



Grades 7–9

Unit 2: Guiding Questions and Assessments

Activity 2.1: Recent Weather Patterns

Guiding Questions

- What is the difference between weather and climate?
- What, if any, patterns exist in the weather in our city over the past few years?
- What information do we need to draw conclusions about whether climate change is happening in our city?

Assessment(s)

- Student worksheet, The Weather in My City

Activity 2.2: Historical Climate Cycles

Guiding Questions

- How have average temperatures differed over the past 400,000 years?
- How do scientists reconstruct past climates?
- What are the connections between carbon dioxide concentration and temperature?

Assessment(s)

- Student worksheets
- Completed graph of temperature change over 10,000-year period

Activity 2.3: Climate Change Around the World

Guiding Questions

- What variables make up climate, in addition to temperature?
- How are climate variables changing over time in individual cities?
- How do these variables compare across different cities throughout the world?
- How can we use NASA and NOAA climate data to represent changes in global and regional precipitation, temperature, and cloud cover?
- What are the changes in average temperatures, precipitation and cloud cover over time in different regions around the world, and how do those change compare to those variables in our home city?
- Are global changes in climate variables (temperature, precipitation, and cloud cover) different across regions? What are the differences and similarities of the effects of climate change on regions around the world?

Assessment(s)

- Graphs generated from MY NASA DATA
- Climate Change Around the World Worksheets



Activity 2.4: Causes and Effects of Climate Change

Guiding Questions

- What are the causes and effects of climate change
- Which causes are natural and which are caused by humans?

Assessments

- Causes and effects graphic organizer
- Reflection on Evidence of Climate Change: Persuasive Writing

Full Unit 2 Pre- and Post Assessments covering Activities 1 through 4