WHAT CAN YOU DO?

A Fire Awareness Curriculum for Grades 3 - 4

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June 2007

Produced by the Office of State Fire Marshal

ACKNOWLEDGMENTS

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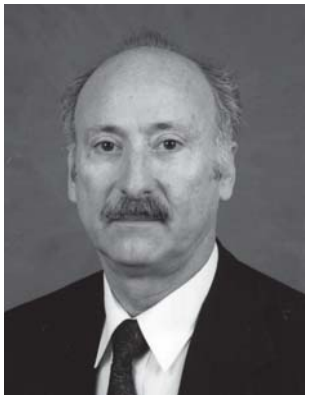
Curriculum cover design and illustrations
James Cloutier

Cover painting for *The Myth of Fire*
Rick Bartow

Video components
Larry Blumenstein, *History of Moving Water*
Bend Fire Department, Smoke alarm PSAs

Special thanks to
Jess Bogli, for help with Department of Education Health Standards
Clair Sims, Colette Sims, Blaise Sims for fire safety pledge development
Gigi Sims, Pilot testing



IN MEMORY OF A SPECIAL FRIEND

Rex was a strong advocate for fire prevention education. He passed away in 2005. A memorial fund established in his name underwrote the *Fire's Use Throughout History* timeline for the curriculum.

Rex had a long and distinguished career in the fire service, beginning with service in the navy as a firefighter on an aircraft carrier. He continued his fire service career in Roseburg, Oregon, and then became the Estacada fire chief. In 1980 he joined Tualatin Valley Fire and Rescue, where he retired in 1997 while serving as their assistant fire marshal. The following July he joined the Office of State Fire Marshal, where he served as a "temporary" deputy state fire marshal for four years, "retiring" again in 2001.

A NOTE TO OUR TEACHER-PARTNERS

Every hour of every school day in your classrooms you do the important work of preparing children for their lives as adults. Please include solid instruction about fire and life safety in that preparation.

In 2001, over 5,000 Oregon students in grades three through eight were surveyed about their knowledge of fire as part of a research study done for the Office of State Fire Marshal. Ninety-four percent of the students reported receiving fire safety education in their school. Overall, students who were taught fire safety performed better on the fire knowledge questions: 95 percent of them knew to stop, drop and roll if their clothes caught on fire (82 percent if they had received no fire education); 89 percent of them knew to crawl low and get out if they were in a smoke-filled room (72 percent if they had received no fire education).

Clearly, we are doing a good job of teaching basic life-saving maneuvers. To truly prepare our students, however, we must also teach them about the power of fire. We must help them acquire the skills necessary to prevent fires and to make responsible, fire-safe decisions. We must help them understand that fire has been a useful tool to human beings since time beyond history and that it must always be treated with profound respect. This curriculum, *What Can You Do?,* and its companion curriculum for middle school students, *It's Up to You!,* are written with all this in mind.

The reality of fire is that a home can quickly be engulfed in flames. The fire department, despite valiant efforts, may be unable to save it or people trapped within. Every day, somewhere in this country, fire department personnel fight fires at great risk to themselves. They have prepared and trained for just such an event and we are grateful for their commitment and heroism. Our responsibility, and this is the great lesson that should be communicated to our students, is to plan to prevent fires so that the fire department is never called to our homes because of our risky behavior, carelessness, lack of planning or poor decision making. When the engines roll, prevention has failed.

Let's work together to make dangerous acts by firefighters unnecessary. Let's work together to prepare students to take their places in our communities as fire-safe, fire-responsible adults.

Nancy Orr
State Fire Marshal

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WHICH OREGON STATUTES SUPPORT FIRE EDUCATION?

ORS 336.071 Emergency drills and instruction; maintenance of exit doors.

(1) All schools are required to instruct and drill students on emergency procedures so that the students may respond to an emergency without confusion or panic. The emergency procedures shall include drills and instruction on fires and earthquakes. In addition, schools that are in a coastal zone shall include tsunami drills and instruction as part of the earthquake drills and instruction.

(2) (a) Drills and instruction on fire emergencies shall include routes and methods of exiting the school building.

(2) (b) Drills and instruction on earthquake emergencies shall include methods of "duck, cover and hold" during the earthquake. Drills and instruction on tsunami emergencies shall include immediate evacuation after an earthquake when appropriate or after a tsunami warning to protect students against inundation by tsunamis.

(3) At least 30 minutes in each school month shall be used to instruct students on fire, earthquake, and, where appropriate, tsunami dangers and drills. At least two drills on earthquakes shall be conducted each year. In schools in a coastal zone, at least three drills on earthquakes and tsunamis shall be conducted each year.

(4) All schools shall maintain all exit doors so that the doors can be opened from the inside without a key during school hours.

(5) Units of local government and state agencies associated with emergency procedures training and planning shall assist schools in the instruction and drilling of students in emergency procedures.

(6) As used in this section, "school" means any

(6) (a) Kindergarten through grade eight public or private school; or

(6) (b) Educational institution having an average daily attendance of 50 or more students.

[1995 c.312 §2 (enacted in lieu of 336.072); 1997 c.521 §9]

* * * * * * * * *

OAR 581-022-1210 District Curriculum

(1) Each school district shall provide a planned K-12 instructional program.

(2) The planned K-12 instructional program shall be consistent with Common Curriculum Goals and academic content standards.

(3) The school district shall also provide instruction in the areas identified in this division, including:

(a) infectious diseases, including AIDS/HIV and Hepatitis B;

(b) prevention education in drugs and alcohol; and

(c) emergency plans and safety programs.

(4) The school district shall also provide instruction in the areas identified and required in ORS 336.

1997 Uniform Fire Code

Section 1302 - Reporting of Emergencies and False Alarms

1302.2 Reporting Emergencies. In the event a fire occurs or the discovery of a fire, smoke or unauthorized release of flammable or hazadous materials on any property occurs, the owner or occupant shall without delay report such condition to the fire department.

1302.3 False Alarms. False alarms shall not be given, signaled or transmitted or caused or permitted to be given, signaled or transmitted in any manner. See ORS 162.375.

WHY FIRE AWARENESS EDUCATION?

More than 15,000 fires occur in Oregon each year. On average, forty Oregonians die in these fires and millions of dollars worth of property are lost. Most fires occur in the places we call home. Homes do not get inspected as buildings and institutions do. Therefore, people are responsible for home fire safety … for self, family and neighbors.

WHY FIRE EDUCATION SPECIFICALLY FOR ELEMENTARY STUDENTS?

An estimated 2,500 children age fourteen or younger were injured or killed in residential fires in 2002 according to the U.S. Fire Administration (USFA) 2005 report. Of these fire casualties, 70 percent were under the age of ten. Children continue to be a high-risk population in residential fires.

Home fires involving children are often preventable. Educating students and families about fire-safe practices empowers individuals to “be smart and be safe” in fire-threatening situations. It is imperative that students demonstrate conceptual understanding and practice related skills in fire awareness. It is imperative to teach this at the elementary level and to continue through middle school. State law (ORS.336.071) in Oregon requires age-appropriate K-8 fire awareness education.

WHY STANDARDS-BASED EDUCATION?

Standards focus on essential concepts, skills and behaviors necessary for students to succeed and survive in the 21st century. Content standards indicate what students are expected to know and be able to do.

Content standards from health education, language arts and social sciences are infused throughout this curriculum. Following pages show some particular integrations in these areas.

OREGON HEALTH EDUCATION STANDARDS

Students will comprehend **concepts** related to health promotion and disease prevention.

Students will **demonstrate** the ability to access valid health information and health promoting products and services.

Students will **demonstrate** the ability to practice health-enhancing behaviors and reduce health risks.

Students will **analyze** the influences of culture, media, technology and other factors on health.

Students will **demonstrate** the ability to use interpersonal communication skills to enhance health.

Students will **demonstrate** the ability to use goal setting to enhance health.

Students will **demonstrate** the ability to use decision making skills to enhance health.

Students will **demonstrate** the ability to advocate for personal, family and community health.

INTEGRATION - HEALTH EDUCATION STANDARDS

The health education standards are identified as health skills in eight conceptual areas.

Unintentional Injury Prevention is the conceptual area where students acquire knowledge and skills necessary to be safe at home, at school and in the community, and how to get help in case of injury.

Unintentional Injury Prevention

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)
Demonstrate accessing information, self-management, interpersonal communication, goal setting and decision making skills while understanding the components of injury prevention.	Explain how to prevent dangerous or risky behaviors that might lead to personal injury and how to respond to potentially unsafe situations at home, at school and in the community.	Identify safe behaviors when traveling to and from school and in the community. ***What Can You Do?*** **Unit 2: Fire Prevention** **Unit 5: Fire Smart Decisions**	Identify ways to prevent fires and reduce the risk of injuries in case of fire. ***What Can You Do?*** **Unit 2: Fire Prevention** **Unit 3: Fire Safety Inventions** **Unit 4: Survival Skills**
	Demonstrate ability to access valid health-related information.		Access information on the nature of fire, how fires start, fire's destructiveness, and how fires can be prevented. ***What Can You Do?*** **Unit 1: Fire Facts** **Unit 2: Fire Prevention**
	Demonstrate self-management skills necessary to practice health-enhancing behaviors and reduce health risks.		
	Demonstrate ability to use interpersonal communication skills (verbal and non-verbal) to enhance health and safety.	Use decision-making model to avoid dangerous situations. ***What Can You Do?*** **Unit 5: Fire Smart Decisions**	Demonstrate how to respond to peers who may pressure you to misuse fire or fireworks. ***What Can You Do?*** **Unit 5: Fire Smart Decisions**

INTEGRATION - SOCIAL SCIENCES STANDARDS

When studying social sciences, specifically history, students can make connections between past, present and future. The elementary fire awareness curriculum includes historical connections at the 3rd - 5th grade level.

Common Curriculum Goals	Common Curriculum Goals	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)
Historical skills Interpret and reconstruct chronological relationships.	Understand, represent, and interpret chronological relationships in history.	Understand calendar time sequences and chronological sequences within narratives. ***What Can You Do?*** **Unit 1: Fire Facts**	Interpret data and chronological relationships presented in timelines and narratives. ***What Can You Do?*** **Unit 1: Fire Facts** **Unit 3: Fire Safety Inventions**
Understand, recognize and interpret change and continuity over time.	Interpret and represent chronological relationships and patterns of change and continuity over time.		Understand how history can be organized using themes, geography or chronology. ***What Can You Do?*** **Unit 3: Fire Safety Inventions**

INTEGRATION - LANGUAGE ARTS STANDARDS

The Oregon 2005 Literacy Initiative urges teachers to provide learning opportunities for students to achieve the following skills:

- Every K - 3rd grade student will become a proficient reader.
- All 4th - 12th grade students will meet measurable and increasingly complex reading, writing and speaking skills.

This elementary fire awareness curriculum includes activities and assessments to develop and strengthen reading, writing and speaking skills. A "Key Words and Concepts" list at the start of each unit includes vocabulary to be woven into first through fifth grade lessons. A "Do the Write Thing" graphic illustration is included with each unit to be used as a prompt for student writing activities and reflection. An extensive resource list is provided for teachers and students at the end of each unit.

Common Curriculum Goals	Content Standards	Grades 3-4	Grade 5
Reading	Listen to and read informational text.		
Writing		***What Can You Do?*** **Unit 1: Fire Facts**	***What Can You Do?*** **Unit 1: Fire Facts**
Speaking			

GOAL

The goal of this curriculum is

to teach fire awareness concepts to

elementary students and provide them

opportunities to practice skills for personal,

family and community safety.

CORE CONCEPTS

Age-appropriate knowledge about fire.

Learning and practicing skills.

Responsible decision-making.

WHAT CAN YOU DO?

Scope and Sequence

UNIT TOPICS	Fire Facts	Fire Prevention	Fire Safety Inventions	Survival Skills	Fire-Smart Decisions
Student will …	…understand the role of fire and its impact on human life.	…recognize the components of fire prevention.	…identify the technolgy related to fire survival and suppression.	…identify survival skills for disasters such as fire, earthquakes & severe weather.	…recognize responsible behavior regarding fire.
Grade 1-2	**Community Helpers** Access information on fire station, staff, equipment and services. (AI)	**Safe/Unsafe for Children** Compare & contrast responsible fire use & misuse. (C)	**Smoke Alarms & Advocacy** Demonstrate correct response to smoke alarm, test, advocate. (AV)	**Survival Skills Stations** Demonstrate steps for survival in home fire and earthquake. (SM)*	**Decision-Making Skills** Practice decision-making strategy and make fire-safe choices. (DM)
Grade 3-4	**Time line of Fire** Explore the uses of fire throughout history. (AI)	**Investigation Stations** Analyze the leading causes of home fires. (AI)	**Technology Timeline** Construct chronological sequences of fire suppression technology.	**Fire Escape Plan** Create home fire escape plan and earthquake survival plan. (C)*	**Fire-Safe Scenarios** Write decision-making dialogue. (DM)*
Grade 5	**Reality of Fire** Describe the physical characteristics of fire. (AI)	**Home Fire Hazards Search** Assess home fire hazards. (AV)	**Fire History Research** Research fire history. (AI)	**Disaster Preparedness** Develop and practice emergency plans. (SM)	**Fire Safe Fire Smart Skits** Communicate responsible decision-making. (IC)*

*performance task for Health Education standards and assessment

INFORMATION ABOUT THE CURRICULUM

WHAT CONTENT IS COVERED?

age-appropriate, relevant and realistic content related to fire awareness and disaster preparedness with family, community and curriculum connections

WHAT LESSON SEQUENCE SHALL I FOLLOW?

