire fighting equipment and systems<ul style="list-style-type: none"><li>1) Apparatus access</li><li>2) Water supply<ul style="list-style-type: none"><li>• Mains</li><li>• Hydrants</li><li>• Standpipes</li></ul></li><li>3) Height, size, and use of building</li><li>4) Response time</li></ul></li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>5) Building access<ul style="list-style-type: none"><li>• Lock boxes</li><li>• Exterior openings</li></ul></li><li>E. Scenario<ul style="list-style-type: none"><li>1. A sequence of events that lead to some specified circumstance<ul style="list-style-type: none"><li>a) Particularly suited to examining related conditions (such as building occupancy) and events (such as ignition)</li><li>b) Effective for assessing life safety in buildings</li></ul></li></ul></li><li>F. Creating a scenario<ul style="list-style-type: none"><li>1. A generalized detailed description of a fire incident<ul style="list-style-type: none"><li>a) Hypothetical or real</li><li>b) Credible</li><li>c) Identify chain of events leading to deaths and other fire losses</li></ul></li><li>2. Should include all details relevant to<ul style="list-style-type: none"><li>a) Fire development<ul style="list-style-type: none"><li>1) Time from interval to critical level</li><li>2) Sources of risk/fire hazards<ul style="list-style-type: none"><li>• Ignition sources</li><li>• Combustibles</li></ul></li></ul></li><li>b) Fire protection mechanisms<ul style="list-style-type: none"><li>1) Systems and equipment</li><li>2) Fire fighting access and equipment</li><li>3) Structural protection</li><li>4) Egress system</li></ul></li><li>c) Behavior of people</li></ul></li><li>3. Consider various fire scenarios to identify and evaluate the potential for loss of life</li></ul></li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>V. STEP 3: DETERMINE ACCEPTABLE LEVEL OF SAFETY</b></p> <ul style="list-style-type: none"><li>A. Determine if an acceptable level of safety has been achieved or if there is a need for improvement</li><li>B. Acceptable level of safety is addressed by codes and standards<ul style="list-style-type: none"><li>1. California codes: Title 19 and 24</li><li>2. Model codes: IBC, IFC, <u>NFPA 101®: Life Safety Code®</u></li><li>3. Other related codes and standards<ul style="list-style-type: none"><li>a) NFPA 13</li><li>b) NFPA 72</li></ul></li></ul></li><li>C. Using the risk assessment worksheet<ul style="list-style-type: none"><li>1. Excellent<ul style="list-style-type: none"><li>a) Precautions are those which are above the "benchmark" standard</li></ul></li><li>2. Benchmark<ul style="list-style-type: none"><li>a) Precautions that are normally present and meet the expected level of safety</li></ul></li><li>3. Below benchmark<ul style="list-style-type: none"><li>a) Precautions that can be corrected easily and do not present a serious concern<ul style="list-style-type: none"><li>1) Through basic housekeeping or maintenance</li><li>2) Through education</li><li>3) Through changes in policy or procedures</li></ul></li></ul></li><li>4. Compensation<ul style="list-style-type: none"><li>a) No concern if all precautions are excellent or to "benchmark" standard</li></ul></li></ul></li></ul>	<p><b>SLIDE: 6-2-10</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>5. Substandard</p> <ul style="list-style-type: none"><li>a) Conditions that are at an unacceptable level and may require further action<ul style="list-style-type: none"><li>1) More detailed assessment</li><li>2) Plan of correction</li><li>3) Citations, red-tags, or other enforcement actions</li></ul></li></ul> <p><b>VI. STEP 4: MITIGATE HAZARDS</b></p> <p>A. Identify the safety measures that reduce the hazard</p> <ul style="list-style-type: none"><li>1. Education</li><li>2. Enforcement</li><li>3. Engineering</li></ul>	<p><b>SLIDE 6-2-11</b></p> <p><b>INDIVIDUAL ACTIVITY 6-2-1:</b> Complete the activity in the student supplement.</p>



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

Throughout the week, we have been discussing the elements of a company inspection. We began with our authority, responsibilities, and liabilities. It was followed up with a discussion of building design for the purpose of fire safety. We discussed how buildings are constructed for the purpose of confining fire, facilitating occupant egress and fire fighter access and we reviewed basic fire safety provisions applicable to most occupancies. Finally, we have reviewed the concepts of life safety and explored the methods and tools for conducting both a life safety evaluation as well as a basic fire inspection.

#### **Evaluation:**

The student will complete the activity and formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 82-106 in order to prepare yourself for the upcoming test. Study for our next session.



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

**INDIVIDUAL ACTIVITY 6-2-1: LIFE SAFETY ASSESSMENT**

**Time Frame:** 0:30

**Materials Needed:**

- Fire Prevention 1A (Bridge) Student Supplement, SFT, 2009 Edition, Pages 82-106
- Pen or pencil

**Introduction:** This activity provides the students the opportunity to relate human behavior with life safety.

**Directions:**

1. Briefly answer each of the following questions.
2. You have 20 minutes to complete this activity.
3. Be prepared to discuss your answers with the class.

1. What is the CFC classification for chicken processing plants?

**Group F-1**

---

2. What are the hazards and safeguards that are common in food processing facilities?

Hazards	Safeguards
<b>Processing equipment</b>	<b>Construction/Compartmentation</b>
<b>Hazardous gases</b>	<b>Sprinklers</b>
<b>Flammable and combustible liquids</b>	<b>Fixed extinguishing systems</b>
<b>Storage</b>	<b>Electrical hazards</b>
<b>Combustible dusts</b>	
<b>Conveyors</b>	



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

3. Identify the occupant characteristics of both the Imperial Foods employees and the Tyson Foods employees.

***Adults, mobile/ambulatory, familiar with building***

4. Compare and contrast the factors that influenced the human behavior in both incidents.

Imperial Foods	Tyson Foods
<b><i>Lack of organization in evaluation and reporting procedures</i></b>	<b><i>Organized evacuation and reporting procedures</i></b>
<b><i>Other people engaging in maladaptive behavior</i></b>	<b><i>Other people engaging in maladaptive behavior</i></b>
<b><i>Lack of leadership</i></b>	<b><i>Assigned roles and responsibilities</i></b>
<b><i>Lack of training and drills, resulting in fear</i></b>	<b><i>Extensive training and drills, resulting in confident behavior</i></b>
<b><i>Environment was primarily dark, dense smoke</i></b>	<b><i>Environment was primarily dark, dense smoke</i></b>
<b><i>Locked doors, poor egress design</i></b>	<b><i>Adequate and reliable egress system</i></b>
<b><i>No fire fighting by occupants. Lack of training, equipment, and assigned responsibility</i></b>	<b><i>Early response by company fire brigade. Extensive training, drills, and appropriate equipment</i></b>

5. Evaluate the role that time played in both fires. Were the intervals for action and critical times the same in both fires? Why or why not?

