

World Wide Weather
Grades 3 - 5

Purpose: Students will describe differences in weather all over the world. After exploring the causes of weather patterns, they will describe how weather in one location helps predict weather in related areas.

Lesson Description: Teams of students study, chart, and write about the weather and its effects on a particular city, for the month. The team constructs a multimedia presentation of its findings. The class constructs a final project that uses and merges the teams' findings to demonstrate weather patterns around the world.

Activities:

Preparation

- *Arrange for guest speakers (radio or TV meteorologists or members of local weather clubs).
- *Gather resources (books, maps, multimedia CDs, weather videos, Internet sites).
- *Prepare a KWL (**k**now, **w**ant to know, **l**earned) chart to assess student knowledge.
- *At the beginning of each day, identify the probable weather concepts, technology skills, and topics to be covered (e.g., weather vocabulary, graphing concepts). Gather the appropriate resources for exploring the daily concept.

Procedure

1. As a class, establish the project's guidelines or elements; for example, a graph of precipitation, temperatures (high and low), description of typical weather for the current season, adaptations people make based on current weather, and generalizations of weather patterns for an average year.
2. Group the class into teams of four by continents. Assign each individual a role within each group (weather reporter, multimedia gatherer, chart producer, journal recorder). Rotate the jobs every week to allow all students to experience each job. (If time allows, consider having teams make their own weather instruments.)
3. Ensure that team members understand their roles and responsibilities for the project.
 - The weather reporter and chart producer work together to find and chart each day's high and low temperatures, liquid and solid precipitation, and cloud profiles in their selected city, as well as produce weekly graphs.
 - The multimedia gatherer looks for photographs, QuickTime movies, weather maps, and other visuals that describe the weather of the city during the week, saving the items in a specially marked folder or disk.
 - The journal recorder keeps a daily record of the group's activities and the effects of the weather on the city's inhabitants. If possible, the recorder will also communicate by email with a person or class from the selected city.

Example of a Lesson Plan from the Satellites & Education Conference

4. Conduct a class session on generalizations from the data collected thus far. Be sure to emphasize correct vocabulary and term usage.
5. Help the groups reach conclusions about the weather patterns for the month. Periodic status checks are helpful as groups report on their findings each week. As the groups accumulate more data, encourage them to compare their findings from one week to the next. Group the cities by location, tracking the weather from one location to the next. Encourage students to make generalizations about how the weather in one location may predict weather elsewhere as winds and currents travel in a given direction.
6. After four weeks of data collection, teams construct multimedia presentations or Web pages that include the findings on the weather patterns for their selected cities and the effects of the weather for that month. Multimedia presentations must include facts about each city's weather, charts and graphs, and timely weather maps. The effects of the weather on the people living in the cities must also be included.
7. Following group presentations, conduct a debriefing session on trends and generalizations that are apparent in the data. To stimulate the discussion, use weather sites on the Internet to show current video tracking of weather around the globe. The class constructs a final multimedia project that includes all of the cities studied.
8. Students will each note in their personal journals their individual reflections on the effects of weather around the world.

Tools and Resources:

Software

*Multimedia-authoring or presentation

Web Sites

*For weather information

The Weather Channel

www.weather.com/homepage.html

USA Today's Weather Page

www.usatoday.com/weather/wfront.htm

CNN Weather

www.cnn.com/weather/

Weather Underground

www.wunderground.com/

Dan's Wild Wild Weather Page (a television meteorologist's interactive site)

www.whnt19.com/kidwx

WeatherOnline

www.weatheronline.com/

Global Learning and Observations to Benefit the Environment (GLOBE)

www.globe.gov/

(Note: The National Weather Service, NWS, has sites all over the nation. Most NWS sites have clickable maps. See, for example, Weather Connections, <http://nwselp.epcc.edu/elp/wxconn.html> the NWS site for El Paso, Texas.)

Example of a Lesson Plan from the Satellites & Education Conference

*For finding keypals/project partners (note: GLOBE sites also have email addresses)
epals Classroom Exchange
www.epals.com/

Global Schoolhouse

www.gsn.org/

Intercultural E-Mail Classroom Connections

www.stolaf.edu/network/iecc/

Global Rigby

www.reedbooks.com.au/rigby/global/keypal.html

Web66

<http://web66.coled.umn.edu/>

Kids' Space Connection

www.ks-connection.org/

Other

*Daily newspapers, TV access in the classroom or home

Assessment:

Group multimedia projects can be scored on rubrics based on the criteria presented for the elements of the project. Teams can be assessed by their weekly charts and journals as well as their collaborative efforts. The criteria for the rubrics depend on the scientific background of the students and can be set based on district, state and national guidelines, as well as students' personal goals for learning.

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Comments from the Authors:

Several teachers in our district have used this learning activity as an ongoing project with weather as a social science or multidisciplinary unit that includes a substantial geography component. Daily connections with a city give students a sense of their own location's weather as they make comparisons with other cities. Coupled with other units of instruction, the project makes local weather come alive! *Authentic Instruction in Action*

Students from other countries have been especially interested in this project. In searching the Internet for information, these students have been able to find weather or city sites for their native regions, in their own languages. For example, Mikato, a fifth grader from Japan, had a rough transition to his new school and neighborhood. The climate of his new area was much warmer than he was used to, and he did not have access to the same seasonal sports. By participating in the weather study, he not only tracked and translated the weather for his group, he taught students weather terms in Japanese! The connectivity enabled Mikato to collaborate with students in his old school and begin a weekly weather comparison. Because the weather in Japan is reported in Celsius, his American classmates learned how to convert to Fahrenheit in order to understand and report measurements for their partners.

Science Standards met in this lesson:

- C3 Organisms and environments
- D3 Changes in the earth and sky
- G1 Science as a human endeavor