

Wildfires

Pre-Reading

A. Warm-Up Questions

1. What are some natural causes of wildfires?
2. What are some man-made causes?
3. How do wildfires spread?
4. How are wildfires extinguished?



B. Vocabulary Preview

Match up as many words and meanings as you can.

Check this exercise again after seeing the words in context on page 2.

- | | |
|--------------------|---|
| ___ 1. blaze | a) easy to catch fire |
| ___ 2. consume | b) to catch on fire |
| ___ 3. fuel | c) the purposeful and criminal setting of a fire |
| ___ 4. ignite | d) to increase in speed |
| ___ 5. arson | e) a large fire |
| ___ 6. habitat | f) the home of a plant, animal, or organism |
| ___ 7. flammable | g) to put out (a fire or light) |
| ___ 8. emission | h) to completely use up or destroy |
| ___ 9. accelerate | i) a harmful substance released into the atmosphere |
| ___ 10. extinguish | j) material that burns and creates power |

Reading

1. A wildfire is a **blaze** in the wilderness that spreads quickly. As a wildfire spreads, it **consumes** bushes, trees, grasses, and even nearby homes and businesses. Wildfires are also called forest fires.
2. A fire needs three conditions to spread: heat, oxygen, and **fuel**. Together these are known as *the fire triangle*. The heat from a wildfire comes from lightning, the sun, or a spark. A wildfire's fuel is typically vegetation such as trees and bushes. The air supplies the oxygen. Wind moves the air toward more fuel. A wildfire can destroy thousands of acres of forest in a very short time.
3. Some wildfires are natural. Lightning is the most common natural cause. There are two types of lightning strikes. One features a quick return stroke (cold lightning) and the other features a continuous flow of electricity (hot lightning). The continuous current generates heat and can cause the object it strikes to **ignite**. Lava from volcanoes can also cause wildfires. These naturally occurring wildfires occur in a forest about once a century. They kill off harmful insects and clear away dead matter. Natural forest fires also allow more sunshine in, which is required for new growth.
4. The majority of wildfires, however, are man-made. Unattended campfires, tossed cigarettes, and downed power lines are common causes. Some wildfires are even caused by **arson**. The severity of wildfires has increased worldwide in regions where people have begun living and working near forested areas. In the US, the fire season has tripled in size in the past 20 years and now lasts an average of 154 days. Approximately two billion dollars a year is spent fighting forest fires in America. The heaviest cost, however, is the loss of old growth forests and **habitat**.
5. Many scientists believe that climate change is the leading cause of the increase in wildfires around the world. Summers are hotter and longer-lasting, and droughts are more common. Vegetation is extremely **flammable** during or after a hot, dry summer. Sadly, **emissions** from forest fires **accelerate** climate change.
6. Even though most wildfires are man-made, nature plays a major role in how these fires behave. Fire crews try to reduce the fuel, oxygen, and heat of wildfires; however, they rely heavily on nature to minimize the damage. Wind, dry air, and warm temperatures contribute to the spreading of wildfires, while rain, calm air, and cool temperatures help **extinguish** them.

“We’re going to have more megafires, they’re going to burn longer and more savagely. If we do nothing, the future looks pretty bleak. But there’s no reason for us to do nothing.”

—Stephen Pyne, professor

Comprehension

A. True or False?

Read the statements below.

If the statement is true, write T beside the sentence.

If it is false, write F and correct the information in your notebook.

- _____ 1. Most wildfires are caused by nature.
- _____ 2. Natural wildfires are usually caused by hot lightning.
- _____ 3. Some people set wildfires on purpose.
- _____ 4. Fire seasons are shorter but more intense in recent years.
- _____ 5. Climate change can cause wildfires, and wildfires can accelerate climate change.

B. Ask & Answer

Practise asking and answering the following questions with your partner.