***More time was available for evacuation at Tyson for the following reasons:***

***Fire walls and openings were maintained, effectively confining the fire to the room of origin***

***Limited amount of combustibles present in the room of origin by design***

***Extensive reaction and response training of all employees ensured competent, evaluation of the situation, early communication of the fire to employees, and effective response***

***Proper egress design reduced the length of time the occupants were exposed to the products of combustion***

***All occupants evacuated within the interval time***



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

6. What were the sources of risk that affected these fires?

<b>Imperial Foods</b>	<b>Tyson Foods</b>
<i>Cooking equipment</i>	<i>Assigned responsibilities</i>
<i>Flammable liquids</i>	<i>Emergency management organizations</i>
<i>Inadequate egress design</i>	<i>Training</i>
<i>Equipment maintenance</i>	<i>Fire prevention policies</i>
<i>Protection of openings</i>	<i>Inspection history</i>

7. Identify the elements that affected the fire growth and hazards of these fires.

<b>Imperial Foods</b>	<b>Tyson Foods</b>
<i>Construction</i>	<i>Ventilation</i>
<i>Automatic suppression</i>	<i>FD notification</i>
<i>Egress design</i>	<i>FD response time</i>

8. Complete a life safety risk assessment sheet (following two pages), worksheets 1-8, for both the Imperial Foods and Tyson Foods occupancies.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### IMPERIAL FOODS FIRE SAFETY RISK ASSESSMENT

### SUMMARY SHEET

Building: \_\_\_\_\_  
 Owner/Occupant: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Assessors: \_\_\_\_\_ Signature: \_\_\_\_\_  
 Shift/Badge: \_\_\_\_\_ Date of Assessment: \_\_\_\_\_

#### NOTES

#### RECORD FINDING

Worksheet 1: Life Risk Occupants were familiar with the building Alert, mobile, and not overcrowded, although usually 90 employees present per shift	Sleeping	
	Mobility	
	Familiarity	
	Numbers	✓
Worksheet 2: Ignition Sources Cooking equipment, processing machinery met benchmark standards with hood mounted CO <sub>2</sub> system	Benchmark	✓
	Below Benchmark	
	Compensation	
	Substandard	
Worksheet 3: Combustible Materials Minimal combustible contents - wood pallets, paraffin coated boxes Minimal combustible construction - brick and metal, concrete tile, Formica	Benchmark	
	Below Benchmark	✓
	Compensation	
	Substandard	
Worksheet 4: Prevention and Management None - no emergency plans, no training, no policies and procedures, no inspections, no maintenance procedures	Excellent	
	Benchmark	
	Below Benchmark	
	Substandard	✓
Worksheet 5: Communications No manual pull stations, alarms, or procedures for detecting and alerting	Excellent	
	Benchmark	
	Below Benchmark	
	Substandard	✓
Worksheet 6: Structural Precautions Change of use, removed systems, failed to maintain doors, walls - Compartmentation	Excellent	
	Benchmark	
	Below Benchmark	
	Substandard	✓
Worksheet 7: Means of Escape Exits locked and blocked - NOTHING PROVIDED	Excellent	
	Benchmark	
	Below Benchmark	
	Substandard	✓
Worksheet 8: Operational Facilities for Brigade Fire Fighting Volunteer department - Good response time - 3 minutes	Excellent	
	Benchmark	✓
	Below Benchmark	
	Substandard	

- Excellent:** Comfortably exceeds "benchmark" standards and therefore of no concern. May mitigate some hazards marked for compensation.  
**Benchmark:** Meets minimum standard. No concern.  
**Below Benchmark:** No serious concern. Just reminders about the importance of housekeeping.  
**Compensation:** No concern if all precautions are excellent or to "benchmark" standard.  
**Substandard:** Serious concern and remedial/enforcement action is required.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### TYSON FOODS FIRE SAFETY RISK ASSESSMENT

### SUMMARY SHEET

Building: \_\_\_\_\_  
 Owner/Occupant: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Assessors: \_\_\_\_\_ Signature: \_\_\_\_\_  
 Shift/Badge: \_\_\_\_\_ Date of Assessment: \_\_\_\_\_

#### NOTES

#### RECORD FINDING

Worksheet 1: Life Risk Familiar, alert, mobile 115 people present	Sleeping	
	Mobility	
	Familiarity	
	Numbers	✓
Worksheet 2: Ignition Sources Cooking equipment, processing, machinery with protection, tag-out procedures	Benchmark	✓
	Below Benchmark	
	Compensation	
	Substandard	
Worksheet 3: Combustible Materials No combustible contents - wood pallets, and coated boxes allowed in cooking rooms	Benchmark	✓
	Below Benchmark	
	Compensation	
	Substandard	
Worksheet 4: Prevention and Management Excellent - self-monitored program Extensive program responsibilities assigned, drills, on-going inspection and prevention practices	Excellent	✓
	Benchmark	
	Below Benchmark	
	Substandard	
Worksheet 5: Communications Alarms and training provided Maintained drills	Excellent	✓
	Benchmark	
	Below Benchmark	
	Substandard	
Worksheet 6: Structural Precautions Alarms, CO <sub>2</sub> systems with emergency shut-off valves, Compartmentation, structural maintenance	Excellent	✓
	Benchmark	
	Below Benchmark	
	Substandard	
Worksheet 7: Means of Escape Appropriate exits, escape routes - drills - emergency lighting Complete evacuation within 3 minutes	Excellent	✓
	Benchmark	
	Below Benchmark	
	Substandard	
Worksheet 8: Operational Facilities for Brigade Fire Fighting On-site with all needed equipment Well trained	Excellent	✓
	Benchmark	
	Below Benchmark	
	Substandard	

- Excellent:** Comfortably exceeds "benchmark" standards and therefore of no concern. May mitigate some hazards marked for compensation.  
**Benchmark:** Meets minimum standard. No concern.  
**Below Benchmark:** No serious concern. Just reminders about the importance of housekeeping.  
**Compensation:** No concern if all precautions are excellent or to "benchmark" standard.  
**Substandard:** Serious concern and remedial/enforcement action is required.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 6-3: General Fire Inspection Practices

**Time Frame:** 1:15

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 3-2.1, 3-2.2, and 3-2.6

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of the general fire inspection practices

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Chapters 3, 5, and 6 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 2

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices
- Inspection reports from the students' departments

**References:**

- California Fire Code, CBSC, 2007 Edition, Chapters 3, 5, and 6
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 2
- Fire Protection Handbook, NFPA, Eighteenth Edition, Section 10, Chapter 14
- NFPA Inspection Manual, NFPA, Seventh Edition, Chapter 2

