# **Climate Change**

**Optional Addendum: Weather and Climate** 

#### Objectives

You will be able to

- Describe the difference between weather and climate.
- Analyze data about weather and climate.
- Rephrase and build on others' ideas during group discussion.
- Discuss data and come to a consensus.



How do we know human activity is influencing climate, and what can we do about it?

#### **Evaluation and Feedback**

To evaluate your work, you will

• Use the "Analyzing and Interpreting Data" rows of the Science and Engineering Practices Rubric.

# Lift-Off Task: Optional Addendum: Weather and Climate

As a group:

- Watch two short video clips describing the difference between weather and climate.
- Determine whether a situation is an example of weather or climate.
- Analyze a graph showing both weather and climate data.

#### Vocabulary

- climate
- climate change
- weather

#### Connect to the Culminating Project

• Not applicable



### Part I • What Is the Difference between Weather and Climate?

- 1. Watch the two video clips about the difference between weather and climate. (If you are watching the videos in small groups, click on the links below. Otherwise, watch the videos that your teacher shows.)
  - Climate vs. Weather (1:59): <u>https://youtu.be/1s8eGd7THoo</u>
  - Weather vs. Climate (1:21): <u>https://youtu.be/ukIIA2D0BUU</u>
- 2. Turn and talk to your group members about the differences between weather and climate.
- 3. With your group, decide whether you think each statement below is an example of weather or climate. Be able to explain your decision.
  - a. It rained on May 8.
  - b. Germany is a cold country.
  - c. Summer is hot.
  - d. The news says it is supposed to rain this weekend.
  - e. Florida is hotter than Alaska.
  - f. That was an amazing lightning storm last night.
  - g. Cities near the ocean tend to be wet.
  - h. It might snow in Tahoe tomorrow.
  - i. Today it was colder than usual.
  - j. 1992 was one of the coldest summers on record.
  - k. A hurricane is predicted to hit tomorrow.
  - I. The highest recorded temperature of all time was 136°F in Libya.
  - m. It rains every October.
- 4. Stand up in the middle of the room. Your teacher will read one of the statements above. Move to either the weather or climate corner of the room depending on whether you think the statement is describing weather or climate. Be prepared to explain your decision.
- 5. If your principal asked you what the difference between weather and climate was, what would you tell him or her?



Write your response to your principal in your science notebook.



## Part II • Data Analysis: What Is the Difference between Weather and Climate?



- 1. Discuss the following questions with your group about the graph above.
  - What does the *x*-axis tell you? What does the *y*-axis tell you?
  - What does an individual point on this graph represent?
  - What do the two different colors represent?
  - What is the trend in the thick lines?
  - What is the trend in the wavy lines?
  - Which lines do you think represent weather and which represent climate?
  - In summary, what does this graph tell you about the relationship between weather and climate?
- 2. Record your answers in your science notebook.

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