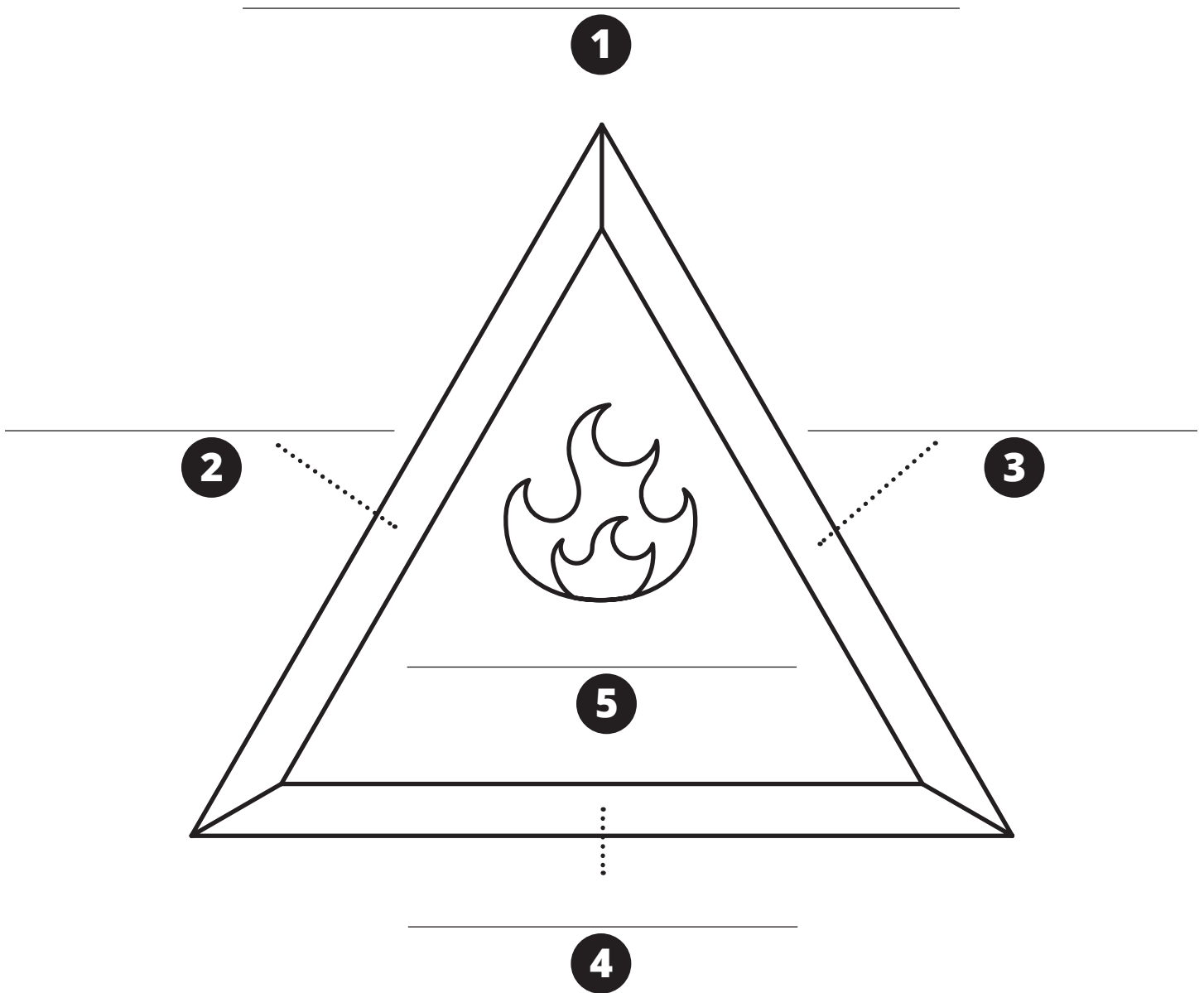
Then write your answers in complete sentences in your notebook.