**Preparation:** Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. PREPARATION</b></p> <p>A. Small units, such as a dwelling, one-story stores, gas stations, etc., generally require little preparatory work by the inspector</p> <ol style="list-style-type: none"><li>1. Regardless of the size, the inspector should mentally review the proposed inspection and establish a plan defining the major objective(s)<ol style="list-style-type: none"><li>a) From this, a list of items or hazards to be investigated should be developed</li></ol></li></ol> <p>B. Review the file</p> <ol style="list-style-type: none"><li>1. Target hazards</li><li>2. Outstanding violations</li><li>3. Past violations</li><li>4. Hazardous Materials Disclosure documents</li><li>5. Permits</li><li>6. Occupancy classification</li><li>7. Approved alternatives<ol style="list-style-type: none"><li>a) Waivers</li><li>b) Grandfather</li></ol></li></ol> <p><b>II. THE APPROACH</b></p> <p>A. Inspections are usually made during business hours, 8:00 a.m. to 5:00 p.m.</p> <ol style="list-style-type: none"><li>1. Those scheduled for any other time should be made only after the inspector has confirmed an appointment with the building manager/owner</li><li>2. Night inspections<ol style="list-style-type: none"><li>a) Theaters</li><li>b) Restaurants</li></ol></li><li>3. Sundays<ol style="list-style-type: none"><li>a) Churches</li></ol></li></ol>	<p><b>SLIDE: 6-3-1</b></p> <p><b>SLIDE: 6-3-2</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Care must be taken not to cause a major disruption to the routine at the occupancy being inspected</p> <ol style="list-style-type: none"><li>1. Restaurants generally should be inspected just prior to or after the noon rush<ol style="list-style-type: none"><li>a) It is often a good idea to occasionally perform a "walk through" inspection of high life hazard occupancies to check for overcrowding and blocked exits</li></ol></li></ol> <p>C. General observations suggested for the inspection</p> <ol style="list-style-type: none"><li>1. Observe and record the address, names, types of occupancies, exterior configuration, and building construction</li><li>2. Location of hydrant(s)<ol style="list-style-type: none"><li>a) Accessible</li></ol></li><li>3. Nearest fire alarm box</li><li>4. Exposure hazard<ol style="list-style-type: none"><li>a) Adjacent structures</li><li>b) Environmental</li></ol></li><li>5. Conditions affecting fire department response</li></ol>	<p><b>SLIDE: 6-3-3</b></p> <p><b>SLIDE: 6-3-4</b></p>
<p><b>III. THE INSPECTION</b></p> <p>A. Contact the occupant or owner</p> <ol style="list-style-type: none"><li>1. Identify yourself</li><li>2. Purpose of visit or inspection</li><li>3. Gain permission</li><li>4. Have occupant or owner identify a responsible party if they are unable to accompany the inspector during the inspection<ol style="list-style-type: none"><li>a) Someone who has the highest authority</li><li>b) Someone who has the key</li></ol></li></ol>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>B. Start at the outside of the building</p> <ol style="list-style-type: none"><li>1. Address numbers</li><li>2. Access<ol style="list-style-type: none"><li>a) Fire lanes</li></ol></li><li>3. Fire department connections (FDC)</li><li>4. Fire hydrants</li></ol> <p>C. Be systematic and thorough</p> <ol style="list-style-type: none"><li>1. Request copies of records<ol style="list-style-type: none"><li>a) Drills</li><li>b) Systems and equipment testing and maintenance records</li><li>c) MSDS</li></ol></li><li>2. Sometimes easier to do this at the end of the inspection</li></ol> <p>D. Conduct the inspection with the responsible party</p> <ol style="list-style-type: none"><li>1. Familiar with surroundings</li><li>2. Can explain existing condition</li><li>3. Has access to areas housing valuables or dangerous or easily damaged processes</li><li>4. Security</li><li>5. Safety</li><li>6. To advise them on corrective measures</li></ol> <p><b>IV. FINAL INTERVIEW</b></p> <p>A. Discuss your findings with the responsible party before you leave the property</p> <p>B. Situations requiring immediate corrective action should be dealt with at or prior to this stage</p> <p>C. Explain all of your recommendations clearly and understandably, so that the responsible party is cognizant of your intent</p>	<p><b>SLIDE: 6-3-5</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>1. All findings or violations should be documented <u>in writing</u>, including any verbal warnings</p> <ul style="list-style-type: none"><li>a) This holds true even if the violation is corrected immediately</li><li>b) This is the first step in the enforcement process</li></ul> <p>D. Be sure to thank the responsible party for their cooperation and assistance</p> <ul style="list-style-type: none"><li>1. No matter how little it may have been</li><li>2. Good public relations</li><li>3. Set up a date for reinspection</li></ul> <p><b>V. REPORTS</b></p> <p>A. Every inspection should be documented by a written report of some form or another</p> <ul style="list-style-type: none"><li>1. Cannot be over emphasized</li></ul> <p>B. In general, the report should contain the following</p> <ul style="list-style-type: none"><li>1. Date of inspection</li><li>2. Name of inspector</li><li>3. Name and address of property<ul style="list-style-type: none"><li>a) Name and title of the representative or person interviewed</li></ul></li><li>4. Name and address of owner, if different</li><li>5. Name of tenants<ul style="list-style-type: none"><li>a) Multioccupancy type facilities</li></ul></li><li>6. Occupancy classifications<ul style="list-style-type: none"><li>a) Use CBC designations</li></ul></li></ul>	<p>Why do you think this is important?</p> <p>Have students bring to class the inspection forms used by their department.</p> <p><b>SLIDE: 6-3-6</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>7. Building dimensions<ul style="list-style-type: none"><li>a) Height</li><li>b) Square feet</li><li>c) Construction type</li></ul></li></ul>	<p><b>SLIDE: 6-3-7</b></p>
<ul style="list-style-type: none"><li>8. Common and special fire hazards noted</li><li>9. Factors that may influence fire spread inside and outside of the building(s)</li><li>10. Extinguishers and alarm systems</li><li>11. Organization of employees for fire safety</li><li>12. Adequacy of exits</li><li>13. Recommendations or notations of code violations</li><li>14. Reinspection date</li></ul>	<p><b>SLIDE: 6-3-8</b></p>
<ul style="list-style-type: none"><li>C. Types of formats for reports<ul style="list-style-type: none"><li>1. Narrative</li><li>2. Check-the-box</li><li>3. Combination of the two</li></ul></li></ul>	<p><b>SLIDE: 6-3-9</b></p>
<p><b>NOTE:</b> Examples in the Appendix of <u>Fire Code and Enforcement</u>, IFSTA, Sixth Edition.</p>	
<ul style="list-style-type: none"><li>D. Record retention<ul style="list-style-type: none"><li>1. Fire prevention records shall be retained for a minimum of three years</li></ul></li></ul>	<p><b>SLIDE: 6-3-10</b></p>
<p><b>VI. RECOMMENDATIONS</b></p> <ul style="list-style-type: none"><li>A. Should be specific</li><li>B. Allow the property owner the ability to establish a program of improvements when possible</li><li>C. Alternate materials and methods</li></ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>D. Practical difficulties</p> <p>E. Appeal</p> <p><b>VII. SKETCHES AND PLANS</b></p> <p>A. Should be made on the first visit or inspection of an occupancy</p> <p>B. Serve as an illustration of building and its surroundings for review in the office and at a later date of inspection</p> <p>C. Use standard symbols</p> <p><b>NOTE:</b> Found in <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition, Appendix D.</p>	<p><b>SLIDE: 6-3-11</b></p>



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

The systematic approach to an inspection includes 1) being prepared, 2) representing yourself and your agency well, 3) being thorough, 4) communicating your findings (good and bad) clearly and concisely to those affected, 5) documenting the inspection and its findings in writing, 6) when possible, providing the owner an opportunity for an improvement program when applicable, and 7) exhibiting professionalism.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Chapters 3, 5, and 6 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 2 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 6-4: Procedures For Correcting Fire Hazards And Modifications Of Requirements

**Time Frame:** 1:15

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Sections 4-3.14 and 4-3.15

**Behavioral Objective:**

**Condition:** Given a f test

**Behavior:** The student will confirm a knowledge of the procedures for correcting fire hazards and modifications of requirements

**Standard:** With a minimum 80% accuracy according to the information contained in the California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 1 and 2

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1
- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 1 and 2

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

<b>A</b> ttention (attract)	<b>B</b> egin
<b>C</b> uriosity (arouse)	<b>A</b> ssociation
<b>I</b> nterest (create)	<b>S</b> tudents
<b>D</b> esire (stimulate)	<b>E</b> xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.





