



WEATHER AND CLIMATE

Grades 4 – 6 | 90 Minutes

Program Overview

Description

What is the climate and why is it changing? In this field trip students will participate in experiments, hands-on activities, and group demonstrations to learn about Earth's climate and how climatic changes impacts our weather. *Available during the school year in the months of September, October, April or May.*

Adult chaperones recommended: 4

Content Standards

Subject	Gr	Ohio Department of Education Standards
Earth Science	4	The surface of Earth changes due to weathering
Earth Science	5	Most of the cycles and patterns between the Earth and the sun are predictable.
Physical Science	6	An object's motion can be described by its speed and the direction in which it is moving.
Climate Literacy Principles		<ol style="list-style-type: none">1. The Sun is primary source of energy for Earth's climate system.2. Climate is regulated by complex interactions among components of the Earth system.3. Life on Earth depends on, is shaped by, and affects climate.4. Climate varies over space and time through both natural and man-made processes.5. Our understanding of the climate system is improved through observations, theoretical studies and modeling.

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| <p>6. Humans activities impact the climate system.</p> <p>7. Climate change has consequences on earth systems & human lives.</p> |
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Vocabulary

atmosphere	greenhouse
barometer	gas
carbon dioxide	liquid
cirrus	oxygen
climate	precipitation
condensation	water vapor
cumulus	weather
evaporation	wind

Books we recommend

- Weather Words and What they Mean by Gail Gibbons. Holiday House, 1990.
- What is a Forecast? By Jennifer Boothroyd.
- Lerner Publishing Group, 2015.

Post-Trip Activities

- Design and construct an instrument that can measure wind speed and wind direction, such as an anemometer. Test the accuracy of the anemometer by comparing to actual wind speed.
- Build a model (kit) that can collect or use solar energy (such as a solar oven, solar wind chimes or solar water heating devices).
- Design and construct a terrarium that is enclosed and has soil, plants and water. Observe the effects of the sun on evaporation, condensation and the air and water temperatures.
- Graphing climate vs weather using M&Ms:

<https://study.com/academy/lesson/weather-vs-climate-activities.html>

Other Resources

How to make an anemometer:

https://www.nasa.gov/sites/default/files/atoms/files/build_an_anemometer.pdf

How to make a solar oven:

<https://climatekids.nasa.gov/smores/>

How to plant a mini garden:

<https://climatekids.nasa.gov/mini-garden/>

How to plant a terrarium:

<https://www.pbs.org/parents/crafts-and-experiments/plant-a-terrarium>