

# Smokey's Wildfire Prevention Detectives

Activity 3 Reproducible Master

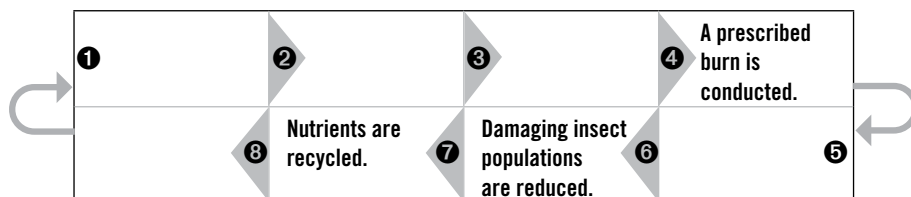
## Anatomy of a Burn

Not all fires are harmful and destructive. In fact, a prescribed fire, also called a controlled burn, is actually beneficial. Just as doctors prescribe medicine to improve their patients' health, forest managers sometimes prescribe fire to improve a forest's health. Fire can reduce some populations of damaging insects, recycle nutrients to the soil, and encourage certain kinds of plant growth. Prescribed fire can also reduce the amount of fuel (vegetation) available to feed a wildfire. In this way, prescribed fire helps prevent wildfires from becoming large and damaging.

### INVESTIGATION #1:

#### The Causal Chain Reaction

How fire is used depends on the type of forest in which it is used. You're part of a wildland fire management team explaining how prescribed fire can help a certain forest stay healthy. You'll need a graphic for your presentation showing how this forest becomes overgrown without fire, and how prescribed fire reduces excess vegetation. Use the graphic organizer on the right to outline the stages of this process by placing items from the Wildland Lifecycle list in the correct boxes to complete the sequence of events.



#### Wildland Lifecycle

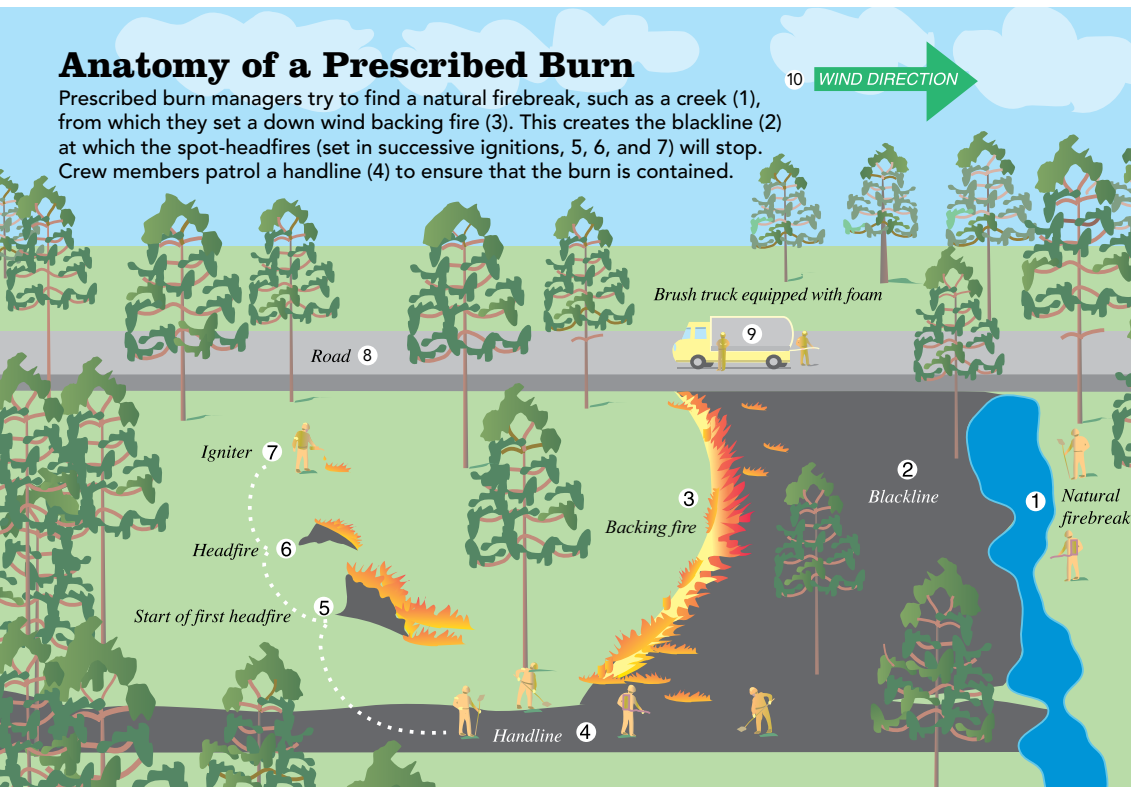
- A. Fuel build up is removed from the forest floor.
- B. Open spaces between mature trees become overgrown with plants.
- C. New grasses, shrubs, and trees begin to grow.
- D. Leaves, branches, and plants build up on the ground.
- E. Certain plants can't germinate (sprout).

### INVESTIGATION #2: Anatomy of a Burn

Now you're the prescribed fire Burn Boss. Use this illustration to show your team what they need to know to conduct a successful prescribed burn. Match the items on the checklist below with the correct numbered items on the illustration. Some numbers can be used more than once.

#### Anatomy of a Prescribed Burn

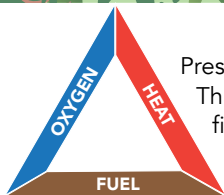
Prescribed burn managers try to find a natural firebreak, such as a creek (1), from which they set a down wind backing fire (3). This creates the blackline (2) at which the spot-headfires (set in successive ignitions, 5, 6, and 7) will stop. Crew members patrol a handline (4) to ensure that the burn is contained.



#### Prescribed Fire Checklist

- A. \_\_\_ Determine the wind direction so we can be sure the prescribed fire will travel where we want it.
- B. \_\_\_ Locate or construct obstacles that will prevent the prescribed fire from spreading too far.
- C. \_\_\_ Start with a fire that moves slowly against the wind to enlarge an area protected by obstacles.
- D. \_\_\_ Set small fires that move with the wind to expand the burn area.
- E. \_\_\_ Take safety measures on all sides of the prescribed fire to keep it under control.

To learn more about how you can prevent wildfires in your state, go to [www.SmokeyBear.com](http://www.SmokeyBear.com).



Prescribed fire teams also need to know the basic principles of the Fire Triangle. This is a graphic that shows the three elements required to make and sustain a fire—oxygen, heat, and fuel. Remove any one of these, and the fire will die. In a class discussion, use the illustration to explain how prescribed fire teams use the principles of the Fire Triangle to manage a burn.