**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"> <li>2. Imminent hazards               <ul style="list-style-type: none"> <li>a) Blocked or locked exits</li> <li>b) Improper exit design</li> <li>c) Exposed electrical wiring</li> <li>d) Outdoor fire hazards</li> </ul> </li> <li>3. Transient violations               <ul style="list-style-type: none"> <li>a) Overcrowding of assemblies</li> <li>b) Parking in fire lanes</li> <li>c) Illegal bonfire</li> </ul> </li> <li>B. Structural problems are often referred to building department               <ul style="list-style-type: none"> <li>1. The inspector must follow up to ensure compliance</li> </ul> </li> </ul>	<p><b>SLIDE: 6-4-4</b></p> <p><b>SLIDE: 6-4-5</b></p> <p><b>SLIDE: 6-4-6</b></p>
<p><b>III. COURSE OF ACTION</b></p> <ul style="list-style-type: none"> <li>A. Prioritize hazards (RECEO)               <ul style="list-style-type: none"> <li>1. According to their importance of life hazard and potential for property damage</li> <li>2. Regulated primarily by time constraints</li> <li>3. To maintain the organization's credibility</li> </ul> </li> <li>B. Attempt to secure on-the-spot hazard correction               <ul style="list-style-type: none"> <li>1. Excellent way to correct hazards or improper procedures</li> <li>2. Even though problem is corrected, it <u>must</u> be documented</li> </ul> </li> </ul>	<p>Which violation is the higher priority, a blocked exit, or improper storage of flammable liquids?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>C. Write one-on-one correction notices</p> <ol style="list-style-type: none"><li>1. Provides a record of your findings</li><li>2. Provides a listing of hazards of this occupancy for file</li><li>3. Use code sections and informal, persuasive English</li><li>4. Serve notice on the occupant that correction must be made</li></ol> <p><b>NOTE:</b> Sample notice of correction(s) in <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition, Appendix C.</p> <p>D. Develop a plan of correction</p> <ol style="list-style-type: none"><li>1. For massive and long-standing problems you are tackling for the first time</li><li>2. When many notices would have to be sent</li><li>3. If great philosophical opposition is expected</li></ol> <p><b>IV. NONCOMPLIANCE ACTIONS</b></p> <p>A. Remind occupant of civil and legal obligation</p> <ol style="list-style-type: none"><li>1. Civil and criminal action can result<ol style="list-style-type: none"><li>a) Office hearing</li><li>b) Precite</li><li>c) Citation<ol style="list-style-type: none"><li>1) Compliance with orders and notices</li><li>2) Unsafe building</li><li>3) Changes in use</li><li>4) Means of egress obstruction</li></ol></li><li>d) Civil penalties</li><li>e) Close of business</li></ol></li></ol>	<p>Should the code section be cited or informal, persuasive English be used?</p> <p><b>SLIDE: 6-4-7</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p>2. CFC gives Fire Chief and the members of Prevention Bureau police officer powers</p> <p>B. Legal ramifications to the inspector</p> <p><b>NOTE:</b> Refer to <u>Fire Inspection and Code Enforcement</u>, IFSTA, Sixth Edition, Appendix A, page 367.</p> <p>1. <u>Widmar vs. City of Marysville</u>, 1978</p> <ul style="list-style-type: none"> <li>a) Mandatory duty to act</li> <li>b) Duty to warn</li> <li>c) Follow established procedures</li> <li>d) Follow through</li> </ul> <p>2. <u>Adams vs. State of Alaska</u>, 1976</p> <ul style="list-style-type: none"> <li>a) Duty of act</li> <li>b) Failure to notify</li> <li>c) Follow established procedures</li> <li>d) Follow through</li> </ul> <p>C. Long-term noncompliance generates poor attitudes</p> <ul style="list-style-type: none"> <li>1. Inspector loses interest due to "make-work"</li> <li>2. Lack of accomplishment</li> <li>3. Department's credibility drops in public's eye</li> </ul> <p>D. Other possible conditions</p> <ul style="list-style-type: none"> <li>1. Political pressure not to enforce the code <ul style="list-style-type: none"> <li>a) "Laid back" city attitude versus the "hot dog" inspector</li> <li>b) Constituent pressure on elected officials</li> <li>c) Cite official's business <ul style="list-style-type: none"> <li>1) City property must meet all code requirements and set an example</li> </ul> </li> </ul> </li> <li>2. Bribes <ul style="list-style-type: none"> <li>a) California Penal Code 67.5 <ul style="list-style-type: none"> <li>1) Giving/offering bribes to ministerial officers, employees, or appointees</li> </ul> </li> </ul> </li> </ul>	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) California Penal Code 68<ul style="list-style-type: none"><li>1) Punishment for asking or receiving bribes to executive or ministerial officers, employees, or appointees</li></ul></li><li>c) California Penal Code 70<ul style="list-style-type: none"><li>1) Prohibition against request or receipt of unauthorized emoluments, gratuities, or rewards by executive or ministerial officers, employees, or appointees</li></ul></li></ul>	

RETIRED CURRICULUM



## **FIRE PREVENTION 1A (BRIDGE)**

### **Introduction To The California Fire Code**

---

#### **Summary:**

The correction of fire hazards should include laws being enforced, the codes, course of action, priorities of hazards, plan of correction, noncompliance actions, and legal ramifications.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read the California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1 and Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapters 1 and 2 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

**Topic:** 6-5: Handling Fire Prevention Complaints

**Time Frame:** 0:30

**Level of Instruction:** Level II

**Authority:** 2003 NFPA 1031: Section 3-2.5

**Behavioral Objective:**

**Condition:** Given a formative test

**Behavior:** The student will confirm a knowledge of handling fire prevention complaints

**Standard:** With a minimum 80% accuracy according to the information contained in Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1

**Materials Needed:**

- Conference board/pads with markers/erasers
- Appropriate audiovisual training aids and devices

**References:**

- Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1
- Local agency policy and procedure

**Preparation:**

Each instructor must develop a motivational statement on why the student should learn the upcoming material. The purpose is to establish relevancy of the lesson to the audience. The ACID BASE acronym can be used to help develop student motivation.

