



Name: **ANSWER KEY**

Date:

Colorado Wildfire - Student Worksheet **KEY**

Part 1 : How is wildfire risk changing in Colorado?

- How is wildfire risk changing in Colorado? Write at least three things in the What I Know section of the KWL Chart below.
- Watch [Colorado's Forests: Past, Present and Future](#), a documentary about wildfire in our state.
- Write down your observations and questions about wildfires in the "What I Wonder" section of the KWL Chart.



KWL Chart	
What I Know	Answers will vary.
What I Wonder	Answers will vary.
What I Learned (Part 3)	Answers will vary.



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Part 2: Wildfire Data Analysis Stations

Jigsaw Station 1: Colorado Wildfire Fast Facts

Read highlights from the [Colorado Planning for Hazards—Wildfire](#) webpage (first three sections only).



1. What are the main causes of wildfires in Colorado?

Human activities such as campfires and debris burning, fireworks, etc., cause most wildfires (83%) and a lesser amount are caused by lightning (17%).

2. What are the greatest risks that wildfires pose in Colorado?

Wildfires pose most risk to property and buildings. Colorado ranks third in the country as having the most residential homes at risk to wildfires.



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Jigsaw Station 2: How Wildfires Start

Read [Elements of Fire](#), and analyze the Human vs. Lightning-Caused Fires Pie Charts (slide 13 of the [lesson slides](#)).

3. What are the three things needed for a wildfire to start (ignite)?

A heat source, fuel, and oxygen.

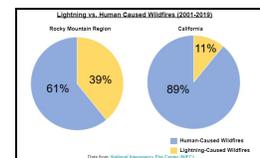


4. Wildfires can be ignited by both natural (e.g., lightning) and human (e.g., a lit cigarette dropped on the side of the road) events. Which of the three elements of the fire triangle (heat, fuel, oxygen) would lightning and a lit cigarette contribute to?

Heat

5. Look at the two pie charts showing lightning versus human caused wildfires in the Rocky Mountain Region and in California. Write three questions you have about the graphs.

Answers will vary.



Examples:

What is the total number of wildfires in California and the Rocky Mountain Region?

Are there more wildfires in California or the Rocky Mountain Region?

Are there more lightning storms in the Rocky Mountain Region?

Do more people live in California than in the Rocky Mountain Region?

What is the most common cause of human-caused wildfires?



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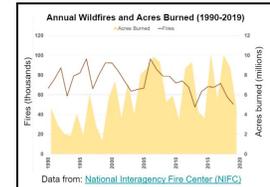
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Jigsaw Station 3: National Wildfire Trends

Identify patterns and trends in the Annual Wildfires and Acres Burned Graph (slide 10 of the [lesson slides](#)).

6. What does the graph show?

The number of wildfires and acres burned between 1988-2017 nationwide in the United States.



7. What is the independent variable? What are the units for the independent variable?

The independent variable is time. The units are years (1-year intervals).

8. There are two dependent variables. What are they? What are the units for the dependent variables?

The dependent variables are the number of fires that occurred per year (left-axis, unit: thousands of fires) and the acres burned each year (right-axis, unit: millions of acres burned).

9. Is there a trend in the number of wildfires that occurred between 1990-2019? Is there a trend in the acres burned between 1990-2019?

There is no clear trend in the number of wildfires that occurred, though there may be a slight decreasing trend between 2005-2020. There is an increasing trend in the size of fires (acres burned) between 1990-2019.

10. Now, look at this [infographic](#). The flames represent the same data as in the graph for acres burned. How many acres are predicted to burn in 2050?

The number of acres burned is predicted to nearly double in 2050 to 20 million acres per year.





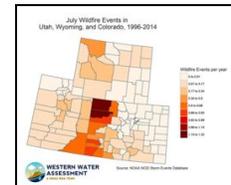
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Jigsaw Station 4: Location and Frequency of Wildfires in Colorado

Explore the Monthly Maps of Significant Weather Events "[Wildfire](#)" series to assess the frequency and location of wildfires in the state.

11. In Colorado, when does wildfire mainly occur (months/seasons)?
Summer (June-August)



12. Do wildfires occur year-round in Colorado? Describe the seasonal pattern of wildfires in the state.

Yes. There are the least number of fires in the winter months; the summer months have the greatest number of fires. Fall and spring have a moderate amount of fires.