A scope and sequence is included. “A” lessons are designed for grades 1-2, “B” lessons for grades 3-4, and “C” lessons for grade 5. Review and further exploration of lessons from the previous year should be used as a bridge for the current lesson. Extended learning activities are suggested.

WHAT IS THE TIME COMMITMENT FOR THE LESSONS?

Lessons are designed for a thirty minute class period. There are five lessons for each of the grades 1 through 5 and a summer safety lesson on fireworks and campfire safety appropriate for all grades. Lessons may be extended beyond thirty minutes depending on class interest and/or needs. Performance tasks for State Health Education Standards may require additional class time.

WHAT ABOUT SENSITIVE ISSUES?

It is important to consider both site-specific needs and student needs. A parent letter to be sent home before starting the curriculum suggests that parents contact the teacher with questions or concerns, such as a student experiencing a home fire or burn injuries.

A SPECIAL OPPORTUNITY

Teachers are invited to submit exemplary student work for sharing via the *What Can You Do?* page on the Office of State Fire Marshal Web site.

Mail to: Office of State Fire Marshal
Community Education Unit / What Can You Do? support
4760 Portland Rd NE
Salem OR 97305-1760

Email: oregon.sfm@state.or.us (Subject line: What Can You do?)

HOW TO USE THE CURRICULUM

REVIEW

Begin with reviewing the state standards in health education, language arts, and social sciences, since *WHAT CAN YOU DO?* is aligned with these standards. Oregon standards are included for reference with applicable *WHAT CAN YOU DO?* lessons**.**

READ

The *Supplementary Materials* section contains *Teacher Notes* and lesson support materials such as work sheet masters. Reading the *Teacher Notes* is necessary to successfully use this curriculum. The core content of each lesson is provided in the *Teacher Notes* section. References to extra resources are included for some of the units if the teacher wishes to expand the lessons beyond the core content provided.

PLAN

Use the scope and sequence as your framework for the five units that cover fire awareness education.

WHAT CAN YOU DO?

is designed to be flexible at the elementary level. Teachers can easily cover the curriculum in a week or add days according to school and community opportunities. For example, a field trip to the fire station or arrangement for a mobile fire escape simulation to be scheduled at school would be a great extension to the fire safety lessons provided. Teachers may also include days needed to complete health education performance tasks and assessments at 3rd and 5th grade benchmark levels.

CHECK FOR COMPREHENSION

Adapt lesson concepts and vocabulary to the abilities of your students.

TEACH AND REFLECT

“Your space,” a reflection space for the teacher, is included with each lesson.

NOTE:

Student folders are a suggested organizational tool.

Informational pieces to be sent home with the students are labeled “Home Connection.”

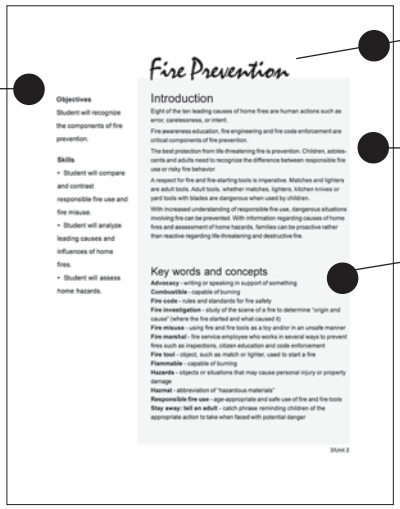
ANATOMY OF THE CURRICULUM

Unit objectives and skills

Unit title

Basic introduction to the topic

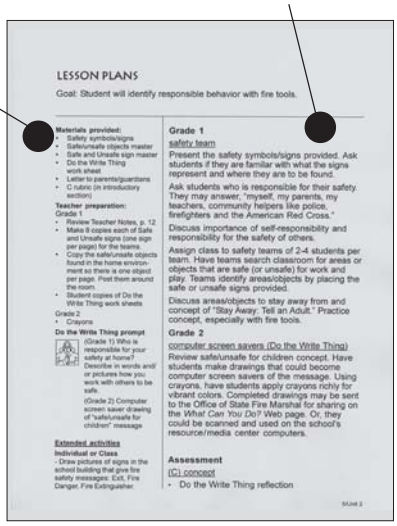
Vocabulary used in the unit



Included in the curriculum:
Video components in DVD format, timeline cards and timeline, supplemental materials for each lesson, and "Home Connection" life safety materials designed to go home with your students.

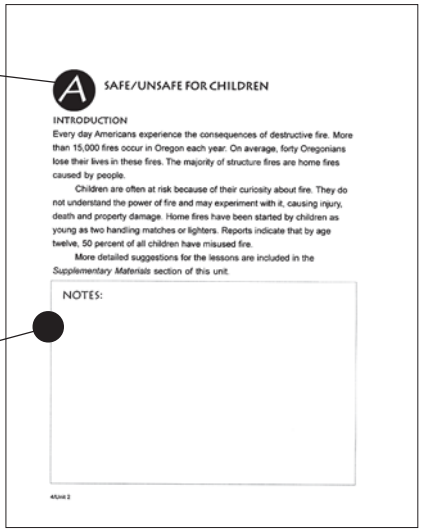
Lesson activities are described

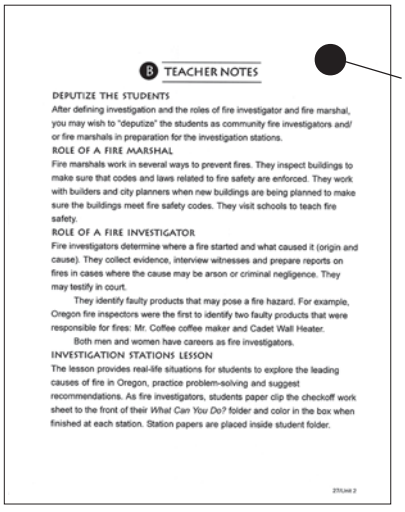
The materials provided by the curriculum and the preparation required by the teacher are listed for each lesson.



The lessons are designated:
A (Grades 1 & 2)
B (Grades 3 & 4)
C (Grade 5)
Lesson content is sequential: initial concepts are in A lessons. B and C lessons build in level of understanding on preceding lesson(s).

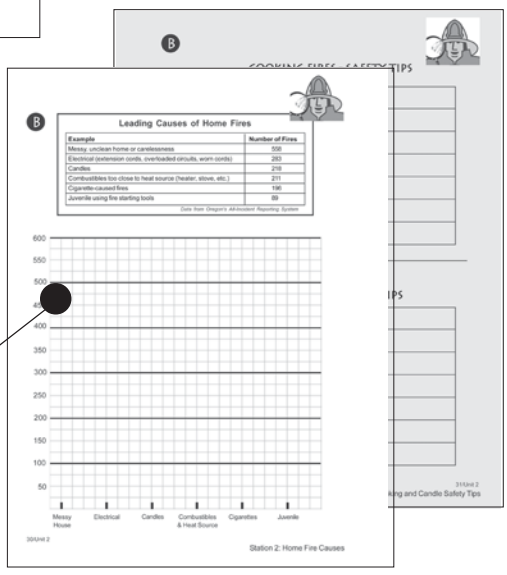
A space has been provided for teacher to place personal notes for the lesson.





Content for each lesson is found in *Teacher Notes*. A, B or C symbols coordinate the notes with the proper lesson.

Supplemental materials, such as work sheets, are included at the end of each unit.



TEACHING STRATEGIES/LESSON ACTIVITIES IN THE CURRICULUM

Acrostic: a composition in which sets of initial (or final) letters taken in order form a word, phrase, or regular sequence of the alphabet

Brainstorming: students generate many ideas on given topic

Case study: students analyze reports or written histories of a situation, identify problem and recommend solution(s)

Concept/mind map/web: visual technique that starts with a central idea and includes related ideas connected to the central idea

Cooperative groups: students work in small groups on given topic and/or task

Demonstration: use of support materials to provide visual examples and/or show how things work

Discussion: students contribute and build on ideas shared in class

Do the Write Thing: template used as teacher prompt on lesson content or student reflection. Used throughout the curriculum, a master is included in the Introductory Section

Guest speaker: resource for teacher and students who shares expertise and experience on specific topic/profession

Jigsaw: students within group(s) reads section of the whole (i.e. paragraph from article) to learn topic, then share information with others

KWL: visual diagram of thinking process connecting prior knowledge with current questions on topic and learning that actually occurs

Peer teaching: after students master concepts and skills, they teach other students

Simulation: students learn about and respond to real life experiences in structured setting, can be done rotating through stations

Skits (role plays): students act out specific roles/situations, using a script or improvising to reinforce concepts learned and to practice skills

Surveys/inventories: students gather and assess safety-related information

Venn diagram: visual diagram of two or more overlapping circles for comparing and contrasting

WHAT IS "DO THE WRITE THING?"

Do the WRITE Thing is a language arts strategy that is woven throughout the curriculum to support literacy.

Do the WRITE Thing prompts (listed below) can be transferred onto a copy of the master to make a transparency or copies for the students.

Unit 1

A (Grade 1, 2) Write and/or draw one example of a firefighter's job.

Unit 2

A (Grade 1) Who is responsible for your safety at home? Describe in words and/or pictures how you work with others to be safe.
(Grade 2) Draw a computer screen saver showing a "safe/unsafe for children" message.

B (Grade 3) Use the Home Fire Causes Table. Choose 3 of the causes and suggest ways to reduce the risk.
(Grade 4) If you were a fire marshal, write what you would do to help make your community a safe place to live?

Unit 3

A (Grade 1, 2) Create a computer screen saver reminding families of smoke alarm use and maintenance.

B (Grade 3) Make a mind map of moving water to extinguish fire, including buckets, pumps, water storage methods, fire engines, fire sprinklers.

Unit 4

A (Grade 1) Today I practiced survival skills. The survival skill I am most comfortable with is _____.
A skill I need to practice is _____.

Unit 5

A (Grade 1, 2) Write and/or draw an example of yourself making a fire-safe decision using the STOP-THINK-GO strategy.

DO THE WRITE THING

Sample parent letter

date

Dear Parents/Guardians,

We will be studying fire awareness and disaster preparedness the week of _____. The research-based curriculum we'll be using is called ***What Can You Do?*** The goals are to teach age-appropriate concepts and to provide opportunities for students to practice skills for personal, family and community safety.

During the week, students will be given information and assignments to reinforce classroom lessons. These "home connections" support the importance of our working together to nurture healthy, smart and safe students.

Thank you for sharing the responsibility for fire prevention as well as preparing for and practicing what to do in threatening situations such as fire, earthquakes and floods.

If you have any questions or concerns, please contact me. If you can assist in the classroom on _____, please contact me.

teacher name

_____

_____ Yes, I can assist in the classroom during the fire awareness and disaster preparedness unit.

_____ _____

parent/guardian name date

This folder belongs to _____

Scoring Guide for Accessing Information AI

NHES#2: Students will demonstrate the ability to access valid health information and health-promoting products and services.

	Source Identification	Source Validity
4	Identifies a specific source of health information, products or services. Provides accurate and complete citations for the specific source(s).	Thoroughly evaluates each source to determine its validity and appropriateness (e.g. accessibility, affordability) to the given health situation. Clearly and accurately explains why the sources are valid and appropriate.
3	Identifies source(s) of health information, products or services. Citations for the source(s) are mostly accurate and complete.	Adequately evaluates source validity and appropriateness. Provides a general explanation of why the sources are valid and appropriate.
2	Identifies general source(s) of health information, products or services. Citations for the source(s) are inaccurate and/or incomplete.	Attempts to evaluate sources to determine their validity and appropriateness, but the evaluation is incomplete or flawed. Does not provide an effective explanation.
1	No source identified or cited.	Evaluation of source(s) is flawed. Cannot determine whether the source is valid — OR — does not attempt to evaluate sources to determine validity or appropriateness to the given health situation.

Goals or Action:

_____

_____

_____

Scoring Guide for Advocacy AV

NHES#7: Students will demonstrate the ability to advocate for personal, family, and community health.				
	Health-enhancing position	**Support for Position**	**Audience Awareness**	**Conviction**
4	Extremely clear, health-enhancing position.	Thoroughly supports position using relevant and accurate facts, data, and evidence.	Strong awareness of the target audience (e.g. the audience's perspective, interests, prior knowledge)	Displays strong and passionate conviction for position.
3	Generally clear, health-enhancing position.	Adequately supports position using facts, data, evidence; support may be incomplete and/or contain minor inaccuracies.	Adequate awareness of audience.	Displays conviction of position.
2	Unclear or conflicting positions.	Inadequately supports position, due to limited information, and/or some inaccuracy, irrelevant facts, data or evidence.	Some evidence of awareness of audience.	Displays minimal conviction for position.
1	No position stated OR position is not health-enhancing.	No accurate or relevant support for position is provided.	No evidence of audience awareness.	Conviction for position is not evident.

Goals or Action:

_____

_____

_____

Scoring Guide for Concepts C

NHES#1: Students will comprehend concepts related to health promotion and disease prevention.		
	Connections	**Comprehensiveness**
4	Completely and accurately describes relationships between behavior and health. Draws logical conclusion(s) about the connection between behavior and health.	Thoroughly covers health topic, showing both breadth (wide range of facts and ideas) and depth (details about facts and ideas). Response is completely accurate.
3	Describes relationships between behavior and health with some minor inaccuracies or omissions. Draws a plausible conclusion(s) about the connection between behavior and health.	Mostly covers health topic, showing breadth and depth, but one or both less fully. Response is mostly accurate, but may have minor inaccuracies.
2	Description of relationship(s) between behavior and health is incomplete and/or contains significant inaccuracies. Attempts to draw a conclusion about the connection between behavior and health, but the conclusion is incomplete or flawed.	Minimal coverage of health topic, showing some breadth but little or no depth. Response may show some inaccuracies.
1	Inaccurate or no description of relationship(s) between behavior and health. Inaccurate OR no conclusion drawn about the connection between behavior and health.	No coverage of health topic information. Little or no accurate information.

