

Muse®

The Story Behind Wildfires

Students will be captivated by this month's sizzling issue of MUSE magazine. Brave humans, advanced firefighting technologies, and animal conservation heroes are among the *hot topics* studied in this publication. Learn why Smokey Bear's motto, "Only YOU can prevent forest fires," is an important message for us all.

CONVERSATION QUESTION

How can we manage the risk of wildfires?

TEACHING OBJECTIVES

- Students will learn why the risk of wildfires continues to grow.
- Students will learn about the toxic aftermath of urban wildfires.
- Students will learn how animals can help prevent the spread of wildfires.
- Students will examine cause and effect relationships.
- Students will construct explanations.
- Students will explain processes.
- Students will create theme-based fractional equivalents.
- Students will conduct mini-research on environmental toxins.
- Students will plot and categorize geographical locations on a world map.



In addition to supplemental materials focused on core STEAM skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

SELECTIONS

- **Fire Danger**
Expository Nonfiction, 820L
- **When the Smoke Clears**
Expository Nonfiction
- **Animal Firefighters to the Rescue**
Expository Nonfiction, 720L

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Fire Danger

pp. 10–11, Expository Nonfiction

Wildfires are ravaging our nation at an alarming rate. This article will inform readers about the various causes and effects of these devastating events, as well as detail possible solutions.



RESOURCES

Cause and Effect: Too Hot to Handle

OBJECTIVES

- Students will learn why the risk of wildfires continues to grow.
- Students will examine cause and effect relationships.
- Students will create theme-based fractional equivalents.

KEY VOCABULARY

- devastated** (p. 11) destroyed; left in ruins
- invasive** (p. 10) non-native; tending to spread abundantly and harmfully
- resolve** (p. 11) to find a solution to; rectify

ENGAGE

Conversation Question: How can we manage the risk of wildfires?

Show a forest fire prevention clip featuring Smokey Bear. Explain why the slogan, “Only YOU can prevent forest fires,” chose to put the responsibility on citizens to be more vigilant about the potential fire-risk behaviors. Arrange students in small groups and have them create their own slogan and an updated mascot. Display finished posters.

INTRODUCE VOCABULARY

Display the following statements and underline the key vocabulary terms. Review how to infer the meanings of new words by using context clues and background knowledge. Then have partners work together (or complete as a class) to determine the meaning of each word. Reveal definitions. Have students underline the key words in the article.

- The city was devastated by an earthquake, leaving many without homes.
- An invasive earthworm is killing crops in the Midwest.
- The law firm aims to resolve your legal issues in 30 days.

READ & DISCUSS

Pose the following questions to facilitate meaningful discussion:

- What three things do fire need to grow? Draw the “Fire Triangle.”
- How do invasive species encourage fires?
- Explain the cycle of climate change and wildfires.
- How did Native Americans historically manage wildfires?
- Respond to the last sentence of the article that asks, “What other ways can you think of to reduce fire danger?”

SKILL FOCUS: Cause and Effect

INSTRUCT: Lead the students in a discussion that guides them to recognize the cause-and-effect relationships that are studied in this article. Emphasize the fact that it is usually a combination of circumstances that lead to a devastating wildfire. Introduce the graphic organizer and tell students that they will rereading the article and highlighting pertinent information to record on the chart. Remind them to list specific details. Encourage peer assistance and dialogue.

ASSESS: Collect the worksheet to assess students’ ability to evaluate individual understanding of the cause and effect relationship. This issue of MUSE provides students with other opportunities to explore this relationship, if further practiced is required.

EXTEND

Mathematics: The article states that humans cause approximately eight out of every ten wildfires. Have students represent this number in fractional form ($\frac{8}{10}$) and create ten equivalent fractions. Review if necessary. At the bottom of their fraction page, have them list *how* humans are unintentionally responsible for this large majority of wildfires.

Too Hot to Handle

Cause and Effect Use information from the article to record **how** climate change and crowded fire zones are causing wildfires.

Cause	Effect
Climate Change	
Crowded Fire Zones	

What is a prescribed burn? Explain the pros and cons below using details from the text.

A prescribed burn is _____

_____.

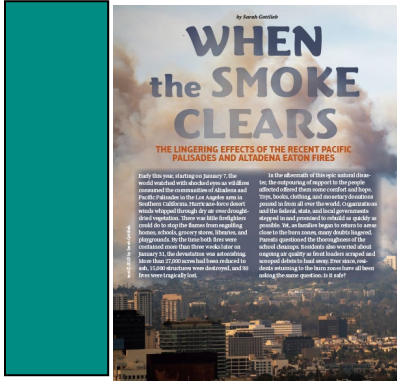
PROS	CONS

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When the Smoke Clears

pp. 18–21, Expository Nonfiction

As the effects of climate change become more extreme, wildfires affect more and more people, with wide-spread consequences. This article examines the devastation and aftermath of the January 2025 Pacific Palisades and Altadena Eaton Fires.



RESOURCES

Construct Explanations: Helping Hands

OBJECTIVES

- Students will learn about the toxic aftermath of urban wildfires.
- Students will construct explanations.
- Students will conduct mini-research on environmental toxins.

KEY VOCABULARY

- **aftermath** (p. 18) the period following a significant unpleasant event
- **burn zones** (p. 18) an area that has been affected by fire, characterized by the removal of vegetation and the presence of ash and charcoal
- **dilute** (p. 21) to make a liquid thinner or weaker by adding water or another solvent to it

ENGAGE

Conversation Question: How can we manage the risk of wildfires?