- 1. What is another word for a wildfire?
- 2. What is a fire triangle?
- 3. What are the two types of lightning, and which one typically causes wildfires?
- 4. Why does the reading mention volcanoes?
- 5. What are some ways that humans cause wildfires?
- 6. What is paragraph five mainly about?
- 7. What do fire crews rely on nature for during a wildfire?

Comprehension cont.

C. Diagram

Label the diagram and add a title.



Vocabulary Review

A. Matching

Match the word to the example.
Use each answer only once.

- | | |
|--------------------|----------------------------|
| _____ 1. arson | a) dead, dry leaves |
| _____ 2. oxygen | b) a spark from a campfire |
| _____ 3. fuel | c) smoke |
| _____ 4. heat | d) a pond |
| _____ 5. habitat | e) lighting a car on fire |
| _____ 6. emissions | f) smoke from a factory |

B. Complete the Sentences

Complete the sentences using vocabulary from page 1.
You may need to change the word forms.

1. The _____ of polar bears is at risk due to climate change.
2. Dried out Christmas trees are very _____ .
3. The fire _____ a whole row of townhouses on our street.
4. Help reduce _____ by walking or taking public transit.
5. If the winds _____ , the fire will spread more quickly.
6. Fire crews hope heavy rains will help _____ the fire.
7. There was so much smoke from the _____ that we had to keep our windows closed.
8. That fire wasn't an accident. The official cause was _____ .

Measurements

ACRES & HECTARES

A. Acres

An acre is a US measurement unit for land. An acre can be measured in any shape. One acre = 43,560 square feet. The abbreviation for acre is *ac*.

Uses	<p>Acres are used for the following:</p> <ul style="list-style-type: none"> • identifying how much land is for sale • identifying the size of a forest fire • talking about the agriculture industry • town planning
Equivalent	An acre is about the size of the playing area for American football (minus both end zones).
Conversion	1 acre = about 0.4 hectares
Examples	<ul style="list-style-type: none"> • Over 120,00 acres have burned since Thursday. • The farmhouse sits on three acres of land. • 5 bedrooms, 2 baths, 3 ac lot

B. Hectares

A hectare is a metric measurement unit for a large area of land. It is used in nations that use the metric system, such as Canada, the UK, and Australia. 1 hectare = 10,000 square metres. The abbreviation is *ha*.

Uses	Hectares are used to measure the same types of areas as acres.
Equivalent	A hectare is about the size of the inside of a 400-metre running track.
Conversion	1 hectare = about 2.47 acres
Examples	<ul style="list-style-type: none"> • The biggest fire is 500,000 hectares. • They're developing a 50-hectare golf course. • We completed a two-day search (over five ha), but nothing was found

Research

WILDFIRES AROUND THE WORLD

Look up three historic, recent, or currently burning wildfires from around the world. Write the location, date, and amount of land destroyed. Use or convert to hectares. Compare your findings to the other groups in your class.

#	Location	Date	Amount of Land Destroyed
1			
2			
3			

Sources

Be sure to check your facts.
Try to find at least two sources that support your research.

Discussion

1. Can humans prepare for wildfires?
2. Why might someone set a fire on purpose?
3. Should humans stop trying to live and work so close to forested areas?
4. Have you ever lived near a wildfire? Describe your experience.
5. Are you interested in learning about the science of other natural and man-made disasters? Which ones?

Group Work

Work in a group. Pretend you are a group of firefighters that must battle a wildfire. Invent the following information for your wildfire:

- location of the fire
- size of the fire
- cause of fire (ignition)
- fuel for the fire
- weather affecting the fire

Choose a fire chief from your group to share the information with the rest of the class. The fire chiefs will take turns describing their wildfire to the class (fire crews). Which group's wildfire will be the most difficult to extinguish and why?

Did You Know?

A *smoke jumper* is a specialized firefighter who parachutes into remote areas to fight wildfires.