

Listed below are LEAF lessons in the Wildland Fire Lesson Guide. They have been correlated to various formats of student learning standards. Included are: Wisconsin Model Academic Standards in Agriculture Education, Environmental Education, Social Studies, and Visual Arts; Common Core Standards for Mathematics and English Language Arts; Next Generation Science Standards. On the following pages, you will find the standards listed by lesson along with an explanation of how they are addressed by each lesson. Both current and previous versions of standards can be found on the LEAF website either in the original Lesson Guide pdfs or as addendums with the more recent standard formats.

## K-1ST GRADE LESSON: MY FEELINGS ABOUT FIRE

### VISUAL ARTS A.4.1

#### Visual Memory and Knowledge

**Standard is:** Develop a basic mental storehouse of images.

Students give examples of events in their lives that relate to emotions and share examples of safe and dangerous situations.

### VISUAL ARTS I.4.1

#### Personal and Social Development

**Standard is:** Use art to understand how they feel.

Students indicate their feelings with emotion cards as they look at the pictures of safe and dangerous fire situations.

### VISUAL ARTS I.4.3

#### Personal and Social Development

**Standard is:** Talk or write about feelings in a work of art.

Students discuss their feelings related to pictures of safe and dangerous fire situations.

## 2ND-3RD GRADE LESSON: SMOKEYTOONS: A LOOK AT FIRE AND HUMAN BEHAVIOR

### VISUAL ARTS E.4.3

#### Visual Communication and Expression

**Standard is:** Communicate basic ideas by producing popular images and objects such as folk art, traditional arts and crafts, popular arts, mass media, and consumer products.

Students produce comic strips to convey a fire prevention message.

### VISUAL ARTS K.4.3

#### Making Connections

**Standard is:** Use what they are learning about life, nature, the physical world, and people to create art.

Students use the information they have learned about to create comic strips that convey a fire prevention message.

## 4TH GRADE LESSON: THE PESHTIGO THEATER COMPANY PRESENTS: THE LIFE OF FIRE

### ENGLISH LANGUAGE ARTS RL.4.2

#### Reading and Literature

**Standard is:** Determine a theme of a story, drama, or poem from details in the text; summarize the text.

Students read a play and add details to it based on their interpretation of the script.

### MATHEMATICS 7.RP.3

#### Ratios and Proportional Relationships

**Standard is:** Use proportional relationships to solve multistep ratio and percent problems.

Students read maps and use the scale as a proportion to solve problems.

### SOCIAL STUDIES A.4.4

#### Geography: People, Places, and Environments

**Standard is:** Describe and give examples of ways in which people interact with the physical environment including use of land, locations of communities, methods of construction, and design of shelters.

Students participate in a play and discussion that explores the role humans have played in wildland fire and how it has altered our environment.

### SOCIAL STUDIES A.4.8

#### Geography: People, Places, and Environments

**Standard is:** Identify major changes in the local community that have been caused by human beings, such as a construction project, a new highway, a building torn down, or a fire; discuss reasons for these changes; and explain their probable effects on the community and the environment.

Students participate in a play and discussion that explores how human communities have been altered by wildland fire.

## 5TH-6TH GRADE LESSON: IN THE HOT SEAT: THE PROCESS AND SCIENCE OF DECISION-MAKING

### ENVIRONMENTAL EDUCATION B.8.10

#### Energy and Ecosystems

**Standard is:** Explain and cite examples of how humans shape the environment.

Students are faced with a series of dilemmas about human actions and fire and must make decisions on how best to respond.

### ENVIRONMENTAL EDUCATION D.8.1

#### Decision and Action Skills

**Standard is:** Identify options for addressing an environmental issue and evaluate the consequences of each option.

Students are faced with a series of dilemmas about human actions and fire and must make decisions on how best to respond.

## ENVIRONMENTAL EDUCATION D.8.4

### Decision and Action Skills

**Standard is:** Explain the political, legal, and budgetary options for resolving local, state, and national environmental issues.

Students participate in mock town council meeting and lobby for and determine the consequences of the passage of certain legislation.

## ENVIRONMENTAL EDUCATION D.8.5

### Decision and Action Skills

**Standard is:** Explain how personal actions can impact an environmental issue.

Students are faced with a series of dilemmas about human actions and fire and must make decisions on how best to respond. Discussion that follows helps students understand the impact of each action.

## SCIENCE 3-5-ETS1-1

### Engineering Design

**Performance expectation is:** Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Students design simple solutions involving decisions to be made including materials, costs, and time.

## SCIENCE 3-5-ETS1-2

### Engineering Design

**Performance expectation is:** Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

In groups, students design a solution to a problem and compare the solutions of different groups.

## SCIENCE 3-5-ETS1-3

### Engineering Design

**Performance expectation is:** Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Students develop a model system approach to make decisions based on all of the possibilities presented.