Goals or Action:

_____

_____

_____

Scoring Guide for Decision-making* DM

NHES#6: Students will demonstrate the ability to use goal-setting and decision-making skills to enhance health.	
	Use of a Decision-Making Process
4	Reaches a health-enhancing decision using a decision-making process consisting of the following steps: • Identifies a situation that poses a health risk. • Examines a *comprehensive* set of alternative courses of action. • *Fully* evaluates the positive and negative health consequences of each alternative course of action. • Decides on a health-enhancing course of action.
3	Reaches a health-enhancing decision using a decision-making process consisting of the following steps: • Identifies a situation that poses a health risk. • Examines *some* alternative courses of action. • Evaluates *some* of the positive and negative health consequences of each alternative course of action. • Decides on a health-enhancing course of action.
2	Reaches a decision that is health-enhancing. The decision-making process is incomplete or contains flaws. For example: • May or may not identify a situation that poses a health risk..• Does not examine alternative courses of action. • Fails to evaluate the positive and negative health consequences of alternative course of action. • Decides on a health-enhancing course of action.
1	Does not reach a health-enhancing decision due to an ineffective decision-making process. Steps of the decision-making process are not evident.

* The two skills of *goal-setting* and *decision-making* are embedded in National Health Education Standard #6. For the purposes of analyzing student work, separate rubrics have been developed.

Goals or Action:

_____

_____

_____

Scoring Guide for Goal-setting* GS

NHES#6: Students will demonstrate the ability to use goal-setting and decision-making skills to enhance health.		
	Goal Statement	**Implementation**
4	Clear and complete goal statement that explicitly states long-term health benefits.	Goal-setting plan is characterized by: • An achievable goal, directly leading to long-term health benefits. • Logical, sequential steps. • A process for assessing progress.
3	Goal statement that suggests or implies long-term health benefits.	Goal-setting plan is characterized by: • An achievable goal. • Logical steps, but may be incomplete. • A process for assessing progress, but may be incomplete.
2	Goal statement, but with no reference to health benefits.	Goal-setting plan is characterized by: • Unrealistic goal or one that would not lead to long-term health benefits. • Insufficient recognition of steps. • No process for assessing progress identfied.
1	No clear goal statement.	No goal-setting plan is stated, or plan is vague or unrealistic.

* The two skills of *goal-setting* and *decision-making* are embedded in National Health Education Standard #6. For the purposes of analyzing student work, separate rubrics have been developed.

Goals or Action:

_____

_____

_____

Scoring Guide for Interpersonal Communication IC

NHES#5: Student will demonstrate the ability to use interpersonal communication skills to enhance health.	
	Communication Strategies
4	Thoroughly uses appropriate verbal/nonverbal communication strategies* to enhance the health of self and others: **such as …* **Skills** • Negotiation skills • Refusal skills • Conflict management skills **Behaviors** • Eye contact • Clear message • "I" messages • Respectful tone • Body language • Expressing needs, wants, feelings • Restating other points of view • Suggesting an alternative
3	Uses mostly appropriate verbal/nonverbal communication strategies* to enhance the health of self and others.
2	Attempts to use verbal/nonverbal communication strategies* to enhance the health of self and others, but the selected strategy may be inappropriate or ineffectively employed.
1	Rarely or never uses appropriate verbal/nonverbal communication strategies* to enhance the health of self and others

Goals or Action:

_____

_____

_____

Scoring Guide for Analyzing Influences

INF

NHES#4: Students will analyze the influence of culture, media, technology, and other factors on health.	
4	Fully recognizes relevant influence(s) (internal and/or external). Accurately and completely explains how the influence(s) impacts personal, family and/or community health practices and behaviors.
3	Recognizes relevant influence(s). Provides a general explanation of how the influence(s) impacts personal, family and/or community health practices and behaviors.
2	Recognizes influence(s) but does not provide an effective explanation of how the influence(s) impacts personal, family and/or community health practices and behaviors.
1	No relevant influence(s) is identified. Explanation is missing or reveals a misunderstanding of the impact of the influence(s).

Goals or Action:

_____

_____

_____

UNIT 1

FIRE FACTS

Scope and Sequence

A

COMMUNITY HELPERS

Activity 1/ Grade 1

Teacher-led discussion of firefighter

Activity 2 / Grade 2

Teacher-led discussion of paramedic

B

TIMELINE OF FIRE

Activity 1 / Grade 3

Concept map and timeline by era

Activity 2 / Grade 4

Concept map and timeline by category

C

REALITY OF FIRE

Grade 5

Jigsaw and reality of fire from scenarios

If your school has several teachers using this curriculum, lesson plans, supporting teacher notes & student work sheets are available for download by grade level at the Office of State Fire Marshal Web site: www.oregon.gov/OSP/SFM/Curriculum_for_Grades_1-8.shtml

Fire Facts

Objectives

Student will understand the role of fire and its impact on human life.

Skills

Grades 1 & 2

- Student will identify fire station staff, equipment and services to the community.

Grades 3 & 4

- Student will analyze the roles of fire throughout history.

Grade 5

- Student will describe the characteristics of fire.

Introduction

Fire is critical to human survival on earth. For hundreds of years, it has been used as a tool to heat and light our homes as well as cook our food. Fire has also caused destruction, injury, and death.

Most fires are caused by human carelessness. Knowledge about fire and fire safety and respect for fire's power are imperative.

This unit will familiarize students with the training and equipment firefighters use to take care of themselves and their community; students will explore the positive role of fire throughout history; and students will learn that fire is fast, fire is hot, fire is dark and fire is deadly. The reality of fire and its potential harm are discussed as functional knowledge.

Key words and concepts

Apparatus: vehicles used when fighting fire
Dangers of fire - fast, hot, dark, deadly
Energy - the ability to do work
Engineer - member of fire crew, drives and maintains fire engine
Fire chief - in charge of fire crew at fire station and scene of fire
Firefighter - member of fire crew, responsible for firefighting, maintaining equipment, and fire prevention
Forest fire - fire area of land covered densely with trees
Fossil fuel - coal, oil or gas formed from the organic remains of prehistoric plants and animals
Fuel - combustible material such as wood, paper, fabric, grease
Nonrenewable energy - energy sources that get used up and aren't renewed in a long time (oil, coal, wood)
Paramedic - person trained to handle medical emergencies
Passive solar - use of the natural movement of heat and air (rather than mechanical methods) to maintain comfortable temperatures in a building. Active solar uses mechanical aids such as solar panels
Renewable energy - energy sources that do not get used up (sun, wind)
SCBA - Self Contained Breathing Apparatus
Structural fire - residential or building fire
Smoke - a gaseous product that arises from a burning substance
Solar energy - use of the energy hitting earth as sunlight
Sun energy - energy from sun stored in plants or fuels like coal and wood
Turnout Clothes - protective clothing worn when fighting fire

B TIMELINE OF FIRE

INTRODUCTION

With these lessons, students are introduced to the concept of a timeline through an integrative approach. The uses of fire are considered both chronologically (grade 3) and categorically (grade 4).

Interestingly, "old" to students of this age may be their grandparents. To establish context, you may wish to begin by placing the students' names or photos at the present, and their parents and grandparents at their approximate times of birth. More detailed suggestions for the lessons are included in the *Supplementary Materials* section of this unit.

NOTES:

LESSON PLANS

Goal: Student will explore the useful roles of fire throughout human history.

Materials provided:
- Timeline
- Timeline item cards
- AI rubric (in introductory section)

Teacher preparation:
- Review Teacher Notes, p. 19
- Sort timeline cards by eras or categories
- Means (such as Ticky Tac) to add items to timeline temporarily

Timeline eras
- Ancient times to 30,000 BC
- 8,000 BC to Zero BC
- 1 AD to1500 AD
- 1500 AD to1850 AD
- 1850 AD to recent

Uses of fire categories:
- Fire-making technology
- Light
- Heat
- Cook
- Manage environment
- Make products of clay, glass, metal
- Signal
- Develop technological inventions
- Power
- Other, miscellaneous uses

Supplemental lesson related to native American studies

- A Yurok Indian myth about the theft of fire is included in Unit 6 and as a booklet.

Enrichment activities

- For these lessons, suggested enrichment activities are included with the Teacher Notes on page 20.

Grade 3

class concept map and timeline by era

Introduce the concept of a timeline. Brief teacher-led discussion about "it all begins with the sun" (See *Teacher Notes*.)

Using a concept map, illustrate the uses of fire by categories. Encourage a brief discussion about the importance of each category to people's comfort and survival — research groups will be prioritizing based on this discussion.

Break the class into five research groups. Give each group one set of cards (sorted by era) to study. Groups should select a recorder and a reporter in addition to the role of researchers.

Groups will decide on the most important three to five items from their study and place them on the time line. Have the reporter indicate why the group selected the items it did.

Grade 4

class concept map and timeline by categories

Review the concept of a timeline and uses of fire categories from Grade 4 activity.

Use the same method as Grade 3 activity, but have groups access information in cards sorted by category. Pre-select the categories to use.

Assessment

(AI) accessing information

- Information on fire throughout history is transferred to class timeline. Class may create a class book summarizing their choices.

Supplementary materials

B TEACHER NOTES

INTRODUCE THE CONCEPT OF A TIMELINE

1) Distinguish BC (sometimes BCE, "before common era") from AD (sometimes CE, "common era").
2) Explain that BC numbers start high and get smaller and that numbers AD start small and get bigger.
3) Explain that a timeline is a method of understanding when, or how long ago, something happened.
4) The timeline of fire used in this lesson will help us understand how things used to be done, how they are done now and how discoveries build on each other.
5) Help students acquire an understanding of how old "old" is.

FIRE'S USE THROUGHOUT HISTORY

Human beings have used fire in many ways since "ancient times," a period of time so far in the past that no exact date can be given for the exact moment when people learned basic things about fire. By studying the history of mankind's use of fire, important connections between the past, present and future are made.

IT ALL BEGINS WITH THE SUN

The story of life on earth begins with the sun. It provides heat, light and energy and makes life on earth possible.

The sun is a large, gaseous ball of fire — about 1.4 million kilometers across. Its average surface temperature is about 10,000 degrees Fahrenheit. All fire derives from the sun.

DIRECT OR STORED SUNLIGHT

Sometimes sunlight is used directly: Houses with lots of windows facing south are heated by sunlight entering the house. The direct use of sunlight is known

Continued on page 20

as renewable energy. Sometimes the sun stores energy in plants. The use of stored sunlight is known as nonrenewable energy.

HOW IS SUNLIGHT STORED?

Plants take carbon from carbon dioxide in the air, use sunlight to power a chemical process in their leaves known as photosynthesis, put oxygen back into the air, and use the carbon to make plant parts such as roots, stems, leaves and fruit.

Around 400 million years ago there was so much carbon dioxide in the air that plants had plenty of carbon to grow abundantly. Seventy million years ago Earth's land mass changed dramatically and 70 million years' worth of decayed plant material was buried underground and became fossil fuels (coal, oil, gas). Fossil fuels contain stored sun-energy.

HOW DO PEOPLE USE STORED SUNLIGHT?

When a person or animal eats a plant they use the sun-energy stored by the plant to fuel their body.

When wood and fossil fuels are burned, the sun-energy stored in them is used to produce energy.

Enrichment activities

Individual

… Using computer or classroom collection of books, student may develop a more in-depth report about an item on the timeline.

Individual or Class

… Read and discuss, or write a report, based on the *Theft of Fire* booklet included with the curriculum.

