Highs and Lows

Technology Required: Internet access, e-mail, chat (optional)

Grade Levels: 4–6

Subjects: science, math, geography

Duration: 3 to 4 weeks

Description:

This activity could be a part of a larger unit on weather or on graphing. Using e-mail, students will collect the high and low temperature readings from a variety of locations. By using e-mail as opposed to online or print sources, students can also explore differences in microclimates within their own region. They will plot the locations on a map. Using the information they have gathered, students will look for patterns and will predict future temperatures.

Objectives:

In this activity students will:

- develop a data-gathering strategy involving multiple sources.
- accurately record and graph information gathered from multiple sources.
- use information to predict temperature patterns in a variety of locations.

Materials:

- map(s)
- e-mail addresses for participants
- software programs for creating/using e-mail, spreadsheet, and word processor documents

Procedure:

1. Be sure that students have an outdoor thermometer that is easily accessible from the classroom. Prepare a class-size chart like the one on page 75 on which the students can record your local temperatures.

2. Have students record the temperatures each day at the opening bell, at lunch, and at the end of the school day. Keep this record for five to seven days.

3. Post these results on a board or chart. At the end of the week, ask students what they notice. Accept all conclusions.

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4. Have the class use the Internet to help them collect other temperature data. Explain that it will be easier to explore variations in temperature if you have a wider group of samples. Ask students how they might accomplish this. Also discuss whether the collection method used in your class would be effective in collecting data from others. If you wish, they can record their data on the chart (page 75).

5. Compile a list of information sources, using either locally generated contacts or a Web site like ePals.

   http://www.epals.com

6. Create a time line for completing the project. Determine how the data will be entered. A spreadsheet is a useful tool. Who will do this data entry?

7. Create an e-mail message explaining your project and generate a reporting form to standardize data collection (see the sample on the next page). If you send the form as an attachment, participants can respond more easily.

8. Gather your data. Perhaps a group of students can be responsible for managing information from each remote site.

9. At the close of the data gathering phase, have each student group report on their data. Ask that they include numerical and graphical reports. This project lends itself to real-time work with mean, median, range, etc. What conclusions has each group drawn from the data? What conclusions can the class as a whole draw from the data?

10. Use chat or Instant Messaging to share information among participants.

Assessment:

Students can be graded on the presentation and analysis of data and the level of participation for students within a group.

Internet Resources:

The *Weather Channel* has an extensive collection of information that can be used to supplement or verify the data gathered by students.

http://www.weather.com

Name _____

Highs and Lows

Location	Temperature			Date
	Morning	Lunch	Afternoon	

What conclusions can you draw about the temperature in your area?

_____

_____

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