13. During times of high wildfire activity, where do wildfires mainly occur (geographic area/counties) in Colorado?

Western and south central Colorado



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Jigsaw Station 5: Wildfire Risk in Colorado

Read about [Colorado's Wildland-Urban Interface \(WUI\)](#), and explore the map to see if your area has areas that are considered WUI.

- 14. In your own words, explain what the Wildland-Urban Interface is. Why would WUI be a concern for firefighters?

The Wildland-Urban Interface is the area where human development (homes, buildings, etc.) are close to or within natural areas with flammable vegetation. These areas are vulnerable to wildfire and present more risk because structures (and people and animals that live within these structures) may be more likely to be at risk in a wildfire due to proximity to flammable vegetation.



- 15. Look at the legend in the bottom left corner of the map. What are the units used in the Wildland-Urban Interface map?

The units show the number of houses per acre (less than 1 house per 40 acres up to more than 3 houses per acre), which is an approximation of housing density in the WUI.



- 16. What areas of the state have the most amounts of areas in the Wildland-Urban Interface?

Areas close to the highly-populated Front Range have the most amount of WUI. West of Colorado Springs, Denver, and Fort Collins.

- 17. Does your community have areas located in the Wildland-Urban Interface? If so, where?

Answers vary.



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Jigsaw Station 6: Wildfire Safety

Read the National Weather Service [Wildfire Weather Safety](#) plan. Make sure to click on all tabs in the Wildfire Weather Safety plan website.

18. What is a “Red Flag Warning” and what should you do in response to it?

A Red Flag Warning is given if critical fire weather is ongoing or expected to occur in the next 12-24 hours; be prepared to evacuate if ordered.



19. What is a “Fire Weather Watch” and what should you do in response to it?

A Fire Weather Watch is given during critical fire weather conditions (dry, hot, windy) are possible in the next 1-4 days; be prepared for possible evacuation.

20. In the event of a wildfire warning, what should you do to protect yourself and others with you?

During a wildfire warning, leave immediately if ordered to evacuate and do not return until the area has been designated safe, listen to emergency alerts, call 911 if trapped, etc.

21. As a kid, what is one thing you can do with your family to prepare for a wildfire?

Answers will vary.

Examples:

Create defensible space by clearing brush away from the home

Put together a basic emergency supply kit

Plan escape routes

Create an emergency plan



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Part 3: How can communities know about and manage their wildfire risk in Colorado?

Local Wildfire News Story

Prompt: Create a local news story in a format of your choice (see options below), that summarizes important information for people in your community to prepare for and understand wildfire risk..

The format choices for the local wildfire news story include:

- Newspaper article with one picture and one graph or map (one page)
- Radio story (2-3 minutes in length)
- Video newscast (2-3 minutes in length)

Use the outline below to collect information from the jigsaw activity to include in your news story.

<p>Station 1: Colorado Wildfire Fast Facts</p>	<p><u>Causes of Wildfires</u> <i>Answers the same as above, in jigsaw worksheets.</i></p> <p><u>Risks of Wildfire</u></p>
<p>Station 2: How Wildfires Start</p>	<p><u>Wildfire Ignition Triangle</u></p>



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	<p><u>Human vs. Lighting Caused Wildfires</u></p>
<p>Station 3: National Wildfire Trends</p>	<p><u>Is the number of wildfires increasing? Is the size (acreage) of wildfires increasing?</u></p> <p><u>Is the size of wildfires supposed to increase in the future?</u></p>
<p>Station 4: Location and Frequency of Wildfires in Colorado</p>	<p><u>Time of Year Wildfires Usually Occur in Colorado</u></p>



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	<p><u>Common Locations of Wildfires in Colorado</u></p>
<p>Station 5: Wildfire Risk in Colorado</p>	<p><u>Wildland-Urban Interface Definition</u></p> <p><u>Location of Wildland-Urban Interface Areas in Colorado and Local Community</u></p>
<p>Station 6: Wildfire Safety</p>	<p><u>Red Flag Warning vs. Fire Weather Watch</u></p> <p><u>Ways to Prepare for a Wildfire</u></p>