Class

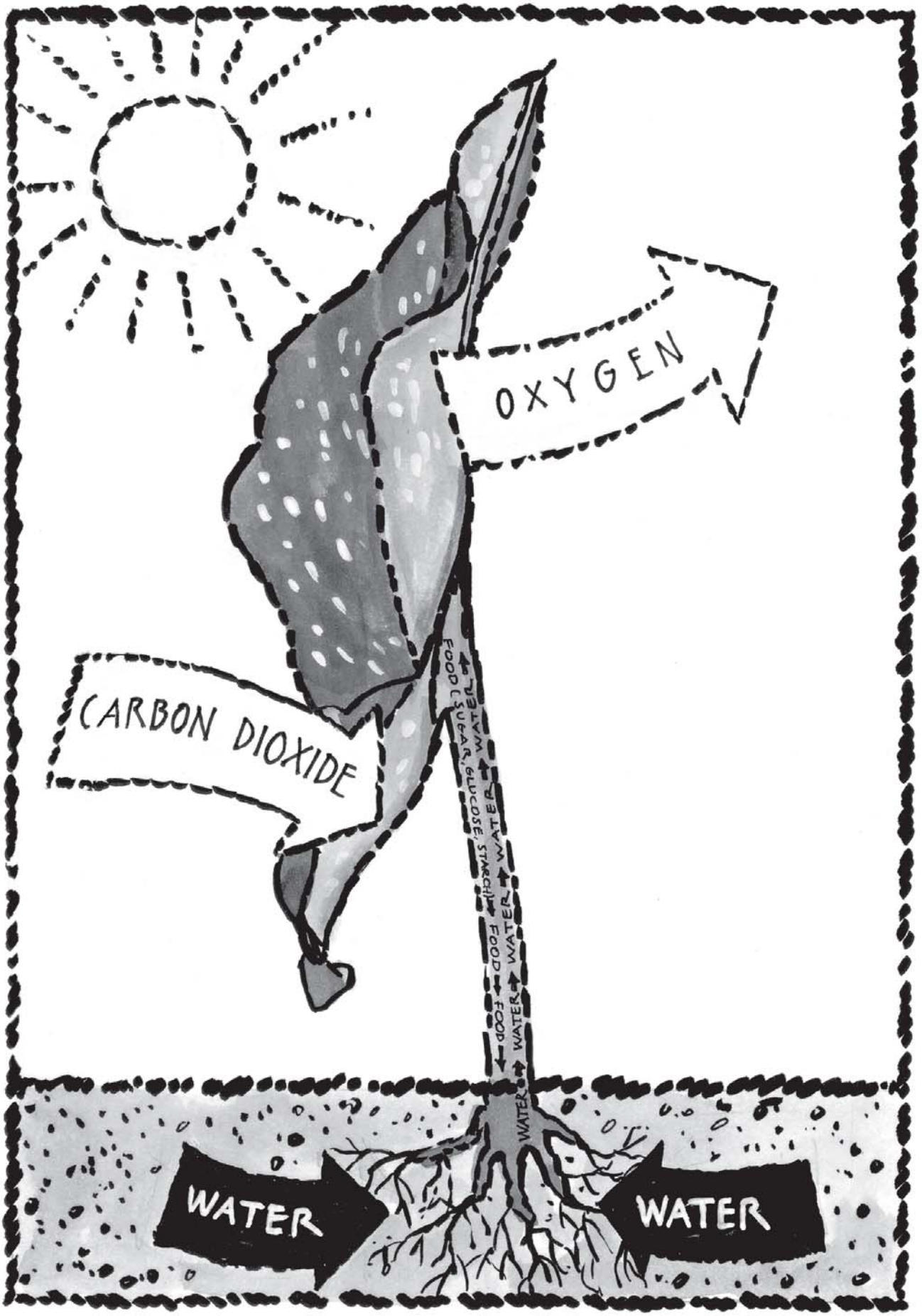
Note: Experiments with magnifying glasses to light a fire are not recommended!

… Native American and Oregon Trail studies woven into timeline and presented to classes in the same grade.

… An experiment testing the temperature of water in a black pan in sunlight versus a white pan in sunlight. Measure temperature and report results.

… An experiment illustrating the importance of firing and glazing on clay pots. Ahead of time, make a small clay pot and allow to dry completely. Place the unfired clay pot, a fired unglazed pot, and a fired and glazed pot on pieces of absorbent paper. Pour water in each pot and record results.

… Collaboration with the science teacher around the concepts of the sun as a ball of fire, photosynthesis, coal and wood containing stored sun energy and renewable/nonrenewable energy are a natural teaching partnership.


OXYGEN
CARBON DIOXIDE
WATER
WATER
WATER
WATER
FOOD
FOOD (SUGAR, GLUCOSE, STARCH)
WATER
WATER

Key to the timeline cards, organized by era

Ancient to 30,000 BC

ANCIENT TIMES
People discovered they could make fire by rubbing two sticks together or by striking two stones together.

ANCIENT TIMES
People burned melted animal fat in a hollowed-out stone to create the first lamp.

500,000 BC
People used a campfire to keep warm.

500,000 BC
People used a campfire to cook their food.

65,000 BC
The first "stove" was a fire built on flat stones. People cooked food on the hot stones. People boiled water by taking hot stones from the fire with a stick and dropping the stones in water.

30,000 BC
Native Americans used fire to clear weeds near streams so grass and trees would grow instead. The grass and trees were food for birds and animals that the Native Americans used for food and fur.

30,000 BC
Native Americans used fire to clear ground for growing food and to increase the yield of berries.

30,000 BC
Native Americans used fire to clear a fireproof area around camps and plants they used for medicine.

30,000 BC
Native Americans used fire to drive animals they were hunting into places where they could be killed easily.

30,000 BC
Native Americans used fire to manage pests such as black flies, mosquitos, rodents and poisonous snakes.

30,000 BC
Native Americans used smoke from fire to alert tribes about enemies or to gather people to fight enemies.

8,000 BC to zero BC

8000 BC
Bricks were made of CLAY pressed into a mold and dried in the sun. If these bricks got wet, they would turn back into clay.

6500 BC
CLAY pots were "fired" to make them hard by putting them in a fire. They could be used to store and cook food but they didn't hold liquid and would leak.

2500 BC
A portable heater was made of metal and filled with hot embers or coal and carried from room to room for heat. (Greece)

1500 BC
GLASS containers were made by dipping a soft clay shape in melted glass. When the glass cooled and hardened, the clay was dug out. They held oils for cosmetics.

1100 BC
Records show that coal was used as a fuel.

1000 BC
The first candles were wicks stuck in a container filled with a flammable liquid such as oil.

600 BC
A special stone, rock crystal, was used to focus the sun's rays to make a campfire.

300 BC
Romans invented the first central heating system — called a "hypocaust." Wood was burned in a furnace. The hot air from the furnace passed through spaces under the floor and hollow tiles in the walls to heat a room.

290 BC
The ruler Ptolemy built the first lighthouse in the world to guide ships into the harbor. The lighthouse used a large fire for light. (Egypt)

100 BC
"Glaze" is a material that looks like cream. When a fired CLAY pot is dipped in glaze and put in the fire again the glaze becomes hard and shiny like glass. Glazed pots can hold liquids without leaking.

50 BC
GLASS blowing was discovered. Glass was heated in a special furnace until it melted and could be blown like a bubble. This was a way to produce many glass bottles.

1 AD to 1500 AD

62 AD
Heron studied using steam from boiling water to make inventions run. He invented the first steam “engine” and called it a ""wind ball.” Heron used steam to power machines to amuse his friends.

100 AD
Pliny the Younger, an Italian historian, built the first solar home to use glass in the window openings to keep heat from the sun in and cold out.

500(S) AD
Houses were heated by fire in a fireplace. Smoke went up a chimney.

529 AD
The Roman Emperor Justinian made “sun rights” a law so that every building had access to the sun to warm it. People were not allowed to build if their house shaded their neighbor's house.

700(S) AD
People in China used stoves to heat their homes.

1200 AD
Some Native Americans lived in cliff dwellings that faced south. The sun was used to heat their homes.

1380 AD
Hot liquid METAL was made into metal alphabet letters that were used to print books. (Korea) Gutenberg invented moveable type and a printing press in 1439 AD. (Germany)

1400(S) AD
Wood-burning stoves were used for heating in Europe.

1490 AD
Wood-burning stoves were used for cooking for the first time. (France)

1500(S) AD
People in Holland, France and England built glass greenhouses. Energy from the sun made it possible to grow fruits, vegetables and other plants all year.

1500 AD to 1850 AD

1687 AD
Piston-driven steam engine was invented by Denis Papin, but he never built one. (France/England)

1744 AD
Benjamin Franklin invented the Franklin Stove to replace the fireplace for heat. Smoke came out the bottom and it didn't stay lit for very long. Later, someone added a chimney pipe to remove smoke from the room.

1767 AD
Horace Benedict de Saussure built the first known solar oven. It used the heat of the sun to cook food. It didn't need fuel such as wood.

1783 AD
A man named Argand invented an oil lamp with a wick and glass cover to protect the flame from air movement and flickering. (Swiss)

1783 AD
Two people in a hot air balloon flew about 6 miles in 25 minutes. Heat from straw burning in a basket below the balloon made it fly. A basket below the burning straw held the people. (France)

1800(S) AD
Lamps that burned kerosene or gas began to be used. They gave more light than candles of beeswax or animal fat (tallow).

1800(S) AD
A large boiler to heat water for heating a whole house was invented. The hot water was carried by hidden pipes to the upper floors of the house. (Europe)

1800(S) AD
"Coke," a new fuel, burned very hot. Steel, a new metal, was made in furnaces heated with coke. Steel is stronger than iron. (Coke is what is left after coal is burned. Steel is made of iron combined with carbon.)

1827 AD
The first matches were invented, but they were unsafe to use. The flame was unsteady and they lit with a bang.

1844 AD
Safety matches were invented. They had to be struck against a special striking patch. They didn't light with a bang like the first matches.

1850 to 21st Century

1850(S) AD
Cooking began to be done in an oven instead of an open fireplace. The oven was made by raising the fireplace and walling it in.

1860(S) AD
Pioneers in the United States discovered that water in black pans gets hot in the sunlight.

1870(S) AD
Augustin Mouchot used heat from the sun to run cookers, water pumps for irrigation and distillers for wine and water. (France)

1891 AD
Clarence Kemp patented the first commercial solar water heater. The sun was used to heat water. (United States)

1903 AD
Dr. Carl von Welsbach invented a lighter flint made of special metals. When struck, it produced a spark that could start a fire.

1948 AD
Grass farmers in Oregon began burning their fields to clean them.

1950(S) AD
Solar cells in space using light from the sun were used in the United States for satellites.

1954 AD
Solar cells, known as photovoltaics, were invented. Photovoltaics use light from the sun to produce electricity.

1977 AD
President Jimmy Carter installed solar panels on the White House roof to use the sun to heat water. He encouraged people to use solar energy. The solar panels were removed from the White House in 1980. (United States)

1984-1991 AD
Nine power plants using the sun to create electricity were built in California. They closed in 1991 when gas prices were low. In 2002, gas prices were high and more solar power plants were built.

Key to the timeline cards, organized by categories

Fire-making technology

ANCIENT TIMES
People discovered they could make fire by rubbing two sticks together or striking two stones together.

600 BC
A special stone, rock crystal, was used to focus the sun's rays to make a campfire.

1827 AD
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To light

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People burned melted animal fat in a hollowed-out stone to create the first lamp.

1,000 BC
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To heat

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People in China used stoves to heat their homes.

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To cook

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65,000 BC
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1850(s) AD
Cooking began to be done in an oven instead of an open fireplace. The oven was made by raising the fireplace and walling it in.

To manage environment

30,000 BC
Native Americans used fire to clear weeds near streams so grass and trees would grow instead. The grass and trees were food for birds and animals that the Native Americans used for food and fur.

30,000 BC
Native Americans used fire to clear ground for growing food and to increase yield of berries.

30,000 BC
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30,000 BC
Native Americans used fire to clear a fireproof area around camps and plants they used for medicine.

30,000 BC
Native Americans used fire to manage pests such as black flies, mosquitos, rodents and poisonous snakes.

1948 AD
Grass farmers in Oregon began burning their fields to clean them.

To make a product

8000 BC
Bricks were made of CLAY pressed into a mold. If these bricks got wet, they would turn back into clay.

6500 BC
CLAY pots were "fired" to make them hard by putting them in a fire. They could be used to store and cook food but they didn't hold liquid and would leak.

2500 BC
A portable heater was made of metal and filled with hot embers or coal and carried from room to room for heat.

1500 BC
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"Coke," a new fuel, burned very hot. Steel, a new metal, was made in furnaces heated with coke. Steel is stronger than iron. (Coke is the what is left after coal is burned. Steel is made of iron combined with carbon.)

To signal

30,000 BC
Native Americans used smoke from fire to alert tribes about enemies or to gather people to fight enemies.

290 BC
The ruler Ptolemy built the first lighthouse in the world to guide ships into the harbor. The lighthouse used a large fire for light. (Egypt)

Technology

1870(s) AD
Augustin Mouchot used heat from the sun to run cookers, water pumps for irrigation, distillers for wine and water. (France)

1950(s) AD
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To power

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Piston-driven steam engine was invented by Denis Papin, but he never built one. (France/England)

1783 AD
Two people in a hot air balloon flew about 6 miles in 25 minutes. Heat from straw burning in a basket below the balloon made it fly. A basket below the burning straw held the people. (France)

Cards that have solar energy as a common theme are indicated with this sun symbol.

Cards that have Native Americans as a common theme are indicated with this feather symbol.

UNIT 2

FIRE PREVENTION

Scope and Sequence

A

SAFE / UNSAFE FOR CHILDREN

Activity 1/Grade 1

Safety team

Activity 2/Grade 2

Computer screen savers

B

INVESTIGATION STATIONS

Activity 1/Grade 3

Problem-solving stations 1, 3, 5

Activity 2/Grade 4

Problem-solving stations 2,4,6

C

HOME FIRE HAZARDS SEARCH

Grade 5

Home fire inspection survey

If your school has several teachers using this curriculum, lesson plans. supporting teacher notes & student work sheets are available for download by grade level at the Office of State Fire Marshal Web site: www.oregon.gov/OSP/SFM/Curriculum_for_Grades_1-8.shtml

Fire Prevention

Objectives

Student will recognize the components of fire prevention.

Skills

- Student will compare and contrast responsible fire use and fire misuse.
- Student will analyze leading causes and influences of home fires.
- Student will assess home hazards.

Introduction

Eight of the ten leading causes of home fires are human actions such as error, carelessness, or intent.

Fire awareness education, fire engineering and fire code enforcement are critical components of fire prevention.

The best protection from life-threatening fire is prevention. Children, adolescents and adults need to recognize the difference between responsible fire use or risky fire behavior.

A respect for fire and fire-starting tools is imperative. Matches and lighters are adult tools. Adult tools, whether matches, lighters, kitchen knives or yard tools with blades are dangerous when used by children.

