



## WEATHER AND CLIMATE

### Grade 1 – 3 | 90 Minutes

## Teacher's Guide

### Description

Why does our weather constantly change? In this field trip students will participate in exciting weather demonstrations and use tools to observe and record current weather conditions. We'll learn many facts and dispel some weather fiction in this fun, engaging class. *Available during the school year in the months of September, October, April or May.*

**Adult chaperones recommended: 4**

### Content Standards

Subject	Gr	Standard	Objective/"I can" Statements
Earth/ Space	1	<ul style="list-style-type: none"><li>The sun is the principal source of energy.</li><li>The physical properties of water can change.</li></ul>	<ul style="list-style-type: none"><li>Describe how the sun impacts living and non living things on Earth.</li><li>Explain how water changes form and produces weather.</li></ul>
Earth/ Space	2	<ul style="list-style-type: none"><li>The atmosphere is made up of air.</li><li>Water is present in the air.</li><li>Long- and short-term weather changes occur due to changes in energy.</li></ul>	<ul style="list-style-type: none"><li>Explain what the air and atmosphere are made up of.</li><li>Explore the factors that impact weather.</li></ul>
Climate Literacy Principles		4. Climate varies over space and time through both natural and man-made processes.	

### Pre-Trip Activities

- Recognize that clouds, steam, fog, hail, snow, sleet and hail are examples of water in the atmosphere.

- Recall that water can change from liquid to vapor and/or vapor to liquid.
- Identify clouds as droplets of water and the droplets can combine and form into raindrops.

## Vocabulary

atmosphere	liquid
barometer	molecule
cirrus	oxygen
climate	precipitation
condensation	solid
cumulus	water vapor
drought	weather
evaporation	wind
gas	

## Books

- 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 at School

Design and construct an instrument that can measure wind speed and wind direction, such as an anemometer. Properties of the chosen materials and design must be evaluated as part of the testing and decision making process. Demonstrate final product to the class.

## Extention Activities

- Build a model (kit) that can collect or use solar energy (simple, small devices, such as a solar oven, solar wind chimes or solar water heating devices)
- Plan and implement an experiment to investigate what happens when pollution is in a body of water that evaporates. Use a simple model that utilizes sediment, vinegar or vegetable oil as a contaminant.
- Plan and implement an experiment to investigate what factors contribute to water evaporating into the atmosphere. Discuss the different results with the class to generate a list of all the possible methods that were tested.
- Design and construct a community in an aquarium that is enclosed and has soil, plants and water. Test the effects of the sun on evaporation and condensation rates and the air and/or water temperature. Evaluate the findings and discuss with the class.