



Colorado Wildfire - Student Worksheet

Part 1 : Why is it important to study wildfires?

- What do you know about wildfires in Colorado? Write at least three things in the What I Know section of the KWL Chart below.
- Watch the news stories [Evacuating the Waldo Canyon Fire \(3:40\)](#) and [The Waldo Canyon fire, five years later: Colorado Springs rebuilds \(1:15\)](#) to see what happens when a wildfire comes too close to a neighborhood in Colorado Springs.
- Write down your observations and questions about wildfires in the “What I Wonder” section of the KWL Chart.



KWL Chart	
What I Know	
What I Wonder	
What I Learned (Part 3)	



Part 2: Group 1

How do wildfires start?

Science and Engineering Practice: Analyzing and interpreting data & Obtaining, evaluating, and communicating information

What causes wildfires to ignite? Learn about the wildfire ignition triangle, and analyze data from the Rocky Mountain region from the last 20 years to determine whether humans or lightning cause more fires each year.

Create 2-3 slides to present to your classmates that include:

- An explanation of the basic fire ignition triangle. Consider also addressing factors that affect wildfire behavior and spread once a wildfire is ignited.
- A chart showing the number of fires, the acreage burned, and ignition source of wildfires in the Rocky Mountain Region

Resources:

- [Idaho Firewise Fire Ecology & Management Fire Ignition, Behavior & Effects](#)
- [Wildfire 101: The Fire Triangle and the Fire Tetrahedron](#)
- The [Rocky Mountain Wildfires 2001-2019 Data Set](#) provides statistics on the number and size of wildfires in the last 20 years, and the ignition source. Note that the Google sheet is view only, make a copy of the sheet to edit the document and make a chart.



Group 2

Based on past fires, how could wildfires impact our community in the future?

Science and Engineering Practice: Obtaining, evaluating, and communicating information

Research a historic wildfire in your area, and identify wildfire impacts that happened in the past that may happen again. Include any additional impacts that may occur if development has increased in the wildland urban interface in your county. Note: Specific wildfires are often given names. Do a google search of the name and date of the historic wildfire of interest to gather more information.

Create 2-3 slides to present to your classmates that include:

- The location and size (acres burned) of the wildfire
- The cause of the wildfire
- The time of year the flood occurred
- Impacts from the wildfire, including loss of life (human and/or livestock), buildings or infrastructure damaged, crop damage
- Economic impact of the fire (if available)
- Modern infrastructure in the area that could be damaged if the area were to burn again
- A picture of the historic wildfire

Resources:

- [Colorado Regional and Local Hazard Mitigation Plans](#)
 - Instructions: Click on your county in the list of counties. This will take you to a list of mitigation plans in your region. Click on the plan that is for your community (city or county). Using the Table of Contents, look for the “Risk Assessment” section, and within that, find the Wildfire “Past Events” section
- Local newspaper articles



Group 3

What time of year do wildfires generally occur in our state?

Science and Engineering Practice: Analyzing and interpreting data

Following the data analysis instructions, analyze data from the NOAA Storm Events database to assess which times of year wildfires most often begin. Confirm your findings using maps from Western Water Assessment.

Create 2-3 slides to present to your classmates that include:

- The graph you produced from your analysis of wildfire ignition dates
- A screenshot of the map of the month that your county experiences the most wildfires from Western Water Assessment

Resources:

- [NOAA Storm Events Database Data Analysis Instructions](#)
- [NOAA Storm Events Database](#)
- [Western Water Assessment Wildfire Maps](#)



Group 4

What methods exist to minimize the impacts of wildfires?

Science and Engineering Practice: Constructing explanations and designing solutions

Communities across the west are employing wildfire mitigation strategies and creating “FireWise” communities. Explore these strategies and identify three strategies that could be used in your community.

Create 2-3 slides to present to your classmates that include:

- A description and picture of three wildfire mitigation strategies

Resources:

- [Does Wildfire Mitigation Work? 16 Examples and Counting!](#)
- [Colorado State Forest Service - Protect Your Home, Property & Forest from Wildfire](#)
- [National Fire Protection Association - Preparing homes for wildfire](#)



Group 5

How do scientists expect the size and frequency of Colorado's wildfires to change in the future?

Science and Engineering Practice: Analyzing and interpreting data

Watch a news story and explore the National Climate Assessment, written by over 300 experts and guided by a 60-member federal advisory committee, to learn what scientists predict for future climate.

Create 2-3 slides to present to your classmates that include:

- The causes and mechanisms for how wildfire frequency is expected to change in the future
- Include screenshots of figures/maps when possible

Resources:

- [Video: Firefighters Battle the Infernos of Climate Change](#)
- [National Climate Assessment: Ecological Disturbances and Forest Health](#)
 - Read the selection (Rapid Forest Change - Wildfire, in Key Message 1)
- [US Climate Resilience Toolkit Fire Regimes](#)



All Groups

What areas in our community have the most risk?

Science and Engineering Practice: Analyzing and interpreting data

Create 3 slides to present to your classmates. Each slide should include a screenshot of an area at risk of wildfire in your community, and a short description of the area (including if it has any resources like schools, hospitals, etc.) and an explanation of why that area is at risk.

1. Go to the [Colorado State Forest Service Wildfire Risk Public Viewer](#) map. Take the tour to get familiar with the map (click the “Next” button).
2. Type the name of your community into the “Search for location” bar.
3. Explore the different layers under the “Explore Map Themes” options, specifically the “Wildfire Risk Themes” and the “Wildfire Effects Themes”. To see the legend, click on “VIEW LEGEND” next to “Select a Map Theme” in the bar on the left hand side.
4. Learn more about the datasets (layers) in the [“Map Theme Descriptions”](#) document.
5. Identify three areas at risk of wildfire in your community - are there specific community centers (schools, libraries, hospitals) at risk? Are there neighborhoods at risk? If no buildings are at risk in your community, are there recreation areas close by that have wildfire risk?



<p>Group 2: Based on past fires, how could wildfires impact our community in the future?</p>	<p><u>Description of historic wildfire:</u></p> <p><u>Location:</u></p> <p><u>Cause:</u></p> <p><u>Time of year the wildfire occurred:</u></p> <p><u>Impacts of the wildfire:</u></p>
<p>Group 3: What time of year do wildfires generally occur in our state?</p>	<p><u>Time of year wildfires occur (include statistics/data):</u></p>



<p>Group 4: What methods exist to minimize the impacts of wildfires?</p>	<p><u>Wildfire mitigation strategy #1:</u></p> <p><u>Wildfire mitigation strategy #2:</u></p> <p><u>Wildfire mitigation strategy #3:</u></p>
<p>Group 5: How do scientists expect the size and frequency of Colorado's wildfires to change in the future?</p>	<p><u>Causes and mechanisms for how wildfire frequency and severity is expected to change:</u></p>



All: What areas in our community have the most risk?

Area at risk #1 (explanation of area and why it's at risk)

Area at risk #2 (explanation of area and why it's at risk)

Area at risk #3 (explanation of area and why it's at risk)