With increased understanding of responsible fire use, dangerous situations involving fire can be prevented. With information regarding causes of home fires and assessment of home hazards, families can be proactive rather than reactive regarding life-threatening and destructive fire.

Key words and concepts

Advocacy - writing or speaking in support of something
Combustible - capable of burning
Fire code - rules and standards for fire safety
Fire investigation - study of the scene of a fire to determine “origin and cause” (where the fire started and what caused it)
Fire misuse - using fire and fire tools as a toy and/or in an unsafe manner
Fire marshal - fire service employee who works in several ways to prevent fires such as inspections, citizen education and code enforcement
Fire tool - object, such as match or lighter, used to start a fire
Flammable - capable of burning
Hazards - objects or situations that may cause personal injury or property damage
Hazmat - abbreviation of “hazardous materials”
Responsible fire use - age-appropriate and safe use of fire and fire tools
Stay away: tell an adult - catch phrase reminding children of the appropriate action to take when faced with potential danger

B INVESTIGATION STATIONS

INTRODUCTION

Reports indicate that most home fires start in the kitchen. Given the frequency of kitchen fires, it's important to know how to prevent and extinguish them when necessary.

Electrical fires, cigarettes, and combustibles too close to heat sources such as fireplaces, space heaters and candles are also among the leading causes of home fires.

More detailed suggestions for the lessons are included in the *Supplementary Materials* section of this unit.

NOTES:

LESSON PLANS

Goal: Student will analyze the leading causes of home fires.

Materials provided:
- Leading Causes of Home Fires Table (table master and math worksheet)
- Home Fires Causes (graph master)
- Cooking/Candle Safety Cards
- Westhome Siren
- Do the Write Thing (master)
- Check-off Sheet
- AI rubric (in introductory section)

Teacher preparation:
- Review Teacher *Notes*, p. 27
- Make student folders
- Set up investigation stations
- Copy worksheets for each station, Table Master and
- Graph Master (stations 1 & 2), Safety Cards (station 3)
- Copy Check-off Sheet

Do the Write Thing prompt

(A) Use the Home Fires Causes Table. Choose 3 of the causes and suggest ways to reduce the risk.

(B) If you were a fire marshal, what would you do to help make your community a safe place to live?

Extended activities

Individual

- Research role of the State Fire Marshal's Office by accessing the agency Web site www.oregon.gov/OSP/SFM

Class

- Schedule a visit by the local fire marshal and interview him or her about the job.

Grades 3 and 4

problem-solving stations

Define investigation and describe responsibilities of a fire marshal.

Introduce problem-solving strategies and stations. Students will cycle through three stations to investigate and identify causes related to home fires.

Have students work in small groups and set a maximum number for each station.

Investigation stations include:
1. Leading Causes of Home Fires Table (using a table)
2. Home Fires Causes (creating a graph)
3. Cooking and Candle Safety Tips (reading for information)
4. *Westhome Siren* (reading for information)
5. Do the Write Thing (prompt A)
6. Do the Write Thing (prompt B)

Grade 3

problem-solving stations 1, 3, 5

Grade 4

problem-solving stations 2, 4, 6

Follow same process as Grade 3 activity.

Assessment

(AI) analyzing influences

Investigation Stations folder with completed work and suggested recommendations for fire prevention steps to take.

Supplementary materials

B TEACHER NOTES

DEPUTIZE THE STUDENTS

After defining investigation and the roles of fire investigator and fire marshal, you may wish to "deputize" the students as community fire investigators and/or fire marshals in preparation for the investigation stations.

ROLE OF A FIRE MARSHAL

Fire marshals work in several ways to prevent fires. They inspect buildings to make sure that codes and laws related to fire safety are enforced. They work with builders and city planners when new buildings are being planned to make sure the buildings meet fire safety codes. They visit schools to teach fire safety.

ROLE OF A FIRE INVESTIGATOR

Fire investigators determine where a fire started and what caused it (origin and cause). They collect evidence, interview witnesses and prepare reports on fires in cases where the cause may be arson or criminal negligence. They may testify in court.

They identify faulty products that may pose a fire hazard. For example, Oregon fire inspectors were the first to identify two faulty products that were responsible for fires: Mr. Coffee coffee maker and Cadet Wall Heater.

Both men and women have careers as fire investigators.

INVESTIGATION STATIONS LESSON

The lesson provides real-life situations for students to explore the leading causes of fire in Oregon, practice problem-solving and suggest recommendations. As fire investigators, students paper clip the checkoff work sheet to the front of their *What Can You Do?* folder and color in the box when finished at each station. Station papers are placed inside student folder.

B

INVESTIGATION STATIONS CHECK-OFF SHEET

1 **Flaming Math Problems**	**2** **Home Fire Causes**
3 **Cooking and Candle Safety Tips**	**4** **Westhome Siren**
5 **Do the Write Thing (A)**	**6** **Do the Write Thing (B)**

B

Leading Causes of Home Fires Table*

Fire Cause Category	Clatsop County	Deschutes County	Douglas County	Multnomah County	Umatilla County	Union County		Fire Cause Total
Messy, unclean home	17	24	34	132	6	1		**214**
Electrical	5	11	9	99	8	5		**137**
Candles	0	3	2	46	4	0		**55**
Combustibles	1	12	5	96	18	7		**139**
Cigarette-caused	4	6	1	101	1	0		**113**
County Fires Total	**27**	**56**	**51**	**474**	**37**	**13**		

* Data from Oregon All-Incident Reporting System - 2004

Definitions of categories on chart:

- Messy, unclean home: failure to clean chimney, lint trap, grease hood, and improper storage
- Electrical: incorrect use of extension cords, overloaded circuits, worn cords
- Candles: left burning unattended and ignited, or ignited nearby flammable materials
- Combustibles: flammable material too close to heat source (such as electric heater or stove)
- Cigarette-caused: left burning or improperly discarded

B

LEADING CAUSES OF HOME FIRES MATH

Use the table to help you answer the questions.

1. Which county had the highest number of fires caused by a messy, unclean home? _____

2. Which county had the lowest number of fires caused by a messy, unclean home? _____

3. Which county had more than 100 cigarette-caused fires? _____

4. Which county had the most fires? _____

5. Which county had the fewest fires? _____

6. A) Which fire cause category had the highest number of fires ?

   _____

   B) Write one example from the definition at bottom of table.

   _____

Circle the county that had more fires caused by candles.

7. Deschutes or Umatilla

Circle the county that had more fires.

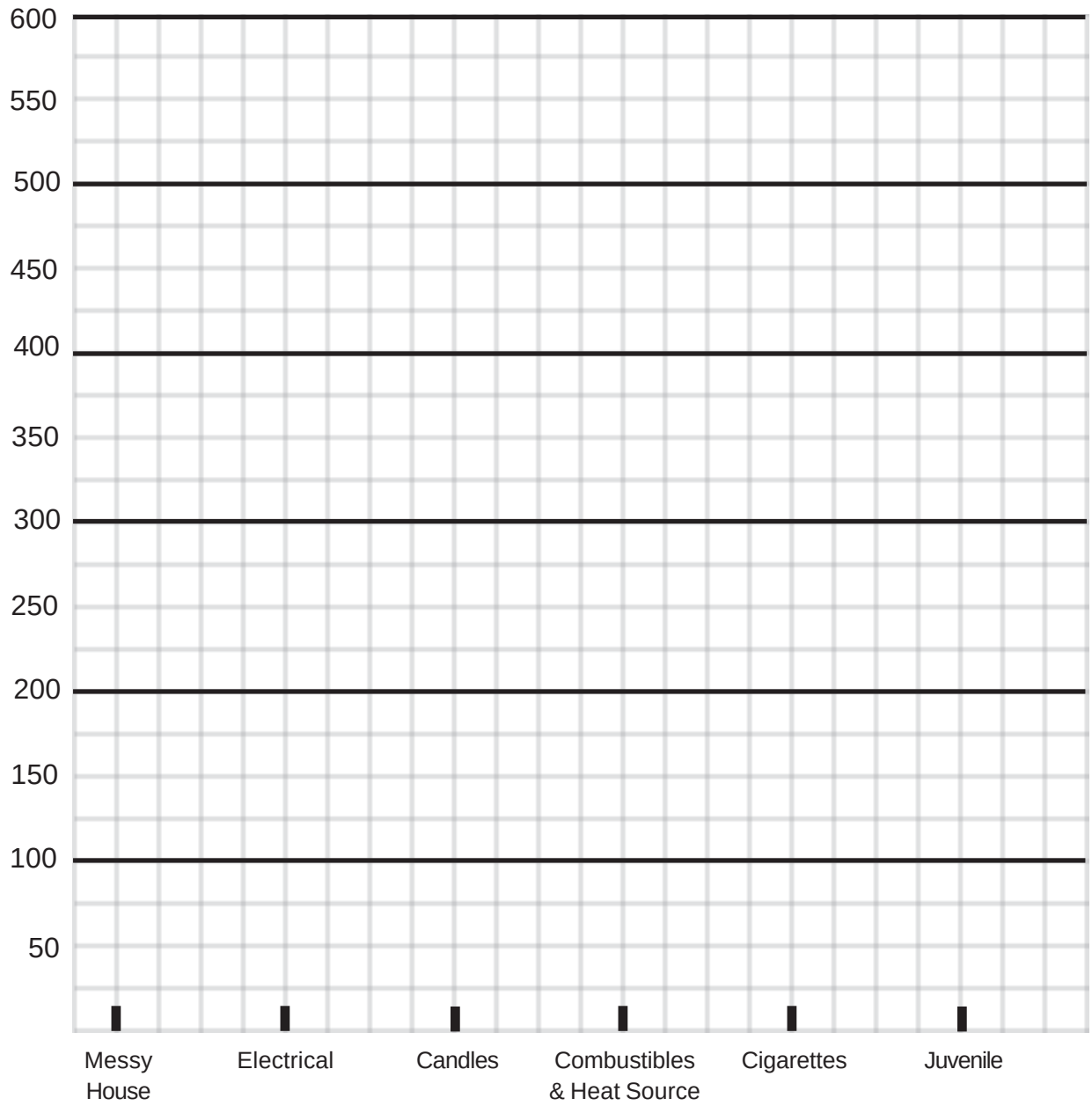
8. Clatsop or Douglas

B

Home Fires Causes

Example	Number of Fires
Messy, unclean home or carelessness	558
Electrical (extension cords, overloaded circuits, worn cords)	283
Candles	218
Combustibles too close to heat source (heater, stove, etc.)	211
Cigarette-caused fires	196
Juvenile using fire starting tools	89

Data from Oregon's All-Incident Reporting System

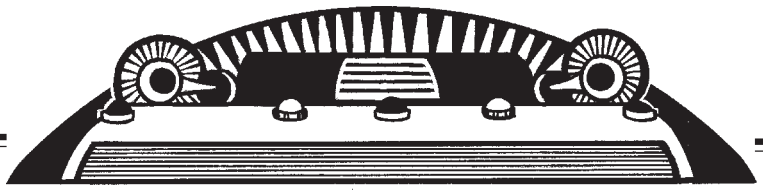


B

COOKING FIRES - SAFETY TIPS

CANDLE FIRES - SAFETY TIPS

B



THE WESTHOME SIREN

Westhome girl saves family from fire

A fourth grade girl saved her family from dying in a house fire.

The fire started in her home on West Main Street about 1:30 a.m. Tuesday, according to Westhome Fire Marshal Gene Light.

The girl noticed the fire. She woke up the other five family members.

"Furniture placed against an electric wall heater caused the fire," Light said.

"People are usually overcome by toxic gases and smoke. That the girl woke up is very lucky," Light said.

The smoke alarm didn't have a battery, and so it didn't go off.

The family thought the electric heater had been turned off. It was actually set to low.

"Most electric heaters have no off setting. That causes problems for firefighters every year," Light said.

The family had already left the house by the time the fire trucks arrived. Firefighters soon had the fire out and no one was injured.

Before firefighters left they made sure the smoke alarm was working. And they installed another one too.

Problem: _____

_____

Solution:_____

_____

_____

Kitchen fire put out without injury

An unattended cooking pot on a kitchen stove caused a house fire on Saturday night.

The fire broke out just before 8 p.m. last Thursday. The fire spread from the stove to the kitchen. From the kitchen it spread to the rest of the house.

One son, a boy in third grade in Westhome Elementary School, had prepared a home fire escape plan for a school class. His family had practiced the plan. They escaped to safety without injury.

There was a lot of damage to the home, although the fire department extinguished the blaze in 45 minutes.

The fire department wants to remind people to never leave a cooking pot unattended—not even for a short time.

Keep all combustibles, such as towels and pot holders, away from stoves.

Have a home fire escape plan ready and practice it.

Problem: _____

_____

Solution:_____

_____

_____

Boy arrested in apartment blaze

Illegally altered fireworks caused an apartment fire in Westhome on Saturday.

Six engines and 35 firefighters responded to the blaze.

Two apartments were severely damaged. Two suffered minor damage. Damage was estimated at about $125,000.

The fireworks were made into an explosive device. It was tossed onto combustible materials in the carport.

One apartment resident woke up. He saw the flames and yelled for the other residents to evacuate. Witnesses led police officers to a 14 year-old suspect. The boy was charged with first-degree arson. If the boy had been 15 years old he would have been sent to adult court.