## SCIENCE MS-ETS1-1

### Engineering Design

**Standard is:** Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

Students make decisions about solutions to wildland fire dilemmas following criteria and constraints that are defined.

## SOCIAL STUDIES D.8.4

### Economics: Production, Distribution, Exchange, Consumption

**Standard is:** Describe how investments in human and physical capital, including new technology, affect standard of living and quality of life.

Students participate in a mock town meeting where they try to pass legislation that will cost their community money, but will provide for increased safety and quality of life.

## SOCIAL STUDIES E.8.5

### The Behavioral Sciences: Individuals, Institutions, and Society

**Standard is:** Describe and explain the means by which groups and institutions meet the needs of individuals and societies.

Students participate in a mock town meeting and learn how the government provides for the needs of citizens and the betterment of society.

## 7TH-8TH GRADE LESSON: NATURAL PHENOMENA INVESTIGATORS (NPI)

### ENGLISH LANGUAGE ARTS RI.7.1 & RI.8.1

#### Reading for Informational Text

**Standard is:** Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

**Standard is:** Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

Student groups read a variety of textual information to find pertinent information, draw conclusions, and report their findings orally to their investigation group and class.

### ENGLISH LANGUAGE ARTS RI.7.3

#### Reading for Informational Text

**Standard is:** Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individual influence ideas or events).

Students analyze the radio traffic transcript and assess how the individuals and events influence each other's behavior.

### ENVIRONMENTAL EDUCATION A.8.4

#### Questioning and Analysis

**Standard is:** Use critical thinking strategies to interpret and analyze gathered information.

Students use critical thinking to analyze data, primary sources, maps, and definitions to investigate the spread and control of a wildland fire.

### ENVIRONMENTAL EDUCATION A.8.5

#### Questioning and Analysis

**Standard is:** Use the results of their investigations to develop answers, draw conclusions, and revise their personal understanding.

Students make predictions about the spread of a wildland fire and then use data, primary sources, maps, and definitions to investigate the wildland fire and postulate why their predictions may not have been correct.

### MATHEMATICS 7.G.1

#### Geometry

**Standard is:** Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

Students use scale drawings to solve problems using a map and appropriate tools.

### MATHEMATICS 7.RP.3

#### Ratios and Proportional Relationships

**Standard is:** Use proportional relationships to solve multistep ratio and percent problems.

Students read maps and use the scale as a proportion to solve problems.

### SCIENCE MS-ESS3-2

#### Human Impacts

**Performance expectation is:** Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.

[Clarification Statement: Emphasis is on how some natural hazards, such as volcanic eruptions and severe weather, are preceded by phenomena that allow for reliable predictions, but others, such as earthquakes, occur suddenly and with no notice, and thus are not yet predictable.

Examples of natural hazards can be taken from interior processes (such as earthquakes and volcanic eruptions), surface processes (such as mass wasting and tsunamis), or severe weather events (such as hurricanes, tornadoes, and floods). Examples of data can include the locations, magnitudes, and frequencies of the natural hazards. Examples of technologies can be global (such as satellite systems to monitor hurricanes or forest fires) or local (such as building basements in tornado-prone regions or reservoirs to mitigate droughts).]

Students use data from the Cottonville fire to forecast how fire spreads and examine technologies used to fight fire.

### SCIENCE MS-ESS3-3

#### Human Impacts

**Performance expectation is:** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.\* [Clarification Statement: Examples of the design process include examining human environmental impacts, assessing the kinds of solutions that are feasible, and designing and evaluating solutions that could reduce that impact. Examples of human impacts can include water usage (such as the withdrawal of water from streams and aquifers or the construction of dams and levees), land usage (such as urban development, agriculture, or the removal of wetlands), and pollution (such as of the air, water, or land).]

Students use data from the Cottonville fire to forecast how fire spreads and examine technologies used to fight fire.

## 9TH-12TH GRADE LESSON: WILDLAND FIRE ISSUES AND EDUCATION

### ENGLISH LANGUAGE ARTS W.9-10.7 & W.11-12.7

#### Research and Inquiry

**Standard is:** Conduct short as well as more sustained research projects to answer a question (including a self-generated question )or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Students develop, conduct, and analyze the results of a survey to test hypotheses they have written.

## ENVIRONMENTAL EDUCATION A.12.3

### Questioning and Analysis

**Standard is:** Evaluate personal investigations and those of others, critiquing procedures, results, and sources of data and suggest improvements to the investigation.

Students conduct a survey and analyze the results. They discuss bias in surveys and how that could be eliminated.

## ENVIRONMENTAL EDUCATION A.12.4

### Questioning and Analysis

**Standard is:** State and interpret their results accurately and consider other explanations for their results.

Students analyze data collected from a survey and interpret the findings of the study.

## MATHEMATICS HS.S.IC.1

### Making Inferences and Justifying Conclusions

**Standard is:** Understand statistics as a process for making inferences about population parameters based on a random sample from that population.

Students take a survey of a sample and use the results to predict how the population would respond.