Distribute the article and review how invoking prior knowledge is helpful when reading an informational text. Read aloud the title and subheadings then give students time to read the captions under the photographs and charts. Encourage students to share information or reactions to the topic being studied.

INTRODUCE VOCABULARY

Post and discuss the key vocabulary terms and how they pertain to the title, “When the Smoke Clears.” Have students create a WILDFIRE DICTIONARY, using the three words, **A** for **aftermath**, **B** for **burn zone**, and **D** for **dilute**. Students can divide the paper horizontally so that they can fit two letters on a page. Have them include the word, the definition, the part of speech, a sentence example using the word, and an illustration. This would be an excellent ongoing activity as students read through this month’s issue of MUSE.

READ & DISCUSS

Reinforce comprehension of the concepts in this article by using the following prompts to direct discussion.

1. Why were the residents uneasy about returning to their neighborhoods after the Pacific Palisades and Altadena Eaton fires?
2. Why was it unusually difficult to assess how safe it was to return to the burn zones after the fire was extinguished?
3. Why does the Air Quality Index give an incomplete assessment of health and safety concerns?
4. What can younger generations do to offset the effects of climate change?
5. What do the statistics indicate about climate-related losses?

SKILL FOCUS: Construct Explanations

INSTRUCT: Instruct students to reread the section of the article that detail how different organizations take on different roles in the aftermath of a serious fire. Distribute the *Helping Hands* graphic organizer and tell students that they will be responsible for explaining the role that each group played in the California wildfires. Allow them to use online resources to collect further data.

ASSESS: Circulate as students are working and discuss.

EXTEND

STEAM: Review with students how urban wildfires differ from forest fires. Have students revisit the article and underline the toxins that were sent into the air, water, and soil. (Ex: aluminum, iron, asbestos, copper, arsenic, etc.) Have pairs of students select different toxins and research the hazardous effects of exposure in unsafe levels. Remind them to consider the effects on both humans and wildlife. Have students share their findings aloud. Information presented will validate the concerns of the communities affected by the California fires.

Helping Hands

Construct Explanations Use the spaces below to explain how each group provided aide in the aftermath of the Pacific Palisades and Altadena Eaton fires.

Community Action Project LA (CAP.LA)

Environmental Protection Agency (EPA)

Heal the Bay



Discuss with a partner: What other resources provide help in such a disaster?

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Animal Firefighters to the Rescue

pp. 20–24, Expository Nonfiction

Students will learn how some of their favorite animals can be true conservation heroes. Look beyond the sheep's wool and the goat's milk to discover how the natural behaviors of these animals, and many others, are ultimately helping to save our planet from the ravages of fire.



RESOURCES

Explain Process: Furry Firefighters

OBJECTIVES

- Students will learn how animals can help prevent the spread of wildfires.
- Students will explain processes.
- Students will plot and categorize geographical locations on a world map.

KEY VOCABULARY

- **duff** (p. 23) the partly decayed organic matter on the forest floor
- **ember** (p. 23) a glowing fragment from a fire
- **underbrush** (p. 23) shrubs and small trees forming the undergrowth in a forest

ENGAGE

Conversation Question: How can we manage the risk of wildfires?

Remind students that this month's issue of MUSE focuses on wildfires. Tell students that in the second paragraph of the article they are preparing to read, it states that wildfires race through a forest at a rate of approximately 14 miles per hour. Have students calculate how many miles a fire can "travel" in the following time periods: 1, 3, 5, and 7 days. (**Answers:** Approximately: 336 miles; 1,008 miles; 1,680 miles; 2,352 miles)

INTRODUCE VOCABULARY

Review the key vocabulary terms and definitions with the class. Guide students to notice that the words are all nouns with a different number of syllables. Have students divide a piece of paper into three columns with the following headings: One-syllable nouns/Two-syllable nouns/Three-syllable nouns. Properly partition each key term with the class and place it in the correct column. As a post-reading activity, have the class search the article (or entire issue) for other fire-related nouns that they can add to each column.

READ & DISCUSS

Read the article aloud with the class. Have students reread the article in small groups and answer the questions below. Discuss responses.

1. What three things does a fire need to burn?
2. Explain how an entire forest can catch fire from one burning match.
3. On average, how much land is lost yearly to wildfires in the United States?
4. What are the benefits of using animals rather than controlled burning techniques?
5. Why are wildfires growing in number and level of destruction?

SKILL FOCUS: Explain Process

INSTRUCT: Review the processes involving animals that fire experts are beginning to utilize to prevent the spread of wildfires. Present the *Furry Firefighters* graphic organizer and tell the class that they will be using information from the article to record the fire prevention behaviors of various animals, as well as how they provide different benefits to our conservation prevention efforts.

ASSESS: Review the organizer with the class. Next, have students form small groups to brainstorm other animals that could be helpful in managing the spread and causes of wildfires. Students should provide logical reasons that support their proposals.

EXTEND

Social Studies: Instruct students to use their graphic organizer, as well as the text, to alphabetically list all the geographic locations mentioned in the article. They should categorize each place as a state, country, or continent. Provide a blank world map and have students plot each location.

Furry Firefighters

Classify Information Refer to the article to study how each animal is beneficial to fire prevention efforts. Record detailed answers on the chart.

Animal	Where? (location)	How? (process)
goats/sheep		
elephants/rhinos		
beavers		

Small group work: Use the back of the paper to brainstorm ways that other animals could be helpful in fire conservation efforts. Include details to support your choices.