Problem: _____

_____

Solution:_____

_____

_____

UNIT 3

FIRE SAFETY INVENTIONS

Scope and Sequence

A

SMOKE ALARMS AND ADVOCACY

Activity 1/Grade 1

What to do if a smoke alarm sounds

Activity 2/Grade 2

Case studies, collecting data and graphs

B

FIRE SUPPRESSION TECHNOLOGY

Activity 1/Grade 3

Fire suppression technology mind map

Activity 2/Grade 4

Specialized fire suppression methods

C

FIRE HISTORY RESEARCH

Grade 5

KWL brainstorming, recording, research

If your school has several teachers using this curriculum, lesson plans, supporting teacher notes & student work sheets are available for download by grade level at the Office of State Fire Marshal Web site: www.oregon.gov/OSP/SFM/Curriculum_for_Grades_1-8.shtml

Fire Safety Inventions

Objectives

Student will advocate for use and maintenance of smoke alarms.

Skills

Grades 1 & 2

- Student will demonstrate correct response to smoke alarm, know how to test one and will advocate for their use.

Grades 3 & 4

- Student will explore the development of fire-suppression technology over time and construct chronological sequences.

Grade 5

- Student will research a selected fire history topic.

Introduction

The responsibility for preventing fires that cause injury or death is first and foremost a personal one. Yet, fire happens. Every 74 seconds, a home burns. Eight out of ten fire deaths in the United States occur in the home.

The physical, emotional, and financial consequences of fire have led to increasingly sophisticated fire warning and fire suppression technology over the years. Smoke alarms, sprinkler systems, fire-resistant materials and fire-fighting equipment have become life-saving inventions of the 21st century.

Smoke alarms and home fire sprinklers cut the risk of dying in a home fire by 82 percent. Even though smoke alarms are required in every home, they're designed to detect, not control, a fire. Home fire sprinklers provide the next level of protection and fight fires immediately. They can contain, and even extinguish, a fire. It's like having a firefighter in your home twenty-four hours a day, seven days a week.

The intent of this unit is to provide information that may help protect families and homes from fires.

Key words and concepts

Bucket brigade - a line of people who pass buckets up and down the line to move water from a water source to a fire or fire engine
Cistern - an underground tank for storing water
Cross-section - a piece of something cut off at right angles to its length
Fire sprinklers - water-carrying devices in the wall or ceiling that spray water when they sense a fire near them. (Only the fire sprinkler(s) nearest to the fire activate.)
Fire suppression equipment - is used to extinguish fires
Fire warning equipment - alerts when fire or smoke is present
Innovation - a new idea, method or device
Smoke alarm - an alarm that emits a sound or bright, flashing light as a warning when it detects smoke
Technology - use and knowledge of tools and crafts
Water main - a pipe for carrying water

B TECHNOLOGY TIMELINE

INTRODUCTION

All through recorded history, and, no doubt, before, people have fought fire when it threatened life and property. Fire doesn't often break out in convenient proximity to a fire station or a readily-available source of water. This lesson explores the history of moving water to a fire to extinguish it.

More detailed suggestions for this lesson are included in the *Supplementary Materials* section of this unit.

NOTES:

LESSON PLANS

Goal: Student will understand human problem-solving over time through the construction of a chronological sequence of fire suppression equipment.

Materials provided:
- Moving Water video clip (on curriculum DVD)
- Timeline
- Specialized Fire Suppression Methods work sheet and key
- Do the Write Thing (master)
- AI rubric (in introductory section)

Teacher preparation:
- Review Teacher Notes, p. 20

Grade 3
- Copy Do the Write Thing if students will make individual mind maps

Grade 4
- Moving Water video clip
- Copy Specialized Fire Suppression Methods work sheet

Do the Write Thing prompt

Make a mind map of moving water to extinguish fire, including buckets, pumps, water storage methods, fire engines, fire sprinklers.

Extended activities

Individual

- Research in school media center or on internet one aspect from the jigsaw, expanding the information.

Class

- Compile individual research projects into a class book illustrating the history of fire suppression equipment.

Grade 3

fire suppression timeline mind map

Show Moving Water video clip. Have students note progress of technology over time.

Make a mind map of moving water to extinguish fire, either as a teacher-led class project or have each student create their own. The map should use "moving water" as the starting concept and cover the following methods:

1) use of buckets
2) use of pumps
3) water storage methods (natural source such as pond or river, well, cistern, water main)
4) fire engines and how they moved (human pulled, horse drawn, mechanical engine)
5) fire sprinklers in buildings

Include advantages, disadvantages and time period.

Grade 4

specialized fire suppression methods

As a review, show Moving Water video clip.

Introduce the work sheet activity. Four specialized suppression inventions or methods are pictured on the work sheet. They represent inventive solutions to unique firefighting situations.

Students work independently to answer the work sheet questions, followed by teacher-led discussion of the inventions or methods shown on the work sheet. (See Key in *Teacher Notes*.)

Assessment

(AI) accessing information (grade 3)

Class timeline illustrating the development of fire suppression equipment.

Supplementary materials

B TEACHER NOTES

FIRE SUPPRESSION TIME LINE

This lesson begins with a short video, *Moving Water*, highlighting the methods used throughout history to get water to a fire to extinguish it. Buckets, used to dip water from sources such as rivers and streams, wells or containers, were used for centuries.

In the third century B.C., Ctesibius (pronounced Teh sib e us), from the city of Alexandria, invented a pump. The pump was a major technological step forward — a greater volume of water could be moved faster and at higher pressure. An improved version of the pump was used in Italy and remains of such pumps have been found in both Italy and England.

At some point in time, pump building know-how was lost and people reverted to buckets until pump technology was rediscovered.

People also moved a water source closer to where fires were likely to occur by creating ponds and cisterns, installing water mains and fire plugs, and designing fire engines that either carried water with them or pumped water from an existing on-site source.

Fire engines needed power to travel to a fire and how they moved is an interesting part of the story. The first "engines" had no wheels — they were carried by firefighters to the fire and usually filled with buckets. Once engines were made with wheels, they were pulled by firefighters. As the engines grew larger and heavier, horses replaced the firefighters. Steam, diesel or gasoline-powered motors replaced horses.

Today, fire sprinkler systems provide 24/7 fire protection to buildings where they are installed.

KEY to Specialized fire suppression equipment work sheet:

(A) **ladders**, alone or on ladder truck, were used to reach fire in high places, inaccessible otherwise
(B) **fire helicopter,** in remote areas, distant from fire department equipment and water source
(C) **fire boat**, used to fight fires on or near lake (such as burning ship). The apparent "smoke" is steam from the engine.
(D) **smoke jumpers**, parachute into remote areas to fight fires where most fire equipment can't go

B Specialized fire suppression equipment

Photo credit: Hall of Flame

1. What do you think the picture shows?

_____

2. Where would this equipment be useful?

_____

3. Why would this equipment be useful?

_____

_____

Photo credit: wildlandfire.com

1. What do you think the picture shows?

_____

2. Where would this equipment be useful?

_____

3. Why would this equipment be useful?

_____

_____

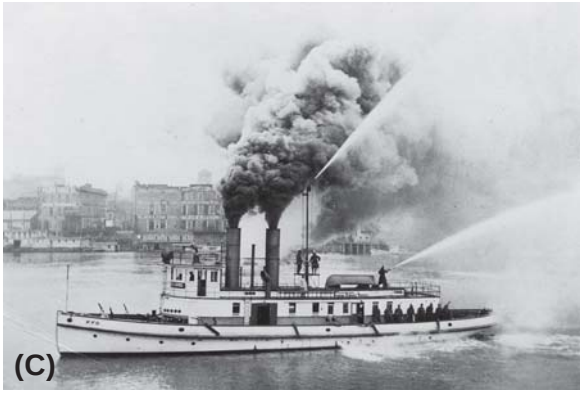


Photo credit: Portland Fire & Rescue

1. What do you think the picture shows?

_____

2. Where would this equipment be useful?

_____

3. Why would this equipment be useful?

_____

_____

Photo credit: Mike McMillan - Spotfire Images

1. What do you think the picture shows?

_____

2. Where would this equipment be useful?

_____

3. Why would this equipment be useful?

_____

_____

UNIT 4

SURVIVAL SKILLS

Scope and Sequence

A

SURVIVAL SKILLS STATIONS

Activity 1/Grade 1

Fire survival skills demonstrations & stations

Activity 2/Grade 2

Earthquake survival skills practice

B

FIRE ESCAPE PLAN

Activity 1/Grade 3

Creating fire escape plans

Activity 2/Grade 4

Earthquake survival plans for the home

C

DISASTER PREPAREDNESS PLAN

Grade 5

Demonstration, discussion, disaster plan and kit

If your school has several teachers using this curriculum, lesson plans, supporting teacher notes & student work sheets are available for download by grade level at the Office of State Fire Marshal Web site: www.oregon.gov/OSP/SFM/Curriculum_for_Grades_1-8.shtml

Survival Skills

Objectives

Student will identify and practice survival skills for disasters such as fire, earthquake or severe weather.

Skills

Grades 1 & 2

- Student will demonstrate steps for survival in home fire and earthquake.

Grades 3 & 4

- Student will create home fire escape and earthquake survival plans.

Grade 5

- Student will develop and practice emergency plans.

Introduction

Disasters can strike quickly and without warning. In Oregon, the disasters most likely to occur are home and wildland fires, earthquakes, flooding and severe weather. Such disasters can be even more traumatic when adults and children don't know what to do.

Consequently, it is important to know and to practice survival skills. Knowing what to expect geographically and practicing emergency plans in homes, workplaces, and communities can make a difference in emergency situations.

Key words and concepts

9-1-1 - the phone number to dial in Oregon for help
Disaster - event such as fire or flood that happens suddenly and causes suffering and loss
Disaster kit - assembled supplies to help people cope in case of sheltering at home or evacuation caused by a disaster.
Disaster plan - a written plan of how to respond to a disaster.
Dispatcher - person who receives 9-1-1 calls about fires and other emergencies, then routes calls to local fire or police station.
Drop, Cover, Hold on - sequence of steps to protect self from earthquake injury.
Earthquake - sudden, rapid shaking of earth caused by shifting of earth's crust.
Evacuate - to leave a place in an organized way for protection from unsafe conditions.
Preparedness - being ready for disaster by planning and practicing survival skills.
Reactive skills - learned reactions and immediate response for safety and survival.
Severe weather - destructive, localized storms.
Stop, Drop, Roll - sequence of steps to extinguish fire on clothing
Tsunami - one or more huge ocean waves caused by earthquakes.

B DISASTER PREPAREDNESS

INTRODUCTION

Every year in Oregon lives are saved by working smoke alarms. Families who maintain their alarms and have a home fire escape plan stand an excellent chance of surviving a home fire.

Students were introduced to smoke alarms in Grade 1. That information is reviewed in Activity 1 (Grade 3) and then expanded upon through the development of a home fire escape plan.

In Activity 2 (Grade 4), the class will conduct a classroom earthquake hazard hunt and take a *Quake-Safe Home Checklist* to their families.

NOTES:

LESSON PLANS

Goal: Student will create and practice a home fire escape plan.

Materials provided:
- Two smoke alarm PSAs (on curriculum DVD)*
- Fire Escape Plan example
- Fire Escape Plan Criteria
- Performance Task
- Oregon Health Education Scoring Guide
- GS rubric (in introductory section)

* *These PSAs will have been shown in Grade 1. They are a good way to review the smoke alarm lesson.*

Teacher preparation:
Grade 3
- Review Teacher Notes, p. 28
- Graph paper (or copy sheet provided)
- Colored markers
- Transparencies of:
  1) Fire Escape Plan Criteria
  2) Performance Task

Grade 3

creating fire escape plans

Conduct a class survey and tally the results. Ask the students:
1) How many smoke alarms are in your house?
2) Does your family have a fire escape plan?
3) Does your family practice the plan yearly?

Review the smoke alarm PSAs and then show an example(s) of a fire escape plan(s) to model lesson expectations.

Display fire escape plan criteria and performance task transparencies and discuss criteria for their fire escape plans.

Have students make a fire escape plan for their home on graph paper provided.

Send plans home for parent(s) to check for accuracy and sign and date.

Encourage students to practice plan with their family.

Extended activities

Individual
- Discuss emergency plans for home fire with family and practice home escape plan.

Class
- Discuss and practice school and home emergency plans for fire and earthquakes.
- Share student work with local fire department during National Fire Prevention Week (October).

Assessment

(GS) goal setting

Put performance task (Home Fire Escape Plan), criteria and scoring guide on transparency. Distribute graph paper. Students create plans in pencil. After plans are checked, students may use markers to add detail to their plans.

Grade 4 lesson on page 10

Materials provided:
- Drop, Cover, and Hold (master)
- Classroom Hazard Hunt (master)
- Quake-Safe Home Checklist (Home Connection)

Teacher preparation:
- Review *Teacher Notes*, p. 24
- Drop, Cover, and Hold transparency
- Copies of the Quake-Safe Home Checklist

Grade 4

<u>earthquake survival plans for the home</u>

Remind students that the best way to survive an earthquake is to be prepared for one.

Review Lesson A, Activity 2 (earthquake survival skills practice) and practice Drop, Hold, and Cover activity.

Review the criteria for safe and dangerous places in the classroom.

Using the Classroom Hazard Hunt work sheet, inventory the classroom for hazards. As a class, remedy hazardous situations that can be achieved.

Make a list of the hazards that will need the assistance of the custodial staff for remediation and refer them to administration.

Distribute copies of the Quake-Safe Home Checklist for students to take home to their families.

Follow up with a discussion of what they discovered as they surveyed their homes with an eye to earthquake safety.

