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Group 1

Which scenarios are most likely to cause floods in our community?

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

Explore the following types of floods to identify the types of scenarios that could cause flooding in your community. Begin by identifying the types of floods that occur in your county using your local Hazard Mitigation Plan, then use the NOAA and National Weather Service pages to learn more about these types of floods. Watch videos to see what these floods look like as they occur.

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

- For each type of flood that occurs in your county (as identified by your local Hazard Mitigation Plan)
 - An image of the flood type
 - The definition of the flood type
 - The cause of the flood type

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 Flood “Hazard Profile” section.
- [NOAA Severe Weather 101 - Flood Types](#)
- [National Weather Service Flood Related Hazards](#)





Group 2

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

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

Research a historic flood in your area, and identify flood impacts that happened in the past that may happen again. Include any additional impacts to modern infrastructure that may occur if new development has occurred in the area that was flooded.

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

- The type of flood that occurred
- The time of year the flood occurred
- Impacts from the flood, including loss of life (human and/or livestock), buildings or infrastructure damaged, crop damage
- Modern infrastructure in the area that could be damaged if the area were to flood again
- A picture of the historic flood

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 Flood “Past Events” section
- Local newspaper articles





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Group 3

What time of year do floods generally occur in our area?

Science and Engineering Practice: Analyzing and interpreting data

Following the data analysis instructions, analyze streamflow data from a river in your area to assess which times of year peak streamflow occurs. 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 peak streamflow data
- A screenshot of the map of the month that your county experiences the most floods and flash floods from Western Water Assessment

Resources:

- Student Worksheet : [Instructions for USGS Data Analysis](#)
- [Instructional Video for USGS Data Analysis](#)
- [Western Water Assessment Flash Flood Frequency Maps](#)
- [Western Water Assessment Flood Frequency Maps](#)





Group 4

What strategies exist to minimize the impacts of floods?

Science and Engineering Practice: Constructing explanations and designing solutions

Explore several existing strategies to identify possible flood mitigation solutions for your community. Choose three flood mitigation strategies that could be used in your community, or already exist.

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

- A description and picture of three flood mitigation strategies

Resources:

- [Naturally Resilient Communities Flooding Solutions](#)
 - Moving People Out of Harm's Way: Property Buyouts
 - Waterfront Parks
 - Setback Levees
 - Flood Friendly Culverts
 - Flood Bypasses
 - Green Parking Lots
 - Floodwater Detention and Retention Basins
 - Bioswales





Group 5

How do scientists expect the size and frequency of Colorado's floods 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:

- An explanation of historic flood frequency in the Southwest
- A description of projections of flood frequency and severity in the Southwest
- Include screenshots of figures/maps

Resources:

- [Extreme weather and climate disasters cost the U.S. billions in 2019, NOAA reports news clip](#)
- [National Climate Assessment: Increased Risk of Flooding in Many Parts of the U.S.](#)
 - Read the selection (Key Message 3), and interpret figure 3.5 to see what's expected to happen in Colorado.
- [National Climate Assessment: Heavy Downpours Increasing](#)
 - Read the selection and interpret figures, exploring data and projections for the southwest region.

