

Sound the Alarm! Firefighters at Work

Teacher's Guide

Grade Level: K-2

Curriculum Focus: Social Science

Lesson Duration: Two class periods

Program Description

Sound the Alarm! Firefighters at Work— After seeing a fire on the television news, two young students visit a library to find out about fighting fires. With the help of a librarian and a computer, they learn what fire is and how firefighters respond to a fire emergency. Firefighters explain how they trained for their jobs and describe the trucks and other equipment used in fighting fires. The program also explores the history of firefighting. The presentation ends with simple rules for preventing fires and staying safe if a fire breaks out.

Discussion Questions

- What abilities and skills do firefighters need?
 - What machines and equipment do firefighters use?
 - How did people fight fires at different times in history?
 - How can we prevent fires and stay safe if one breaks out?
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Lesson Plan

Student Objectives

- Describe how firefighters respond to fire alarms and put out fires.
- Explain why firefighters need special training and equipment.
- Create a play that teaches others about firefighters, fire prevention, or fire safety.

Materials

- *Sound the Alarm! Firefighters at Work* video
- Computer with Internet access
- Toy fire trucks and firefighter action figures (optional)

- Print resources about firefighters and fire safety, including information from local fire departments and community organizations, safety instructions for grills and electrical appliances, camping and scouting guides, and nonfiction books

Procedures

1. Introduce the program by asking students to define *fire*. Students will probably be able to describe fire, but only a few are likely to supply a scientific definition. Alert students to listen and watch for a scientific description of fire as they watch the program. Ask students to volunteer rules they already know about fire prevention and safety. Write the rules on the chalkboard and ask students to be on the alert for those rules as they watch the program.
2. After viewing the program, ask students to recall what they saw and heard. Students should be able to recall the following details.
 - A term that describes firefighters, dispatchers, and librarians (community helpers)
 - Three things that are needed to make a fire (fuel, oxygen, and heat)
 - The workers at a fire station who take calls and send alarms (dispatchers)
 - Who's in charge at a fire (the highest-ranking officer, usually a chief or captain)
 - Sounds associated with firefighting (bells, alarms, sirens)
 - Two kinds of fire trucks (engines, or pumpers, and ladder trucks)
 - The kind of ladder truck that reaches the highest (aerial truck)
 - Hand-held tools used in fighting fires (axes, hoses, Jaws of Life™)
 - Protective gear for firefighters (boots, clothing, gloves, helmets, air tanks, gas masks)
 - Skills firefighters learn in training (using equipment, rappelling, climbing, rescuing people, using the Jaws of Life, first aid)
 - How people fought fires in early colonial times (with bucket brigades)
 - Who started the first fire department in the United States (Benjamin Franklin)
 - Good tips for fire safety (do not pile up fuel; do not overload outlets; never play with matches, candles, lighters, or any other form of fire; put out backyard grill fires and campfires completely; know two escape routes from your house; hold fire drills)
 - What to do if a fire breaks out (get out immediately, then call for help)
3. Ask students to recall the history and science in the program. Have them recall the old pictures and movies they saw. What did these images show about the history of fighting fires? Encourage them to view the program again and to look at the historical pictures in more detail. Students should be able to recognize that fire trucks and other firefighting equipment have become more sophisticated, but firefighters still need personal strength and bravery. Students might also notice that there are now women firefighters. To build on the science in the program, ask students to define each of the three requirements for fire (fuel, oxygen, and heat). Invite

students to apply these ideas to preventing fires or to fire safety. For example, explain that picking up trash deprives a potential fire of its fuel. Smothering a fire deprives it of oxygen, while dumping water on a fire deprives it of both oxygen and heat.

4. Ask students to research firefighters, fire safety, and fire prevention by using print and Web resources. Encourage them to check the Web sites of your local community government for fire safety and prevention information. The following Web sites are also good starting points.
 - City of West Covina (California): Fire Safe Coloring Book
<http://www.westcov.org/kids/fscolor.html>
 - FEMA: For the Little Ones
<http://www.fema.gov/kids/littleones.htm>
 - FirstGov for Kids: Safety (Select from many links to government sites.)
<http://www.kids.gov/>
 - FirePals Kid Safety Net
<http://www.firepals.org/KSN/index.htm>
 - McGruff the Crime Dog: Fire Safety Puzzle n' Paint
<http://www.mcgruff.org/FunStuff/PuzzlePaint.htm>
 - National Fire Prevention Association: The Great Sparky the Fire Dog
<http://www.nfpa.org/sparky/>
 - New York Department of State Kids Room: Fire Safety
<http://www.dos.state.ny.us/kidsroom/firesafe/firesafe.html>
 - Pasadena Fire Department: Home Fire Escape Plan
<http://www.ci.pasadena.ca.us/fire/escfire.asp>
 - PBS Kids: Arthur's Fire Safety Tips
<http://pbskids.org/arthur/firesafety/>
 - Smokey the Bear: Smokey Kids
<http://www.smokeybear.com/kids/default.asp>
 - Survive Alive Village (Indianapolis Fire Department)
<http://www.survivealive.org/>
 - United States Fire Administration: USFA Kids
<http://www.usfa.fema.gov/kids/html/index.shtm>
5. Divide students into groups. Ask each group to create and present a play about fighting a fire, firefighters, fire safety, or fire prevention. The plays might show how firefighters respond to a fire, what happens at a fire scene, how a firefighter trains for the job, how to prevent fires, how to put on a fire drill, or what to do if a fire breaks out. Toys and action figures will help students

imagine scenes and plan, write, and perform their plays. Students might also use toys and digital cameras to make comic strips or videos of their plays.