**A**ttention (attract)

**B**egin

**C**uriosity (arouse)

**A**ssociation

**I**nterest (create)

**S**tudents

**D**esire (stimulate)

**E**xperience

Cite examples or use related illustrations of near-miss incidents, injuries, or fatalities. Write this section "from the heart." Be creative! Have fun with it or be serious, but remember the goal is to stimulate student motivation.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>I. REASONS FOR CITIZEN COMPLAINTS</b></p> <ul style="list-style-type: none"><li>A. Being "picked on"<ul style="list-style-type: none"><li>1. Citizen feels they are being selected as one of many</li></ul></li><li>B. Lack of understanding<ul style="list-style-type: none"><li>1. Citizen does not understand the nature of the violation<ul style="list-style-type: none"><li>a) Needs education on why</li><li>b) Rationale</li></ul></li></ul></li><li>C. Special consideration<ul style="list-style-type: none"><li>1. Citizen want to be given special consideration due to circumstance, situation, or favor<ul style="list-style-type: none"><li>a) Political friends</li><li>b) Financial influence</li><li>c) Standing in community</li></ul></li></ul></li><li>D. The "hothead"<ul style="list-style-type: none"><li>1. Objects to any and all requirements</li></ul></li><li>E. Fire department error<ul style="list-style-type: none"><li>1. Improper notification</li><li>2. Improper documentation to substantiate</li><li>3. Misinterpreting code</li></ul></li></ul>	<p>Have students relate personal experiences of handling citizen complaints on fire prevention matters. Of those that indicate previous exposure, discuss process and if they were successful.</p> <p>Why do we have complaints in the first place?</p> <p><b>SLIDE: 6-5-1</b></p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<p><b>II. PROCEDURES FOR HANDLING COMPLAINTS</b></p> <p>A. Public involvement is an essential factor in a successful fire prevention program</p> <ol style="list-style-type: none"><li>1. When citizens call to report a hazard, real or imagined, they must be treated with courtesy and an expression of genuine interest in their complaint<ol style="list-style-type: none"><li>a) This will encourage their continued participation in fire prevention</li></ol></li></ol> <p>B. Receiving the complaint</p> <ol style="list-style-type: none"><li>1. Stress the complaint will be handled with utmost security and confidentiality per department policy<ol style="list-style-type: none"><li>a) Complainant's name normally not revealed<ol style="list-style-type: none"><li>1) Court records could cause the complainant's name be revealed</li></ol></li><li>b) Key points</li></ol></li><li>2. Avoid a hostile or argumentative attitude when listening to a complaint<ol style="list-style-type: none"><li>a) Maintain an unbiased posture</li><li>b) Assume the citizen has a valid concern</li></ol></li><li>3. Record the account or information accurately and completely<ol style="list-style-type: none"><li>a) Serious complaints should receive immediate attention</li><li>b) Routine complaints should be processed through normal channels</li></ol></li><li>4. Be positive in your response to citizen<ol style="list-style-type: none"><li>a) Convey "we are here to help" attitude</li></ol></li></ol>	<p><b>SLIDE: 6-5-2</b></p> <p>How do you handle an argumentative compliant?</p>



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Assure that the matter will be resolved<ul style="list-style-type: none"><li>1) Do it</li></ul></li><li>C. Helpful hints<ul style="list-style-type: none"><li>1. Keep in mind that generally the law exists to provide the greatest good for the greatest number of persons</li><li>2. Be forthright with citizen;<ul style="list-style-type: none"><li>a) Don't lie or lead the citizen on</li></ul></li><li>3. Don't be afraid to tell the citizen bad news regarding the situation</li><li>4. Don't be afraid to say yes if warranted</li><li>5. Cost is one factor in decisions relative to fire prevention and enforcement processes, but only one factor</li><li>6. Wrap up the complaint yourself, if you possibly can<ul style="list-style-type: none"><li>a) Pass a complaint on only when you cannot resolve the matter</li><li>b) Avoid passing on the person, getting "shuffled"</li><li>c) Some complaints will not accept a low level "no"</li></ul></li><li>7. Some complaints will be anonymous and must be handled as best you can</li><li>8. Solicit help from outside agencies<ul style="list-style-type: none"><li>a) Code enforcement</li></ul></li></ul></li></ul>	<p><b>SLIDE: 6-5-3</b></p> <p><b>SLIDE: 6-5-4</b></p> <p>How does your agency handle anonymous complaints?</p> <p>Should these types of complaints be taken seriously?</p>



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

PRESENTATION	APPLICATION
<ul style="list-style-type: none"><li>b) Nuisance response team (NRT)</li><li>c) Community action team (CAT)</li><li>d) Multiagency tack force</li></ul> <p>9. If available in local policies, make citizen aware of appropriate appeals process</p>	

RETIRED CURRICULUM



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

#### **Summary:**

Complaints will be received, from time to time, by the fire department relative to the fire prevention program. These must be handled in an honest and positive, yet firm manner, if the credibility of the fire department is to be maintained.

#### **Evaluation:**

The student will complete the formative test at a time determined by the instructor.

#### **Assignment:**

Review your notes and read Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Chapter 1 in order to prepare yourself for the upcoming test. Study for our next session.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Appendix A: Formative Test #1 Answer Key

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

#### SECTION I

INSTRUCTIONS: Section I is a true-false test. If the statement is true, draw a circle around the "T." If the statement is false, draw a circle around the "F."

EXAMPLE: (T) F The Incident Command System was developed by the fire service.

- ▶T 1. Section 503 of the California Fire Code regulates fire department access roads.  
*California Fire Code, CBSC, 2007 Edition, Section 503*
- ▶F 2. Verbal notices need not be followed up in writing for minor violations.  
*California Fire Code, CBSC, 2007 Edition, Appendix Chapter 1, Section 104.6.2*
- ▶T 3. A change in ownership of a business requires issuance of a new fire code permit.  
*California Fire Code, CBSC, 2007 Edition, Section 105.5*
- ▶F 4. The fire code does not apply to structures not legally in existence at the time of the adoption of the code.  
*California Fire Code, CBSC, 2007 Edition, Section 102.1*
- ▶F 5. The local agency has the authority to inspect a post office for fire code compliance during reasonable hours.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 17*
- ▶T 6. A permit that is issued in error may be revoked.  
*California Fire Code, CBSC, 2007 Edition, Section 105.5*
- ▶T 7. The Fire Code Official (or assigned representative) may enter a premise at any reasonable time for conducting a fire prevention inspection.  
*California Fire Code, CBSC, 2007 Edition, Section 104.3*



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

- ▶F 8. Chapter 9 of the CFC has been adopted in its entirety by the OSFM.  
*California Fire Code, CBSC, 2007 Edition, Matrix Adoption Table*
- ▶F 9. Requirements for emergency plans and procedures may be found in Chapter 12.  
*California Fire Code, CBSC, 2007 Edition, Chapter 4*
- ▶T 10. All of the definitions and abbreviations found in Chapter 2 have been adopted as amended by the OSFM.  
*California Fire Code, CBSC, 2007 Edition, Matrix Adoption Table*
- ▶T 11. Persons who allow a hazard to exist or fail to take immediate action to abate a hazard when notified are guilty of a misdemeanor offense.  
*California Fire Code, CBSC, 2007 Edition, Section 109.3*

### SECTION II

---

---

INSTRUCTIONS: Section II is a short answer test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

EXAMPLE: What organization developed the Incident Command System?

