Lesson Plan 01
Introduction

TOPIC: The Tire Problem

LEVEL: I

TIME: 30 Minutes

BEHAVIORAL OBJECTIVE:

Condition: Complete evaluation with 70% accuracy

Behavior: The student will . . .

1. Define the outdoor tire storage problem.

Standard: According to the referenced text


MATERIALS NEEDED: PC projector, projection screen, VCR, multimedia slide show on CD/ROM, speakers.

PREPARATION: Welcome to the “Rings of Fire” training program. The program you are in today is an update of a training program that was developed ten years ago by the State Fire Marshal’s Office for California Integrated Management Board. With two of California’s largest tire piles going up in smoke in the mid 1990’s we have had the opportunity to collect a lot of data, and in doing so have reconsidered our recommendations for both fire prevention and fire suppression. You will benefit from this program by getting the latest information from a wide range of subject matters experts. So let’s get started!
### PRESENTATION

I. Introduction

A. Funding for this program provided by the California Integrated Waste Management Board

B. Produced by the Office of the State Fire Marshal

C. Coordinated by the California Tire Fire Council

D. Published by CSU, Chico Instructional Media Center

E. California Tire Fire Council wants you to know that, “it’s not a question of if, but rather a question of when and how much?”

1. The tire council was composed of training Officers, Prevention Officers, and Hazmat specialists
2. Every State in the country has had a tire fire
3. Tire fires are a convenient way of dodging enforcement

F. Program Goal: To provide fire professionals and enforcement officers, along with waste tire owners and operators, up-to-date information so that you can make informed decisions regarding scrap tire piles

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<tr>
<th>APPLICATION</th>
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<tbody>
<tr>
<td>Left mouse click on title slide (Rings of Fire Slide 01) to begin slide show</td>
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<tr>
<td>Rings of Fire Slide 02 Funding Slide</td>
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<td>Calif. Tire Fire Council</td>
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<td>Rings of Fire Slide 04 Program Goal Slide</td>
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## II. Problem Statement

- Tire Volume
- Tire Geometry
- Environmental Impact

A. Tire Volume, Tire Geometry and Environmental Impact-- tires collecting on the side of the road are the beginnings of a huge storage problem

B. Tire Volume
   - 33.3 million tires generated by California
   - Nationally 300 million generated annually
   - 280 million in known stockpiles

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### PRESENTATION

G. This short 5 minute video clip will remind of us of the scope of tire fire problem that we are here to address

### APPLICATION

- Rings of Fire Slide 05
  - Video Clip Slide

**Instructor Note:** Have students write down reasons tire storage is a problem.

- Rings of Fire 06
  - Problem Statement

**Overhead Question:** What is the problem with outdoor tire storage?

- Rings of Fire 07
  - Tire Volume

- Rings of Fire 08
  - Tire Volume 1
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<tr>
<td>C. Tire Geometry- The hollow doughnut shape traps oxygen and shields the fire from fire fighting agents</td>
<td>Rings of Fire Slide 09</td>
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<tr>
<td>1. This makes fighting tire fires a problem</td>
<td>Tire Geometry</td>
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<td>2. Suppression strategy could make the environmental impact worse</td>
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<td>D. Environmental Impact</td>
<td>Rings of Fire Slide 10</td>
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<tr>
<td>1. Air Pollution</td>
<td>Environmental Slide</td>
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<td>2. Soil Contamination</td>
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<td>3. Water Quality</td>
<td></td>
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<td>4. Tires provide great habitat!</td>
<td>Rings of Fire Slide 11</td>
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<tr>
<td>a. Tires are a perfect breeding ground for mosquito’s protecting the larvae from natural predators</td>
<td>Environmental Slide</td>
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<td>b. Mosquito’s bring a wide range of diseases to human populations including the spread of West Nile Virus</td>
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<td>c. Tire casings provide shelter for rodents and other burrowing animals</td>
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<td>d. Rattlesnakes are attracted by the rodents and are a threat to unaware firefighters</td>
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## III. Main Menu

A. This training program is broken down into three main topical areas;

1. Background  
2. Prevention  
3. Response  
4. Exit  

B. Each of these topics is then broken down into three more subject areas  

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| Rings of Fire Slide 12  
Main Menu |

Instructors Note:  
Read summary and then review evaluation questions
SUMMARY:
As we go through this training program, we will be able to add to this problem statement “outdoor tire Storage.” From “Tire History” to “Hazmat Response” you will be surprised to learn how just one simple product can be such a complicated subject.

EVALUATION:

1. How many scrap tires are generated in California?
Answer: 33.3 million as of 2003

2. Approximately how many tires are in known stock piles across the country?
Answer: Approximately 280 Million

3. Why are tire fires hard to fight with conventional suppression techniques?
Answer: Tires geometry traps oxygen and the material repels water.

4. What happens if you attempt to put out a large tire pile with water?
Answer: You will slow down the combustion process allowing for more pyrolytic oil to generate.

5. What are the most dangerous animals living in a tire pile?
Answer: Rattlesnakes and mosquito’s.

ASSIGNMENT:
Read the first section of the text “Tire History.”