Supplementary materials

B TEACHER NOTES

Introduction:

- In almost any fire, people generally have no more than three minutes to reach safety. It's vital to know how to react and where to go. People should not take time to collect any possessions.
- Most people die from smoke and deadly fumes, not from fire itself.
- Children may wait for help or hide from the fire under a bed or closet, instead of going outside to safety.
- Children should be reminded to leave the house and call from a neighbor or friend's house.
- Children should know the location of two exits from every room, how to call 9-1-1, and where the family's outside designated gathering place is.

PERFORMANCE TASK: FIRE ESCAPE PLAN **(grade 3)**

Students will create fire escape plans for their homes, using a kitchen fire as the example. Their assignment is to:

- Create the floor plan of their house, including doors, windows and smoke alarms. Identify kitchen, bedrooms, and outside meeting place.
- Determine the safest, quickest escape route from the kitchen and show primary and secondary escape routes. Include key identifying symbols for details of the floor plan and fire escape.
- Attach written explanation of decisions made leading to safety. Include a goal statement about practicing the fire escape plan.

The students will be scored on:

- How well the escape plan illustrates immediate response to threat of fire and smoke.
- How well the plan is supported with the importance of practicing it with the family.
- How plan and practice lead to personal and family safety.

B

FIRE ESCAPE PLAN EXAMPLE

B

FIRE ESCAPE PLAN CRITERIA

	0	1	2	3	4
Blueprint of house illustrated	No house	House outlined	Rooms identified	Windows Doors Fire Alarm	Details shown by Color-Coded Key
Cause of fire and alarm sounding illustrated	No fire	Fire unrecogniz-able	Fire in kitchen	Appliance in kitchen	Alarm triggered by smoke
Safe, quick escape illustrated	No escape	Escape incomplete or not logical	Escape questionable	Escape identified with …	Outside details showing meeting place

B Performance Task grade 3

The fire department is interested in displaying family fire escape plans during Fire Prevention Week. As a fire safety expert, your assignment is to:

- **Create the floor plan of your house. Include doors, windows and smoke alarms. Identify kitchen, bedrooms, and family meeting place outside of house.**
- **Determine the safest, quickest escape (from a fire that has started in the kitchen). Illustrate a primary and secondary escape route. Include key identifying symbols for details of your floor plan and fire escape.**
- **Attach written explanation of decisions you made leading to safety. Include a goal statement about practicing your fire escape plan.**

You will be scored on the following:

How well your escape plan illustrates immediate response to threat of fire and smoke.

How well you support your escape plan with importance of practicing it with your family.

How plan and practice lead to personal and family safety.

B

CLASSROOM HAZARD HUNT

- ❑ Are freestanding cabinets, bookcases, and wall shelves secured to a structural support?

- ❑ Are heavy objects removed from shelves above the heads of seated students?

- ❑ Are aquariums and other potentially hazardous displays located away from seating areas?

- ❑ Is the TV monitor securely fastened to a stable platform or securely attached to a rolling cart with lockable wheels?

- ❑ Is the classroom piano secured against rolling during an earthquake?

- ❑ Are wall mountings secured to prevent them from swinging free or breaking windows during an earthquake?

- ❑ Are hanging plants all in lightweight, unbreakable pots and fastened to closed hooks?

B HOME connection

QUAKE-SAFE HOME CHECKLIST

Name _____

- ❑ Place beds so they are not next to large windows.
- ❑ Place beds so they are not right below hanging lights.
- ❑ Place beds so they are not right below heavy mirrors or framed pictures.
- ❑ Place beds so they are not right below shelves with lots of things that can fall.
- ❑ Replace heavy lamps on bed tables with light, nonbreakable lamps.
- ❑ Change hanging plants from heavy pots into lighter pots.
- ❑ Use closed hooks on hanging plants, lamps, etc.
- ❑ Make sure hooks on hanging objects are attached to studs.
- ❑ Remove all heavy objects from high shelves.
- ❑ Remove all breakable things from high shelves.
- ❑ Replace latches such as magnetic touch latches on cabinets with latches that will hold during an earthquake.
- ❑ Take glass bottles out of medicine cabinets and put on lower shelves. (PARENTS NOTE: If there are small children around, make sure you use child-proof latches when you move things to lower shelves.)
- ❑ Remove glass containers that are around the bathtub.
- ❑ Move materials that can easily catch fire so they are not close to heat sources.
- ❑ Attach water heater to the studs of the nearest wall.
- ❑ Move heavy objects away from exit routes in your house.
- ❑ Block wheeled objects so they cannot roll.
- ❑ Attach tall heavy furniture such as bookshelves to studs in walls.
- ❑ Use flexible connectors where gas lines meet appliances such as stoves, water heaters and dryers.
- ❑ Attach heavy appliances such as refrigerators to studs in walls.
- ❑ Nail plywood to ceiling joists to protect people from chimney bricks that could fall through the ceiling.
- ❑ Make sure heavy mirrors and pictures are well fastened to walls.
- ❑ Make sure air conditioners are well braced.
- ❑ Make sure all roof tiles are secure.
- ❑ Brace outside chimney.
- ❑ Bolt house to foundation.
- ❑ Remove dead or diseased tree limbs that could fall on the house.

A RESOURCES

Pendziwol, Jean. *No Dragons for Tea: Fire Safety for Kids (and Dragons)*. Kids Can Press, 2001. (If available, this story can be read instead of the positive news story provided.)

American Red Cross. Masters of Disaster: Fire Safety and Prevention.
http://www.redcross.org/disaster/masters/firesafety/index.html

B C RESOURCES

Ball, Jacqueline. *Wildfire! The 1871 Peshtigo Firestorm*. Bearport, 2005.

Brunelle, Lynn. *Earthquake! The 1906 San Francisco Nightmare*. Bearport, 2005.

Ingram, Scott. *Tsunami! The 1946 Hilo Wave of Terror*. Bearport, 2005.

Masoff, Joy. *Emergency*. New York: Scholastic, 1999.

Watts, Claire. *Rescue*. DK Publishing.

American Red Cross. *Masters of Disaster: In the Aftermath (Disaster Recovery).*
http://www.redcross.org/disaster/masters/aftermath/

American Red Cross. *Masters of Disaster: Facing Fear*
http://www.redcross.org/disasters/masters/facingfear/

National Safe Kids Campaign
http://www.safekids.org

UNIT 5

FIRE SMART DECISIONS

Scope and Sequence

A

DECISION MAKING SKILLS

Activity 1/Grade 1

STOP-THINK-GO signs and stories

Activity 2/Grade 2

STOP-THINK-GO stories

B

FIRE-SAFE SCENARIOS

Activity 1/Grade 3

STOP-THINK-GO scenarios

Activity 2/Grade 4

STOP-THINK-GO performance task

C

FIRE-SMART ABOUT PEER PRESSURE

Grade 5

Interpersonal communication role-play

If your school has several teachers using this curriculum, lesson plans, supporting teacher notes & student work sheets are available for download by grade level at the Office of State Fire Marshal Web site: www.oregon.gov/OSP/SFM/Curriculum_for_Grades_1-8.shtml

Fire Smart Decisions

Objectives

Student will recognize and practice responsible behavior regarding fire.

Skills

Grades 1, 2, 3 & 4

- Student will practice decision making strategy to make fire-safe choices.

Grade 5

- Student will use communication skills to help self and others in unsafe situations relating to fire.

Introduction

Too many children and adolescents die in fires every year. Carelessness or equipment failure are the causes of some of these fires. Children and adolescents also cause fires. Many are curious and engaging in high-risk behavior whether experimenting with matches, lighters or fireworks. Others are setting fires as a way to deal with emotional issues. They may be crying out for help or responding to peer pressure.

Youth-set fires are preventable. Prevention and intervention programs include important educational components such as functional knowledge and skills.

Using various fire scenarios, students will practice a decision-making strategy for personal safety.

Key words and concepts

Assertiveness - clearly communicating thoughts and feelings without negatively impacting another
Communication skills - ability to use words and actions to convey information
Consequence - positive or negative result from a personal action
Decision-making skills - process to follow to evaluate choices and take action
Misusing fire - using fire in a way that it was not intended
Negative peer pressure - feeling compelled by someone to act in a certain way that may be dangerous
Negotiation skills - ability to use words and actions to settle an issue
Peer - a person your own age
Positive peer pressure- feeling compelled by someone to act in a positive or safe way
Refusal skills - ability to use words and actions to refuse to act in a negative or unsafe way
STOP-THINK-GO - a decision-making model

B FIRE-SAFE SCENARIOS

INTRODUCTION

Five fire scenarios are provided for these lessons: kitchen fire, campfire, fireworks, unsafe electrical and a peer pressure situation. Student groups will problem-solve and role-play the scenarios.

These lessons are an opportunity to mentally rehearse fire-safe choices. At the close of each skit, repeat and reinforce the good choices made by the group. If a group overlooked important aspects of fire safety in their problem-solving, lead a class discussion that includes this information. More detailed information and suggested positive outcomes for the lessons are included in the *Supplementary Materials* section of this unit.

NOTES:

LESSON PLANS

Goal: Student will practice fire-safe decision-making dialogue.

Materials provided:
5 Scenario masters
- Kitchen fire scenario
- Campfire scenario
- Fireworks scenario
- Unsafe electrical scenario
- Peer pressure scenario
- Performance task (master)
- DM rubric (in introductory section)
- Two examples of acrostics

Teacher preparation:
- Review Teacher Notes, p. 15

Grade 3
- STOP-THINK-GO poster from Lesson A (Grade 1)
- 1 copy of each scenario

Grade 4
- Performance task transparency

Extended activities

Individual
- Make an acrostic of either a fireworks or campfire safety pledge.

Class
- Make video of role-play.

Grade 3

STOP-THINK-GO scenarios

Review STOP-THINK-GO decision-making strategy (see grade 1-2 lesson). Divide class into five work groups.

Provide a scenario description to each group and explain the role-play process.

- kitchen fire with baby-sitter
- campfire with family
- fireworks with family and neighbors
- unsafe electrical scenario with friend

Have groups plan how they will role-play their fire-safe scenario for the class. Encourage use of poster during role-play to remind audience of fire-safe decision-making. Groups present scenario to class.

(Alternative lesson approach: Copy scenario masters so each student has one scenario. Have students complete work sheets independently.)

Grade 4

STOP-THINK-GO Performance Task

Review STOP-THINK-GO decision-making strategy (see grade 1-2 lesson)

Explain the performance task and outline the criteria for scoring.

Assessment

(DM) decision-making

Performance task with dialogue using STOP-THINK-GO decision-making model.

Supplementary materials

B TEACHER NOTES - CAMPING AND FIREWORKS

INTRODUCTION

Summer camping and celebrations like the Fourth of July are times when families and friends gather around fire-related activities. Whether it's a campfire or fireworks, adults and children need to be especially fire smart and fire-safe.

The U.S. Consumer Product Safety Commission (CPSC) released a study in 2005 that showed nearly 70 percent of all fireworks-related injuries occur around the Fourth of July. More than 50 percent of the injuries occur to children and adolescents. Sparklers, which burn at temperatures of nearly 2,000 degrees, firecrackers, and rockets caused the most injuries. Oregon statistics in 2004 reflect the national data with more than half of fireworks-related injuries happening to children. Also reported were 464 fires caused by fireworks resulting in $600,000 worth of property damage.

The safest way for families to celebrate with fireworks is to watch a community display of fireworks from professionals. Secondly, only responsible adults should ignite or handle legal fireworks, never children.

As for camping, campfire cooking and unattended campfires cause personal injury, property damage and wildfires. In August 2000, firefighters across Oregon were called to battle a 20,000-acre blaze caused by an unattended campfire. That same year, it was reported that one of every five human-caused wildfires started from campfires and carelessness. Campfire safety includes building a campfire only when and where permitted, enjoying a campfire from a safe distance (three to five feet away from it), and fully extinguishing a campfire every time you are away from it.

B TEACHER NOTES - CAMPFIRE

ACTIVITY (CAMPFIRE SCENARIO)

In this scenario, students will identify the still-burning campfire as the problem (STOP). As the groups share the possible options and outcomes (THINK) and their decisions (GO), you may wish to list them on the board and follow with a discussion.

Students may say:

1) they will wake an adult and tell them about the situation. (This is a good idea. The family should make sure the fire is completely out before they return to bed. The proper way to extinguish a campfire is to pour water, stir the ashes, and keep repeating these steps until the fire is cold.)

2) they will ignore it and go back to sleep. (This is a poor choice. Campfires should never be left unattended.)

3) they will extinguish the fire. (This may be a good choice if they are mature enough and know the proper steps to take—pour water and stir the ashes).

Good follow-up questions to this activity are:

- Was the fire built in a proper place? (Yes, it was built in a fire ring.)
- What are the risks if the fire escapes the fire ring and spreads?

Smokey Bear tips:

1) Dig a small fire pit away from overhanging branches (if there is no proper pit already built).
2) Circle the pit with rocks, unless it already has a metal fire ring.
3) Clear a five-foot area around the pit down to the soil.
4) Keep a bucket of water and a shovel nearby.
5) Stack extra wood upwind and away from the fire.
6) After lighting, do not discard the match until it is cold.
7) Never leave a campfire unattended, not even for a minute.

B

CAMPFIRE SCENARIO

Situation:
You are enjoying s'mores and stories around the campfire with your family. After a quick clean-up, everyone goes into the tent. Everyone is asleep except you. You hear sparks outside the tent and see flames in the fire ring. What can you do?

STOP (identify the problem)

THINK (possible options and outcomes)

GO (your decision)

WRITE a role play for this situation on back.

