

BEFORE YOU VISIT

grades 6-8

These discussion starters and activities are designed to spark your students' interest in the exhibition and to prepare them for the concepts they'll encounter.

Discussion Starters

WEATHER & CLIMATE

- What's the difference between weather and climate?
- What are some recent news stories about climate change?
- What fruits and vegetables do you eat? Why do they grow in some places but not others?
- What tools do we use to measure weather conditions?
- Where would you look for clues to what climate was like in the past?

OUR ENERGY USE

- Describe the ways that you have used energy today.
- List the different sources of energy that are used to generate electricity in our area.
- Where do you think the energy that heats your home or school comes from?

Activities

CO₂ REMOVAL

Objective: To understand the role of plants in the carbon cycle.

Description: In this experiment, students use their breath, a carbon dioxide indicator, and a common water plant to show how plants remove CO₂ from Earth's atmosphere. Students then explore and discuss the impact of deforestation on climate change.

Download activity at: amnh.org/resources/rfl/web/climatechangeguide/activities/co2removal.html

SCIENCE BULLETINS: MELTING ICE, RISING SEAS

Objective: To understand how scientists use the scientific method to investigate Earth's warming climate.

Description: Students learn about the scientific method through class discussions and an online video. The video features scientists studying geologic records in Greenland's glaciers and Florida's fossilized coral reefs in order to predict the impact of melting ice on sea level rise.

Video and Essay available at: sciencebulletins.amnh.org

Click on the "Climate Change" tab at the top right. You'll find "Melting Ice, Rising Seas" among other stories in the right column. After you select the video and press "play," look for the "Educator Resources" link in the lower left column. It includes suggested questions to guide your class discussion and an in-depth look at the scientific method.

Tips on Using the Student Worksheet

On the other side of this insert, you'll find a worksheet that your students can use to explore the *Climate Change* exhibition independently. Before coming to the Museum, you may wish to distribute copies of the **Map of the Exhibition** and point out the areas that students will be exploring.

For Investigations 1 and 2, you can let students select which areas they would like to explore. Or, you can divide the class into four teams and assign each team an area of focus for both investigations.

STUDENT WORKSHEET grades 6-8

1. Investigate the Evidence for Climate Change

Select an exhibition area for your first investigation:

- Changing Atmosphere Changing Ice Changing Ocean Changing Land

Locate a piece of evidence that shows Earth’s climate is changing. Evidence can include samples (e.g., tree rings, ice cores, brain coral), charts, and maps. Use the back of this page to record your responses to these questions:

- What is the evidence?
- Sketch and label it.
- How did scientists collect the evidence? What tools were used?
- What question about climate change does this evidence help us answer?

2. Investigate the Consequences of Climate Change

Select an exhibition area for your second investigation:

- Changing Atmosphere Changing Ice Changing Ocean Changing Land

Describe a way in which climate change affects human society. _____

Choose a plant or animal (including humans). Describe how it has been or might be affected by warming temperatures.

3. What Can We Do?

Explore the **Making a Difference** area. What actions can your school or community take to reduce carbon dioxide (CO₂) emissions?

GRADES 6-8**1. Investigate the Evidence for Climate Change**

Answers may vary. Types of evidence include ice core, tree rings, brain coral fossil, and sediment core.

2. Investigate the Consequences of Climate Change

Describe a way in which climate change affects human society.

Answers will vary. They may include: Droughts could disrupt agriculture, causing starvation. Storm surges and rising sea levels could displace the hundreds of millions of people who live on or near seacoasts. Changes in temperatures and the distribution of rainfall could lead to disease outbreaks.

Choose a plant or animal (including humans). Describe how it has been or might be affected by warming temperatures.

Answers will vary. They may include: Melting Arctic sea ice and permafrost (frozen land) is disturbing the places where many polar animals hunt, nest, and breed. Changes in ocean water threaten populations of phytoplankton. These microscopic plants form the base of the ocean's complex food chains, so this could affect animals throughout the ocean.

3. What Can We Do?

What actions can your school or community take to reduce carbon dioxide emissions?

Answers will vary. They may include: Conduct school- or community-wide campaigns — using leaflets, posters, or announcements in school assemblies — that promote actions that individuals can take to slow climate change. Work with local organizations to promote public transportation, tree-planting, energy-efficient construction, and large-scale recycling programs. Get involved in Earth Day and other renewable-energy or conservation-oriented activities.