**The fire service**

---

---

12. Which California Fire Code section addresses permit requirements?

**105**

*California Fire Code, CBSC, 2007 Edition*

13. Which California Fire Code section addresses the right of entry?

**104.3**

*California Fire Code, CBSC, 2007 Edition*

14. Which Chapter of the CFC lists reference standards?

**45/102.6**

*California Fire Code, CBSC, 2007 Edition*



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

15. How long must a fire department keep its fire inspection records?

**5 years**

*California Fire Code, CBSC, 2007 Edition, Section 104.6*

16. Where must fire permits be posted?

**On the premises and readily available at all times**

*California Fire Code, CBSC, 2007 Edition, Section 105.3.5*

17. Which section of the California Fire Code authorizes the Fire Code Official to modify any of the provisions of the fire code where there are practical difficulties?

**104.8**

*California Fire Code, CBSC, 2007 Edition*

18. Where there is a conflict between a general requirement and a specific requirement, which requirement shall be applicable?

**The specific requirement**

*California Fire Code, CBSC, 2007 Edition, Section 102.9*

19. Which code section regulates the maintenance of fire-resistive construction?

**703.1**

*California Fire Code, CBSC, 2007 Edition*

20. Changes made in the character or use of an occupancy shall be in accordance with which code?

**The California Fire and Building Codes**

*California Fire Code, CBSC, 2007 Edition, Section 102.3*

TEST 1 SCORE	
Each answer space is worth five points	
Total Possible	100
80% Minimum	80
Score	
Pass or Fail?	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Appendix A: Formative Test #2 Answer Key

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

---

---

INSTRUCTIONS: This is a short answer test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

EXAMPLE: What organization developed the Incident Command System?

***The fire service***

---

---

1. What construction type is referred to as "Heavy Timber"?

***IV***

*California Building Code, CBSC, 2007 Edition, Section 602.4*

2. In the 5 types of construction, what is the difference between type A, and type B?

***Type A has a higher level of fire resistance***

*California Building Code, CBSC, 2007 Edition, Table 601*

3. Which type of construction offers the most fire-resistive construction?

***Type I***

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 119, Table 5-2*

4. What is the occupancy group for college classroom that holds 56 students?

***A-3***

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

5. What is the occupancy group classification for an outdoor sports stadium that seats 75,000 persons?

***A-5***

*California Fire Code, CBSC, 2007 Edition, Chapter 2*



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

6. What is the occupancy group classification for a gas station that also performs smog checks?

**S-1**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

7. What is the occupancy group classification for an elementary school that has 47 students?

**E**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

8. What is the occupancy group classification for a 100,000 square foot factory that manufactures clothing?

**F-1**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

9. What is the occupancy group classification for a facility that handles hazardous production materials (HPM) in excess of exempt amounts?

**H-5**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

10. What is the occupancy group classification for a 119,000 square foot occupancy that sells lumber, plumbing fixtures, paint, garden supplies, etc.?

**M**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

11. What is the occupancy group classification for a 180-unit apartment building that is 10 stories tall?

**R-2**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

12. What is the occupancy group classification for a 500 room hotel building that is 10 stories tall?

**R-1**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

13. What is the occupancy group classification for a building in which aircraft is repaired?

**S-1**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

14. What is the occupancy group classification for a church with a maximum occupant load of 35?

**B**

*California Fire Code, CBSC, 2007 Edition, Chapter 2 (Note the exception under "Assembly Group A")*

15. What is the occupancy group classification for an elevated municipal water tank that is 50 feet above the ground?

**U**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

16. What is a building called that has occupied floors more than 75 feet above the lowest level of fire department vehicle access?

**High-rise**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

17. What is the occupancy group classification for a building or portions of a building which are inhabited by one or more persons who are under restraint?

**I-3**

*California Fire Code, CBSC, 2007 Edition, Chapter 2*

TEST 2 SCORING	
Each answer space is worth five points	
Total Possible	85
80% Minimum	68
Score	
Pass or Fail?	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Appendix A: Formative Test #3 Answer Key

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

#### SECTION I

INSTRUCTIONS: Section I is a true-false test. If the statement is true, draw a circle around the "T." If the statement is false, draw a circle around the "F."

EXAMPLE: (T) F The Incident Command System was developed by the fire service.

- ◆F 1. All meeting rooms require two exits.  
*California Fire Code, CBSC, 2007 Edition, Table 1015.1*
- ◆T 2. A means of egress is a continuous and unobstructed way of exit travel from any point in a building or structure to a public way.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 138*
- ◆F 3. An exit passageway is the same as an exit access corridor.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 143*
- ◆T 4. An escalator cannot be used as part of a means of egress.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 143*
- ◆F 5. Floor-level exit signs must be installed wherever a standard exit sign is required.  
*California Fire Code, CBSC, 2007 Edition, Section 1011.6*
- ◆F 6. The maximum travel distance to an exit in a B occupancy equipped with a sprinkler system throughout is 250 feet.  
*California Fire Code, CBSC, 2007 Edition, Table 1016.1*
- ◆F 7. Exit drills in health care facilities require patients to be removed to the outdoors for their safety.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 154*
- ◆T 8. An exit door shall swing in the direction of the path of exit travel when serving an occupant load of 50 or more persons.  
*California Fire Code, CBSC, 2007 Edition, Section 1008.1.2*



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

- ◆T 9. Outdoor gates, when installed across a means of egress, must have the same exit hardware and swing as the door leading to it.  
*California Fire Code, CBSC, 2007 Edition, Section 1008.2*
- ◆T 10. Fighting fire is not a primary duty for standby fire fighters assigned to a public assembly occupancy.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 155*
- ◆T 11. Rooms or areas that require only one exit do not require exit signs.  
*California Fire Code, CBSC, 2007 Edition, Section 1011.1*

### SECTION II

INSTRUCTIONS: Section II is a short answer test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

EXAMPLE: What organization developed the Incident Command System?  
**The fire service**

12. When conducting a fire inspection, why should inspectors note large overhangs on buildings and the location of electrical lines and utility poles?