B TEACHER NOTES - FIREWORKS

ACTIVITY (FIREWORKS SCENARIO)

In this scenario, students will identify the choice of whether (or not) to join the neighbors as they set off fireworks in the street as the problem (STOP). As the groups share the possible options and outcomes (THINK) and their decisions (GO), you may wish to list them on the board and follow with a discussion.

A good choice will be based on the situation meeting the following criteria*:

1) **Be prepared** before lighting fireworks.
   - Use legal fireworks from licensed Oregon outlets. (Many fireworks sold in neighboring states are illegal in Oregon.)
   - Always read and follow label directions.
   - Always have water handy (a garden hose or bucket of water).
2) **Be safe** when lighting fireworks.
   - Fireworks should only be lit by an adult. Keep matches and lighters away from children.
   - Use fireworks only outdoors, away from anything that can burn.
   - Light only one firework at a time and move away quickly.
   - Keep children and pets away from fireworks.
   - Do not throw fireworks or hold them in your hand.
3) **Be responsible** after lighting fireworks.
   - Soak used fireworks thoroughly in a bucket of water.
   - Dispose of used fireworks and debris properly.

*These guidelines are from the Office of State Fire Marshal Web site and available as a reproducible flier. You may wish to send a copy home with your class.
Be Prepared, Be Safe, Be Responsible
http://egov.oregon.gov/OOHS/SFM/docs/Licensing_permits/fireworks/Fireworks2005/3BesFullPage.pdf

B

FIREWORKS SCENARIO

Situation:
After seeing the community fireworks, your neighbors are setting off fireworks on your street. They ask you to join them. What can you do?

STOP (identify the problem)

THINK (possible options and outcomes)

GO (your decision)

WRITE a role play for this situation on back.

B TEACHER NOTES - KITCHEN FIRE

EGRESS UNDER STRESS

A fire in a home is one of the most stressful situations that a child or an adult can experience. Practicing the steps to escape safely from a fire in role play activities increases the likelihood that those behaviors will be remembered in a fire emergency. Schools practice fire drills for this reason. Families, however, rarely practice home escape. The goal of practice is to reduce emergency reaction time and to improve the choices made.

ACTIVITY (KITCHEN FIRE SCENARIO)

In this scenario, students will identify the burning dish towel as the problem (STOP). As the groups share the possible options and outcomes (THINK) and their decisions (GO), you may wish to list them on the board and follow with a discussion.

Students may say:

1) they will attempt to put out the fire. (How? Will they use a fire extinguisher? Do they know how to use a fire extinguisher? What if the fire is too large?)

2) they will let the baby-sitter know. (Could the baby-sitter make a poor decision? Give an example of a poor decision.)

3) they will carry the towel outside. (This is a bad decision. They will get burned. Moving the towel will increase the oxygen to the fire and make the fire bigger. Other objects in the room are likely to be ignited too.)

4) they will immediately leave the house and call 9-1-1 from a neighbor's house or with a cell phone when they are safely outside at a predetermined family meeting place. (This is an excellent choice. Will they take time to pick up personal belongings or a pet? This is not a good idea. Why not?)

A good follow-up question to this activity is: How might this fire have been prevented?

B

KITCHEN FIRE SCENARIO

Situation:
You and your 14-month-old brother are in the kitchen with the baby-sitter. She is feeding your brother. You notice the dish towel on the stove has caught fire. What should you do?

STOP (identify the problem)

THINK (possible options and outcomes)

GO (your decision)

WRITE a role play for this situation on back.

B TEACHER NOTES - UNSAFE ELECTRICAL

ACTIVITY (UNSAFE ELECTRICAL SCENARIO)

In this scenario, students will identify the overloaded outlet as the problem (STOP). As the groups share the possible options and outcomes (THINK) and their decisions (GO), you may wish to list them on the board and follow with a discussion.

A good choice in this scenario will involve persuading the friend to use electrical outlets safely and doing so in a tactful manner. Some electrical safety tips include:

1) Avoid overloading circuits. Use separate outlets for each appliance and never use adaptors to increase the number of available outlets.
2) Avoid using extension cords.
3) Check electrical cords for signs of cracking and fraying. Don't use them until they have been repaired.

OREGON DATA ON ELECTRICAL OUTLET FIRES

Residential fires caused by electrical outlets are more common than one might think. The Oregon All Incident Reporting System (OAIRS) shows 135 such fires over a three-year period — 2002-2004. These data include outlets of all types, use of extension cords and Christmas lights, and surge protectors. Some of the fires were the result of short circuits or other electrical equipment failures. Many of them were caused by human errors—lack of maintenance and improper use.

B

UNSAFE ELECTRICAL SCENARIO

Situation:
You have just finished a school project at a friend's house and you have time to play video games. When you're in your friend's bedroom, you see about eight electrical cords jammed into one electrical outlet. It looks really dangerous. What can you do?

STOP (identify the problem)

THINK (possible options and outcomes)

GO (your decision)

WRITE a role play for this situation on back.

B

PERFORMANCE TASK GRADE 4

You are the story writer for a video production company. You have been hired to produce an educational video clip on Fire Smart Decisions for elementary school students. As a fire safety expert, your submission must include **one** of the following situations: finding matches at home, finding matches in your neighborhood or finding matches near school.

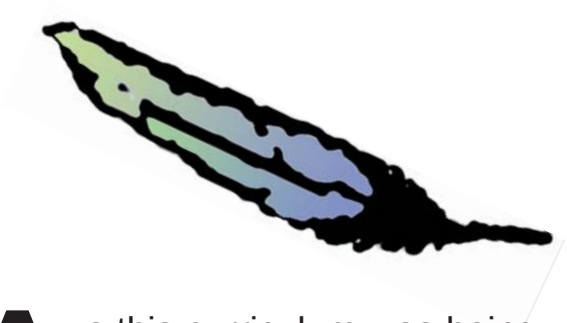
- **Choose one situation.**
- **Write the dialogue between two to three people, such as friends, brother and/or sister.**
- **Include the STOP-THINK-GO decision-making process of identifying the problem, evaluating possible options and outcomes, and deciding what to do.**
- **Support your decision with a statement related to fire safety.**

You will be scored on the following:

How complete your decision-making process is.

How well you support your decision.

How your decision relates to personal, family and community safety.



As this curriculum was being written, a wealth of information about Native Americans and fire surfaced.

Archeological evidence exists that Native Americans used fire to alter their environment long before written history recorded these activities.

Myths about the theft of fire are part of the oral tradition of many tribes, pointing to the importance of fire to the tribes' comfort and survival.

Many school districts cover Native Americans as a regular part of their curriculum. Native Americans' use of fire is an important and interesting part of the whole story and the information that was collected during the writing of the curriculum has been placed in this bonus section for convenience.

THEFT OF FIRE

This Yurok Indian myth beautifully illustrates the important role that fire has in the lives of human beings. The myth was found in *Yurok Myths* by A. L. Kroeber, published in 1976 by the University of California Press. It is used by permission of the Estate of A. L. Kroeber. We are grateful for the permission.

Sky-Owner and others talked long. They planned how fire was to be obtained for human beings. Fire-Owner kept it. He lived across the ocean. Then they spoke long how they could get it. Sky-Owner said, “I cannot do it. Perhaps you can.” One of them said, “Let us take it away by gambling.” So Sky-Owner said, “Yes, take it away from him that way if you can. I cannot."

At last Bald Eagle said, “I will get it. Who will go with me? Who is the swiftest runner?” Coyote said, “I am the best. I will run with it.” Now they went. On every ridge they left one person. Bald Eagle said, “They will follow us. It is only in this way that we can escape. When one of us is tired, the next one will take the fire.” Beyond Coyote he put Deer; beyond him, Fisher; and then Duck.

Bald Eagle said, “I will go and gamble. When it is nearly morning, I will sing this song.” Then he sang. “After I have sung. I will hiccup ten times. Then I will stir the fire hard so the sparks fly. You must listen for that song.”

Then he did as he had said. He gambled and sang and hiccuped and stirred the fire, and the sparks flew up. Coyote caught them and ran. All those there shouted and pursued. They did not overtake Coyote. When he was tired, Deer took the fire and ran in big jumps. Then Fisher ran with it, and then Duck. So they escaped with the fire.

But when they arrived, Duck had no more fire in his hands: it had gone out. Then he took sticks of willow and rubbed one in his hands (on the other) for a long time. He made a little smoke. He kept twirling. At last he got fire.

Now they were all glad. They made fire in the sweat house and fire in the house. Now they all could swim. They learned to swim far and well and like it. When they became cold in the water, they went to the fire. Women also were glad. Every morning they bathed in the creek. If they were cold they warmed themselves at the fire. So they do now. If they had got no fire, no one could bathe or get mussels in the ocean.

ROLE OF FIRE TENDER

Here you will find a description of the Native American sweat house ceremony and the role of fire tender. The careful attitude toward the use of fire is instructive as we consider the use of fire in human society. Fire's useful role and the necessary caution around it should be thought of as two sides of a coin … each incomplete without the other.

Many Native American tribes have the tradition of the sweat house, a ceremony used to purify the participants physically and spiritually.

Rocks are heated until glowing in a fire. When the rocks are hot enough, they are moved into a fire pit in the center of a sweat house. The sweat house is built of wooden ribs and a covering. With the rocks in place, the structure's openings are closed and water is poured on the hot rocks to produce steam. As the heat and steam accumulate in the sweat house the people participating sweat profusely as they sing and pray.

The person who is designated to guard and maintain the fire is known as the "fire tender." This is a great honor and a serious responsibility.

Fire tenders learn that fire is like a mischievous child … that you must not turn your back on it, lest it escape, causing trouble.

As one fire tender takes the place of another, a ritual query and response takes place. The fire tender who is handing off the responsibility asks, "Are you watching?"

The fire tender taking his place replies, "Yes, I am watching."

HOW DID NATIVE AMERICANS USE FIRE?

Before Spanish explorers, missionaries and settlers came to North America, Native Americans — also known as indigenous people, and first nations/ first people — used fire to intentionally alter the natural environment to their benefit. Henry T. Lewis, who has written more on the subject of Native Americans' use of fire than anyone else, counted at least seventy reasons. Others writing on the subject have listed fewer.

Some of the major uses are listed below. The summary has been excerpted with permission from an essay by Gerald W. Williams, Ph.D., Historical Analyst, USDA Forest Service, July 15, 2003. The essay is available on the Web at http://www.fs.fed.us/fire/fmt/Bibliography/Introduction.doc. The document has a more comprehensive discussion of Native Americans' use of fire and an excellent bibliography of more resources.

- **Hunting.** Fire was used to drive large game such as deer, elk and bison into areas where hunting was easier. Sometimes fire was used to drive game over cliffs or into narrow canyons, rivers or lakes where they could be killed more easily. Torches were used to find deer and fish. Smoke was used to force raccoons and bears from their dens.
- **Growing Food.** Fire was used to clear areas for growing food; prevent shrubs and trees from growing back while fields were resting; increase the yield of berries such as strawberries, raspberries and huckleberries; and clear areas under oak trees to make gathering acorns easier.
- **Insect Collection.** Fire was used to collect and roast crickets and grasshoppers. Smoke was used to drive bees from nests, aiding in honey collection.
- **Pest Management.** Fire helped to keep the numbers of pests such as rodents, poisonous snakes, flies and mosquitoes down.
- **Range Management.** Fire encouraged the growth of new grasses for grazing animals and kept the area from growing back to shrubs and trees.
- **Fireproofing.** Native Americans knew how to fight fire with fire. Fires were deliberately set near settlements and other special areas. If a fire moved through the area it might go out when reaching the already burned area because there was no fuel.

- **Warfare and Signaling.** Fires were purposely set in fighting enemies: a cleared area was hard to hide in; fires were used to destroy enemy property; fires were set during an escape to camouflage movement; large fires were set to notify others of enemy movements and gather forces for fighting.
- **Economic Extortion.** Some tribes burned large areas to prevent settlers and traders from finding game. They would then trade with them for dried meats.
- **Clearing Areas for Travel.** Keeping trails open and free from brush was important for travel and safety.
- **Tree Felling.** Trees were important for building structures and canoes. Before axes were available through trade, Native Americans used fire to kill trees. One method: drill two intersecting holes in a trunk, put charcoal in one hole and let the smoke escape out the other. The other method involved circling a tree with fire at the base, "girdling" it and eventually killing it.
- **Clear Riparian Areas.** A riparian area is land near water. Clearing brush made hunting for beaver, muskrats, moose and waterfowl easier.

Native Americans as shown on the timeline … Entries about Native Americans in the timeline cards for Lesson B are summarized below. These entries are integrated into the timeline as a whole, but you may wish to consider them separately in conjunction with a lesson on Native Americans.

TO SIGNAL

- Native Americans used smoke signals to alert tribes about possible enemies or to gather forces to combat enemies.

TO HUNT

- Native Americans used fire to drive animals they were hunting into places where they could be killed easily. They also used fire to create open grassy areas where animals would graze. This made hunting easier.

TO MANAGE THE ENVIRONMENT

- Native Americans used fire to clear brush near streams. New grasses and tree sprouts grew, creating food for moose, beavers, muskrats and waterfowl. Indians used the animals and birds for food and fur.
- Native Americans used fire to clear ground for growing food and to increase yield of berries.
- Native Americans used fire to clear an area to create a fireproof area around settlements and medicine plants.
- Native Americans used fire to clear areas for travel.
- Native Americans used fire to manage pests. Fire reduced the number of black flies, mosquitos, rodents and poisonous snakes.