

Weather and Climate

Developed by:

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Discipline / Subject:

Science

Topic:

Weather and Climate

Grade Level:

Third Grade (can be modified for any grade)

Resources / References / Materials Teacher Needs:

- Access to the internet for video and interactive websites
- Weather journal (Copy double sided and folded into a book)
- Thermometer
- Graph paper
- Venn Diagram

Lesson Summary:

Students will track weather in their hometown and a village along the Iditarod trail for a period, then compare and contrast between the two towns. Using the data collected, students will draw conclusions as to what the climate is for each town and compare the daily weather to the climate.

Standards Addressed: (Local, State, or National)

- **3-ESS2-2** Obtain and combine information to describe climates in different regions of the world.
- **3-ESS2-1** Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
- **RI.3.9** - Compare and contrast the most important points and key details presented in two texts on the same topic.
- **W.3.8** - Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

Learning Objectives:

- Students will discover the difference between weather and climate.
- Students will collect data on the daily weather in two regions.
- Student will compare and contrast the data collected.
- Students will explore the climates of many regions of the world.

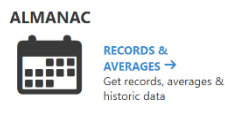
Assessment:

- Data collection and graphing the data.
- Ability to describe the difference between weather and climate.
- Compare and contrast the weather in two different regions.

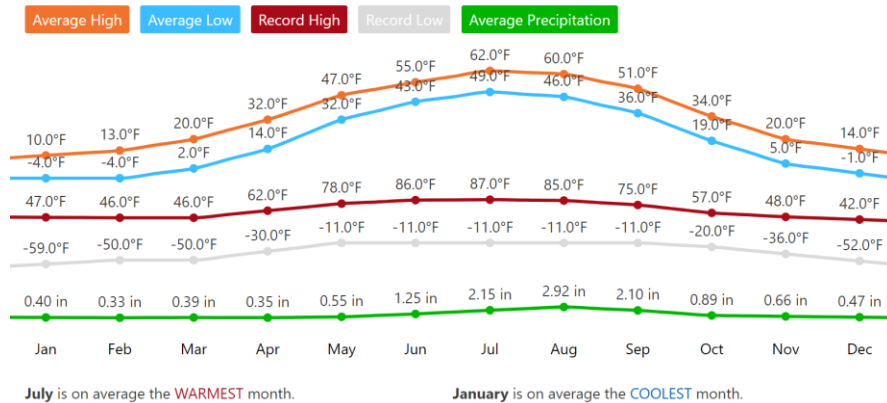
Procedural Activities

1. Introduce students to key vocabulary:
Weather
Climate
Temperature (Celsius vs Fahrenheit)
Precipitation: Rain, Snow, Sleet
2. What is the difference between weather and climate? Have the students brainstorm. Then watch the short clip on Crash Course Kids Weather vs. Climate <https://www.youtube.com/watch?v=YbAWny7FV3w> (This video will also discuss the different types of precipitation.)
3. Introduce the data collection and collection sheets (Weather Report packet). Over the next month (you can decide how long or short you want the students to collect data. They will need to collect enough data to compare their findings and draw a conclusions) the students will be collecting daily weather from their hometown and one village along the Iditarod Trail. Use weather.com to gather the daily weather.

- i) Both Celsius and Fahrenheit are on the data collection sheets. An extra lesson could be taught on the conversion formulas for these.
- Once data has been collected, create graphs for temperature (y- axis is temperature, x-axis are dates) and precipitation (y-axis did precipitation occur, x-axis are dates).
 - Compare and contrast your graphs. What differences do you notice between Alaska and your hometown? What similarities are there? What conclusions can you make about the average weather during this season?
 - Use Weather.com to print out the almanac graphs for monthly temperature and precipitation. This can be found on the lower right-hand side of the page.



Using the graph, the students can compare their data and conclusions about their weather data to the long-term data. Was their data and conclusions similar? Different? What might have caused the differences? What can we say about the climate in this region? Looking at the data how is climate and weather different?



Unalakleet data

- <http://mapmaker.nationalgeographic.org/#/> This is an interactive map that the students can use to explore not only the climate across the world but also precipitation, temperature, cyclones, tornadoes, and natural disasters. Have students explore and compare their climate and the climate of Alaska.

Technology Utilized to Enhance Learning:

- <http://mapmaker.nationalgeographic.org/#/>
- <https://www.youtube.com/watch?v=YbAWny7FV3w>
- www.weather.com

Other Information:

Modifications for Special Learners/ Enrichment Opportunities:

Modifications:

- Daily printout of the weather.
- Premade graphs for temperature and precipitation, so the student needs only to plot points.

Enrichment:

- Explore climate change in Alaska. How it is affecting the land and people?