**They obstruct fire fighting operations**

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 136*

13. What are the two important functions of a door, with respect to fire inspections?

**(1) Fire/smoke barrier**

**(2) Means of egress**

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 140*

14. What are the three methods the building code allows for stair enclosures to be rendered smokeproof?

**(1) Natural ventilation**

**(2) Mechanical ventilation**

**(3) Pressurizing the stair enclosure**

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 142*



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

15. When is exit illumination required?

**Whenever the space served by the means of egress is occupied**

California Fire Code, CBSC, 2007 Edition, Section 1006.1

16. What type of occupancy requires a room capacity sign to be posted?

**Assembly occupancy**

California Fire Code, CBSC, 2007 Edition, Section 1004.3

17. What is the area allowed per occupant in a building that manufactures metal garden tools?

**200 square feet**

California Fire Code, CBSC, 2007 Ed, Table 1004.1.1

18. How many exits are required in a dance hall that has an occupant load of 800 persons?

**3**

California Fire Code, CBSC, 2007 Edition, Table 1019.1

19. What are the three components of a means of egress?

**(1) Exit access**

**(2) Exit**

**(3) Exit discharge**

Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 138

20. What device is commonly used to provide emergency means of egress illumination?

**Wall mounted, battery backup lamps**

Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 144

TEST 3 SCORING	
Each answer space is worth five points	
Total Possible	125
80% Minimum	100
Score	
Pass or Fail?	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Appendix A: Formative Test #4 Answer Key

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

#### SECTION I

INSTRUCTIONS: Section I is a completion test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

EXAMPLE: The \_\_\_\_\_ developed the Incident Command System.  
***fire service***

1. Unless modified by the Fire Chief, fire apparatus access roads should have an unobstructed width of \_\_\_\_\_ and an unobstructed vertical clearance of \_\_\_\_\_.

***20 feet***

***13 feet 6 inches***

*California Fire Code, CBSC, 2007 Edition, Section 503.2.1*

2. A clear space of \_\_\_\_\_ in width \_\_\_\_\_ in depth and \_\_\_\_\_ in height should be maintained in front of an electrical panelboard

***30 inches, 36 inches, and 78 inches***

*California Fire Code, CBSC, 2007 Edition, Section 605.3*

3. When conducting a field flame test, the flame should be applied to the material for 12 seconds and then slowly moved away. The material should not support combustion or continue to flame for more than \_\_\_\_\_ following the removal of the test flame.

***2 seconds***

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 72*

4. When considering decorations with regard to fire safety, the degree of hazard depends upon the \_\_\_\_\_.

***ease of ignition***

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 71*



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

5. In a normal building, fire load is calculated for structural components, interior finish, floor finish, and \_\_\_\_\_.

**combustible contents**

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 60*

6. Class \_\_\_\_\_ roof coverings provide moderate protection from fire exposure.

**B**

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 63*

7. Fire walls extend from the foundation of a structure through and above the \_\_\_\_\_.

**roof**

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 64*

8. A fire door assembly includes the fire door, door frame, latching hardware, and \_\_\_\_\_.

**door closer**

*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 65*

9. A \_\_\_\_\_ clear space shall be maintained around the circumference of a fire hydrant.

**3-foot**

*California Fire Code, CBSC, 2007 Edition, Section 508.5.5*

10. In a high-piled storage configuration, plywood is a \_\_\_\_\_ commodity.

**Class III**

*California Fire Code, CBSC, 2007 Edition, Section 2303.4*

11. In a high-piled storage warehouse, fire department access doors shall be provided for every \_\_\_\_\_.

**100 feet**

*California Fire Code, CBSC, 2007 Edition, Section 2306.6.1.1*

12. Section \_\_\_\_\_ of the California Fire Code states that power taps should be directly connected to a wall receptacle?

**605.4.2**

*California Fire Code, CBSC, 2007 Edition*



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### SECTION II

INSTRUCTIONS: Section II is a true-false test. If the statement is true, draw a circle around the "T." If the statement is false, draw a circle around the "F."

EXAMPLE:  T F The Incident Command System was developed by the fire service.

- F 13. Highly flammable or explosive furnishings and decorative materials may be used in limited quantities in A and E occupancies.  
*California Fire Code, CBSC, 2007 Edition, Section Table 807.4.1*
- T 14. Exit drills in schools may be conducted during recess or class changes.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 153*
- T 15. Smoke and heat removal is required for a 15,000 square foot unsprinklered storage area of asphalt shingles stored 15 feet high that is accessible to the public.  
*California Fire Code, CBSC, 2007 Edition, Table 2306.2*
- F 16. Fire assembly labels must be located on the door only.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 65*
- F 17. Fire doors that are used in stairwells and corridors may not have glass.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 66*
- T 18. Draft curtains are designed to limit the horizontal fire spread.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 67*
- F 19. Rated exit doors may be wedged or blocked open only when the building is occupied.  
*California Fire Code, CBSC, 2007 Edition, Section 1028.2*
- T 20. If the inspector has any questions about the flammability of a material, the inspector may burn a sample of the material in question.  
*Fire Inspection and Code Enforcement, IFSTA, Sixth Edition, Page 72*

TEST SCORING	
Each answer space is worth five points	
Total Possible	115
80% Minimum	92
Score	
Pass or Fail?	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

### Appendix B: Formative Test #1

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

#### SECTION I

---

---

INSTRUCTIONS: Section I is a true-false test. If the statement is true, draw a circle around the "T." If the statement is false, draw a circle around the "F."

EXAMPLE:  T F The Incident Command System was developed by the fire service.

---

---

- T F 1. Section 503 of the California Fire Code regulates fire department access.
- T F 2. Verbal notices need not be followed up in writing for minor violations.
- T F 3. A change in ownership of a business requires issuance of a new fire code permit.
- T F 4. The fire code does not apply to structures not legally in existence at the time of the adoption of the code.
- T F 5. The local agency has the authority to inspect a post office for fire code compliance during reasonable hours.
- T F 6. A permit that is issued in error may be revoked.
- T F 7. The Fire Code Official (or assigned representative) may enter a premise at any reasonable time for conducting a fire prevention inspection.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

- T F 8. Chapter 9 of the CFC has been adopted in its entirety by the OSFM.
- T F 9. Requirements for emergency plans and procedures may be found in Chapter 12.
- T F 10. All of the definitions and abbreviations found in Article 2 have been adopted as amended by the OSFM.
- T F 11. Persons who allow a hazard to exist or fail to take immediate action to abate a hazard when notified are guilty of a misdemeanor offense.

### SECTION II

---

---

INSTRUCTIONS: Section II is a short answer test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

EXAMPLE: What organization developed the Incident Command System?

The fire service

---

---

12. Which California Fire Code section addresses permit requirements?

---

13. Which California Fire Code section addresses the right of entry?

---

14. Which chapter of the CFC lists reference standards?

---



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

15. How long must a fire department keep its fire inspection records?

---

16. Where must fire permits be posted?

---

17. Which section of the California Fire Code authorizes the Fire Code Official to modify any of the provisions of the fire code where there are practical difficulties?

---

18. Where there is a conflict between a general requirement and a specific requirement, which requirement shall be applicable?

---

19. Which code section regulates the maintenance of fire-resistive construction?

---

20. Changes made in the character or use of an occupancy shall be in accordance with which code?

---

TEST 1 SCORE	
Each answer space is worth five points	
Total Possible	100
80% Minimum	80
Score	
Pass or Fail?	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Appendix B: Formative Test #2

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

**INSTRUCTIONS:** This is a short answer test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

**EXAMPLE:** What organization developed the Incident Command System?

*The fire service*

1. What construction type is referred to as “Heavy Timber”?

\_\_\_\_\_

2. In the 5 types of construction, what is the difference between type A, and type B?

\_\_\_\_\_

3. Which type of construction offers the most fire-resistive construction?

\_\_\_\_\_

4. What is the occupancy group for college classroom that holds 56 students?

\_\_\_\_\_

5. What is the occupancy group classification for an outdoor sports stadium that seats 75,000 persons?

\_\_\_\_\_



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

6. What is the occupancy group classification for a gas station that also performs smog checks?

---

7. What is the occupancy group classification for an elementary school that has 47 students?

---

8. What is the occupancy group classification for a 100,000 square foot factory that manufactures clothing?

---

9. What is the occupancy group classification for a facility that handles hazardous production materials (HPM) in excess of exempt amounts?