6. Have students take turns presenting their plays to the class. Arrange for one or more of the plays to be presented to other classes or at school assemblies.

Assessment

Use the following three-point rubric to evaluate students' work during this lesson.

- 3 points: Students were highly engaged in class discussions; recalled most details from the program; did complete and accurate research; and actively participated in writing and performing a play about firefighters, fire prevention, or fire safety.
- 2 points: Students took part in class discussions; recalled some details from the program; did some research; and participated in writing and performing a play about firefighters, fire prevention, or fire safety.
- 1 point: Students participated minimally in class discussions; recalled few details from the program; did incomplete or inaccurate research; and did not participate in writing and performing a play about firefighters, fire prevention, or fire safety.

Vocabulary

aerial truck

Definition: A ladder truck that has an extra-long mechanical arm for lifting firefighters and their equipment

Context: During an apartment fire, an aerial truck might be needed to reach the higher floors.

bucket brigade

Definition: A row of people passing along buckets of water

Context: In colonial America, the bucket brigade was the most common system for fighting fires.

dispatcher

Definition: A person who takes calls for the fire department and sends firefighters to fires

Context: When you call to report a fire, you should give the dispatcher the address first.

emergency

Definition: An urgent need for relief or assistance

Context: Everyone should know what number to call in case of a fire emergency.

engine

Definition: The kind of fire truck that has a water tank and hoses

Context: Fire engines are also called *pumpers* because they are used to pump water and spray it on the fire.



fire drill

Definition: A group practice of what people should do in case of fire

Context: Holding regular fire drills can help your family stay safe if there is a real fire.

fuel

Definition: A material that can be burned to provide heat or power

Context: Before a fire can start, there must be fuel, or something to burn.

heat

Definition: Added energy that causes a rise in temperature

Context: An electrical spark is a quick jolt of heat high enough to cause a fire.

hydrant

Definition: A discharge pipe with a valve and a spout, by which water may be drawn from a water main for use by firefighters

Context: A pumper carries water; but for large amounts, the truck hooks up to a fire hydrant.

Jaws of Life

Definition: A huge pair of metal pliers used to free people from crushed metal and debris

Context: Firefighters receive special training in how to use the Jaws of Life.

mascot

Definition: An animal, person, or object adopted by a group as a symbol, especially as a symbol for good luck

Context: The traditional mascot of firefighters is a spotted dog, the dalmatian.

outlet

Definition: A pair of slotted holes into which you insert an electrical plug

Context: You can help prevent fires by not overloading electrical outlets.

oxygen

Definition: A colorless, tasteless, and odorless gaseous element that makes up 21 percent of the Earth's atmosphere

Context: Three things are needed to create fire: fuel, heat, and oxygen.

pre-connect

Definition: A thick hose that is already connected to a tank of water, ready to spray on a fire

Context: Firefighters use a pre-connect to hold the fire down until they can connect to a hydrant.

prevent

Definition: To keep something from happening

Context: Understanding how fires start can help you prevent fires.

rappel

Definition: To climb down a vertical surface by means of a rope

Context: In their training, firefighters learn to rappel down the walls of buildings.

rookie



Definition: A beginner

Context: A term that firefighters use for their training is “rookie school.”

volunteer

Definition: Someone who makes a personal decision to perform a public service without pay

Context: Many small communities do not have full-time firefighters but instead depend on volunteers.

Academic Standards

The National Council for the Social Studies (NCSS)

NCSS has developed national guidelines for teaching social studies. To become a member of NCSS, or to view the standards online, go to <http://www.socialstudies.org>.

This lesson plan addresses the following thematic standards:

- Individuals, Groups, and Institutions
- Science, Technology, and Society
- Civic Ideals and Practices

Mid-continent Research for Education and Learning (McREL)

McREL's Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education addresses 14 content areas. To view the standards and benchmarks, visit <http://www.mcrel.org/compendium/browse.asp>.

This lesson plan addresses the following national standards:

- Civics – What are the Roles of the Citizen in American Democracy: Understands how certain character traits enhance citizens' ability to fulfill personal and civic responsibilities
- Technology – Understands the nature and operation of systems

- History – The History of Peoples of Many Cultures Around the World: Understands major discoveries in science and technology, some of their social and economic effects, and the major scientists and inventors responsible for them
 - Science – Physical Sciences: Understands the sources and properties of energy
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Support Materials

Develop custom worksheets, educational puzzles, online quizzes, and more with the free teaching tools offered on the DiscoverySchool.com Web site. Create and print support materials, or save them to a Custom Classroom account for future use. To learn more, visit

- <http://school.discovery.com/teachingtools/teachingtools.html>
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Credit

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