



Weather or Climate?

Activity: Weather or Climate?

Category: Vocabulary Building/Worksheet

Series: Science Myths, Busted! (Weather Myths, Busted!)

Supplies

- *Weather Myths, Busted!*
- The book's 12StoryLibrary.com page: <http://www.12storylibrary.com/non-fiction/science-myths-busted/weather-myths-busted/>
 - The “NASA – What’s the Difference Between Weather and Climate?” web resource
- Weather or Climate? worksheet (see attached)
- Whiteboard

Prep

Print one Weather or Climate? worksheet for each student. Read Chapter 1 (“Busted: Four Elements Are Responsible for Weather”), Chapter 6 (“Busted: The Cosmos Cause the Weather”), and Chapter 7 (“Busted: Past Weather Can Predict Today’s Weather”) of *Weather Myths, Busted!* with the students, or assign it to them to read on their own.

Directions

Choose four volunteers to read sections from the web resource “NASA – What’s the Difference Between Weather and Climate?” out loud to the class. Ask each volunteer to read one of the following sections:

1. What Weather Means
2. Things That Make Up Our Weather
3. Who is the National Weather Service?
4. What Climate Means

After reading all four sections, ask the students to create definitions in their own words for “weather” and “climate.” Write their definitions on the whiteboard.

Throughout history, scientists have been trying to find a way to accurately predict weather. However, they have sometimes tried predicting weather (the way the atmosphere is currently behaving) by studying climate (the average weather in a particular region over time and space). Ask the students the following questions:

- Can you think of an example when someone mixed up the meanings of “weather” and “climate”?
- How is the difference between weather and climate important in understanding how to make accurate predictions?

Have each student practice making this distinction by filling out a Weather or Climate? worksheet.

Evaluation

Give the students one point for each statement they correctly identify. RI 4.4, 5.4, 6.4

Purpose

To help students practice identifying the meaning of words as they are used in a text and applying that knowledge, as well as to help students understand the history of how scientists try to predict the weather.

Weather or Climate?

People have tried to predict the weather for thousands of years. Are the scientists in each statement studying weather, climate, or neither? Write your answer (Weather, Climate, or Neither) on the line below each statement.

1. More than 2,300 years ago, Aristotle thought that four elements (earth, air, fire, and water) caused clouds and rain.

2. In the fifteenth century, scientists made instruments to measure humidity, temperature, and air pressure.

3. In 1671, William Cock wrote a book about how planets, comets, and eclipses controlled the weather.

4. In the 18th century, wealthy people began measuring temperature, wind, rain, and pressure.

5. In the 19th century, scientists started keeping records of the average weather over time.

6. In the 19th century, some meteorologists tried to predict future weather by studying past weather patterns.

7. In 1910, Lewis Fry Richardson made a mathematical model of the atmosphere that included data about temperature and wind speed.

8. Today, the NWS launches balloons in the air to measure air temperature, air pressure, wind, and humidity.

9. Today, meteorologists use computer models to build forecasting models.

10. Today, scientists study the average temperature and rainfall for a particular region and compare it to past averages for that region.

Weather or Climate? (ANSWER KEY)

People have tried to predict the weather for thousands of years. Are the scientists in each statement studying weather, climate, or neither? Write your answer (Weather, Climate, or Neither) on the line below each statement.

1. More than 2,300 years ago, Aristotle thought that four elements (earth, air, fire, and water) caused clouds and rain.

Neither. Aristotle was not observing what was happening in the atmosphere.

2. In the fifteenth century, scientists made instruments to measure humidity, temperature, and air pressure.

Weather. These instruments showed what was happening in the atmosphere.

3. In 1671, William Cock wrote a book about how planets, comets, and eclipses controlled the weather.

Neither. Planets, comets, and eclipses are outside Earth's atmosphere.

4. In the 18th century, wealthy people began measuring temperature, wind, rain, and pressure.

Weather. These instruments are measuring what happens in Earth's atmosphere.

5. In the 19th century, scientists started keeping records of the average weather over time.

Climate. Their records measured the weather over time.

6. In the 19th century, some meteorologists tried to predict future weather by studying past weather patterns.

Climate. Even though they tried to predict weather, these scientists were studying climate--patterns and averages of weather over time.

7. In 1910, Lewis Fry Richardson made a mathematical model of the atmosphere that included data about temperature and wind speed.

Weather. This model showed how the atmosphere was currently behaving.

8. Today, the NWS launches balloons in the air to measure air temperature, air pressure, wind, and humidity.

Weather. The balloons collect data about how the atmosphere is currently behaving.

9. Today, meteorologists use computer models to build forecasting models.

Weather. The models showed how the atmosphere was currently behaving.

10. Today, scientists study the average temperature and rainfall for a particular region and compare it to past averages for that region.

Climate. The averages show weather over time.