---

10. What is the occupancy group classification for a 119,000 square foot occupancy that sells lumber, plumbing fixtures, paint, garden supplies, etc.?

---

11. What is the occupancy group classification for a 180-unit apartment building that is 10 stories tall?

---

12. What is the occupancy group classification for a 500 room hotel building that is 10 stories tall?

---

13. What is the occupancy group classification for a building in which aircraft is repaired?

---



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

14. What is the occupancy group classification for a church with a maximum occupant load of 35?

---

15. What is the occupancy group classification for an elevated municipal water tank that is 50 feet above the ground?

---

16. What is a building called that has occupied floors more than 75 feet above the lowest level of fire department vehicle access?

---

17. What is the occupancy group classification for a building or portions of a building which are inhabited by one or more persons who are under restraint?

---

TEST 2 SCORING	
Each answer space is worth five points	
Total Possible	85
80% Minimum	68
Score	
Pass or Fail?	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Appendix B: Formative Test #3

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

#### SECTION I

INSTRUCTIONS: Section I is a true-false test. If the statement is true, draw a circle around the "T." If the statement is false, draw a circle around the "F."

EXAMPLE:  T F The Incident Command System was developed by the fire service.

- T F 1. All meeting rooms require two exits.
- T F 2. A means of egress is a continuous and unobstructed way of exit travel from any point in a building or structure to a public way.
- T F 3. An exit passageway is the same as an exit access corridor.
- T F 4. An escalator cannot be used as part of a means of egress.
- T F 5. Floor-level exit signs must be installed wherever a standard exit sign is required.
- T F 6. The maximum travel distance to an exit in a B occupancy equipped with a sprinkler system throughout is 250 feet.
- T F 7. Exit drills in health care facilities require patients to be removed to the outdoors for their safety.
- T F 8. An exit door shall swing in the direction of the path of exit travel when serving an occupant load of 50 or more persons.



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

- T F 9. Outdoor gates, when installed across a means of egress, must have the same exit hardware and swing as the door leading to it.
- T F 10. Fighting fire is not a primary duty for standby fire fighters assigned to a public assembly occupancy.
- T F 11. Rooms or areas that require only one exit do not require exit signs.

### SECTION II

---

---

INSTRUCTIONS: Section II is a short answer test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

EXAMPLE: What organization developed the Incident Command System?  
*The fire service*

---

---

12. When conducting a fire inspection, why should inspectors note large overhangs on buildings and the location of electrical lines and utility poles?

\_\_\_\_\_

13. What are the two important functions of a door, with respect to fire inspections?

(1) \_\_\_\_\_

(2) \_\_\_\_\_

14. What are the three methods the building code allows for stair enclosures to be rendered smokeproof?

(1) \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

---

15. When is exit illumination required?

---

16. What type of occupancy requires a room capacity sign to be posted?

---

17. What is the area allowed per occupant in a building that manufactures metal garden tools?

---

18. How many exits are required in a dance hall that has an occupant load of 800 persons?

---

19. What are the three components of a means of egress?

(1)

---

(2)

---

(3)

---

20. What device is commonly used to provide emergency means of egress illumination?

---

TEST 3 SCORING	
Each answer space is worth five points	
Total Possible	125
80% Minimum	100
Score	
Pass or Fail?	



# FIRE PREVENTION 1A (BRIDGE)

## Introduction To The California Fire Code

### Appendix B: Formative Test #4

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Each answer space is worth five points. Some questions may have more than one correct answer. You may use the California Fire Code while taking this test. You have 30 minutes to complete the entire test.

#### SECTION I

INSTRUCTIONS: Section I is a completion test. For each of the following questions or statements, enter the correct answer(s) in the space(s) provided.

EXAMPLE: The \_\_\_\_\_ developed the Incident Command System.  
*fire service*

1. Unless modified by the Fire Chief, fire apparatus access roads should have an unobstructed width of \_\_\_\_\_ and an unobstructed vertical clearance of \_\_\_\_\_.

\_\_\_\_\_  
\_\_\_\_\_

2. A clear space of \_\_\_\_\_ in width \_\_\_\_\_ in depth and \_\_\_\_\_ in height should be maintained in front of an electrical panelboard

\_\_\_\_\_

3. When conducting a field flame test, the flame should be applied to the material for 12 seconds and then slowly moved away. The material should not support combustion or continue to flame for more than \_\_\_\_\_ following the removal of the test flame.

\_\_\_\_\_

4. When considering decorations with regard to fire safety, the degree of hazard depends upon the \_\_\_\_\_.

\_\_\_\_\_



## FIRE PREVENTION 1A (BRIDGE)

### Introduction To The California Fire Code

---

5. In a normal building, fire load is calculated for structural components, interior finish, floor finish, and \_\_\_\_\_.

---

6. Class \_\_\_\_\_ roof coverings provide moderate protection from fire exposure.

---

7. Fire walls extend from the foundation of a structure through and above the \_\_\_\_\_.

---

8. A fire door assembly includes the fire door, door frame, latching hardware, and \_\_\_\_\_.

---

9. A \_\_\_\_\_ clear space shall be maintained around the circumference of a fire hydrant.

---

10. In a high-piled storage configuration, plywood is a \_\_\_\_\_ commodity.

---

11. In a high-piled storage warehouse, fire department access doors shall be provided for every \_\_\_\_\_.

---

12. Section \_\_\_\_\_ of the California Fire Code states that power taps should be directly connected to a wall receptacle?

---



**FIRE PREVENTION 1A (BRIDGE)**  
Introduction To The California Fire Code

**SECTION II**

INSTRUCTIONS: Section II is a true-false test. If the statement is true, draw a circle around the "T." If the statement is false, draw a circle around the "F."

EXAMPLE: (T) F The Incident Command System was developed by the fire service.

- T F 13. Highly flammable or explosive furnishings and decorative materials may be used in limited quantities in A and E occupancies.
- T F 14. Exit drills in schools may be conducted during recess or class changes.
- T F 15. Smoke and heat removal is required for a 15,000 square foot unsprinklered storage area of asphalt shingles stored 15 feet high that is accessible to the public.
- T F 16. Fire assembly labels must be located on the door only.
- T F 17. Fire doors that are used in stairwells and corridors may not have glass.
- T F 18. Draft curtains are designed to limit the horizontal fire spread.
- T F 19. Rated exit doors may be wedged or blocked open only when the building is occupied.
- T F 20. If the inspector has any questions about the flammability of a material, the inspector may burn a sample of the material in question.

TEST SCORING	
Each answer space is worth five points	
Total Possible	115
80% Minimum	92
Score	
Pass or Fail?	