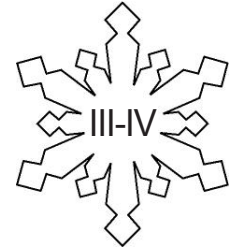


# Climatology Forecasting

Levels



Grades 5-8

## Overview:

How do meteorologists forecast weather? In this activity, students learn one of the 5 main methods for forecasting weather, use it to forecast, and analyze the results. *Note: This activity requires time the following day to analyze results.*

## Objectives:

The student will:

- make a weather prediction using the climatology method.

## GLEs Addressed:

*Science*

- [5-8] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.
- [7] SD3.1 The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by describing the weather using accepted meteorological terms (e.g., pressure systems, fronts, precipitation).

## Materials:

- Computer with Internet access
- STUDENT WORKSHEET: "Climatology"

## Activity Preparation:

1. Access a copy of today's weather report, which includes high and low temperature, sky conditions, precipitation likelihood, and wind speed, by doing one of the following:
  - a. Navigate to <http://www.nws.noaa.gov>, type in your city and state in the upper left hand corner where it says "Local forecast by "City, St." Click go.
  - b. Find a local weather report in the local newspaper.
2. Make copies of the weather report so that each student will have a copy.

## Activity Procedure:

1. Remind students meteorologists use several different methods to forecast weather. Two of those methods, which have been addressed in previous lessons, are trends and persistence.
2. Remind students how trends and persistence methods are used to forecast weather.
3. Explain another way to forecast weather is climatology. Climatology examines daily weather normals. A daily weather normal is the normal weather for a particular day in a specific area. Normals are calculated by averaging weather data for one day every year for many years. For example, to find the high temperature normal for August 3, find the high temperature for August 3 for each of the last 30 years; add all the high temperatures, then divide by 30.
4. When using climatology to forecast weather, meteorologists look at normal weather data for the date in question and assume that will be the weather.
5. Distribute the STUDENT WORKSHEET: "Climatology" and the weather report. Ask students to complete the worksheet. Discuss the answers to Step 5.

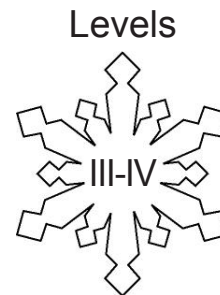
## Answers:

Answers will vary depending upon the weather conditions.

Name: \_\_\_\_\_

# Student Worksheet

## Climatology



- Using a computer with Internet access, navigate to the Web site: <http://climate.gi.alaska.edu/Climate/Normals/index.html>. Click on the drop-down menu under "Daily Normals" and choose your community or the community closest to you.
- The average temperature is the average of all the temperatures recorded in one day. Find the section labeled average temperature. Find the current month and day on the chart.
  - What is the normal average temperature listed for today? \_\_\_\_\_ ° F
  - What is the normal average temperature listed for tomorrow? \_\_\_\_\_ ° F
- Using the climatology method of forecasting, what will the average temperature be tomorrow?  
*(Hint: It's the same as the answer to Step 2.)* \_\_\_\_\_ ° F
- Using the weather report provided by the teacher answer the following questions (Note: Where a range of numbers is provided, use the highest number.):
  - What will the high temperature be tomorrow? \_\_\_\_\_ ° F
  - What will the low temperature be tomorrow? \_\_\_\_\_ ° F
  - What will the average temperature be tomorrow? \_\_\_\_\_ ° F
- Was your climatology forecast the same as the weather report forecast? \_\_\_\_\_  
Why might they be different? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_