

# The Weather and You

## ASSESSMENT #ELSC34

### Benchmark Grades

Can be adapted for upper elementary grades

### Summary

Students will look at different aspects of weather on a particular day. They will collect data, see how weather affects their activities, and draw conclusions.

### Keywords

Collecting data

Drawing conclusions

How environment affects people

Weather



# The Weather and You

## ASSESSMENT #ELSC34

### Information for the Teacher

#### Task Description

This assessment asks students to observe the weather in the area where they live for one day and then apply what they have studied about causes and types of weather to the specific information they gathered.

Choose a day that might produce some “interesting” weather.

Each student should make some observations independently, but sharing of data can also occur (e.g., have one student collect temperature data for the day to be shared with all the students). You can provide some information, like national weather maps, or forecasts for the day. If there were significant weather events in previous years for the day in question (flood, tornado), you may direct the students to those years for Task 3.

For Task 4, choose a location for the video camera so it records the weather and seasonal aspects of nature (e.g., animal life, stages of vegetation or crop growth, etc.). Move the camera to record several different scenes. Have the tape taken on the day students record their data, but do not tell them about this until Task 4 is attempted.

#### Required Materials

**Task 1:** A video camera for taping as described above

**Task 3:** Reference materials with historical weather data

**Task 4:** A VCR for viewing the weather tape made in Task 1

#### Scoring key for the teacher

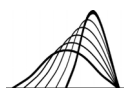
Answers will vary.



# The Weather and You

Assessment Introduction: Here is what you will do ...

Have you ever noticed how your activities are related to the weather? You are going to pay close attention to the weather for one day and analyze what is happening. To do that you will first need to gather some information. After you gather information, you will analyze it.

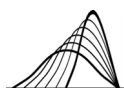


# The Weather and You

## Task 1: Preparing for Your Weather Observations

A day goes by only once. If you are going to record data, you should have a plan. Do the following:

- Decide what data you want to collect about the weather. You can make observations using instruments and you can report on things you see by using your senses.
- How often during the day should your observations be made?
- Decide on a plan and record the procedure you will take.
- Pick a day to make weather observations. Write down the procedure you decided upon. Collect your data.



# The Weather and You

## Task 1: Scoring Guide

### 4 Exemplary

- ❑ Criteria for the “Proficient” category have been successfully completed.
- ❑ The response contains advanced work. For example, the plan is especially detailed. The reasons for collecting the types of data are given and make good scientific sense. The data collection is flawless. Other examples of advanced work include:

### 3 Proficient

- ❑ The student writes down a plan that he or she follows to collect weather data. The plan describes all the steps that are taken. For example, it includes the intervals that data will be recorded, how it will be recorded, etc.
- ❑ The student makes observations. He or she uses equipment and direct observations.
- ❑ The data is collected according to the plan.
- ❑ It is recorded in a clear way.

### 2 Progressing

- ❑ Three of the criteria in the “Proficient” category have been met.
- ❑ More work is needed.

### 1 Not meeting the standard(s)

- ❑ Fewer than three of the criteria in the “Proficient” category have been met.
- ❑ The task should be repeated.



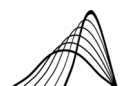
# The Weather and You

## Task 2: Weather Affects Us

Think about the day that you recorded your weather observations.

How did the weather affect the decisions that you made during the day? How did it affect what clothes you wore? How did it affect things you did during the day or at home? How did it affect anything you did within your house? How do you think it affected other people in your town?

Write down as many effects of the weather for this day as you can discover.



# The Weather and You

## Task 2: Scoring Guide

### 4 Exemplary

- ❑ Criteria for the “Proficient” category have been successfully completed.
- ❑ More advanced work is included. For example, the student’s observations are especially detailed (“We turned the lights on because the clouds made it dark.”). Other examples of advanced work include:

### 3 Proficient

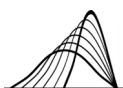
- ❑ The student tells how the weather affected his or her actions and activities for a day.
- ❑ Many different things are included, such as clothing choices or personal discomfort.
- ❑ The student also tells how the weather affected other people in the area.
- ❑ At least twenty examples are given.

### 2 Progressing

- ❑ Three of the criteria in the “Proficient” category have been met.
- ❑ More work is needed.

### 1 Not meeting the standard(s)

- ❑ Fewer than three of the criteria in the “Proficient” category have been met.
- ❑ The task should be repeated.

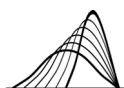


# The Weather and You

## Task 3: A Change in the Weather

Find out information about the weather on this date in other years. Especially find the hottest it has ever been on this day and the coldest it has ever been on this day. If you find more information, great! Include that in your answer too. After you have gathered this information, think about the following questions:

- What is the hottest recorded temperature for this day? What is the coldest temperature? Find the difference in these two temperatures.
- How would your activities have been different if this had been that hottest day?
- How would your activities have been different if this had been that coldest day?
- How would your activities have been different because of other differences in the weather that you discovered?
- For each of the examples you gave in Task 2, imagine the changes that would be made due to weather. Write down those changes.



# The Weather and You

## Task 3: Scoring Guide

### 4 Exemplary

- Criteria for the “Proficient” category have been successfully completed.
- Advanced work is included. For example, the student includes the activities that would not have changed (“We would have done it, but we would have been hot.”). The student finds additional historic information about the weather on this day, and tells how it would have affected his or her activities. Other examples of advanced work include:

### 3 Proficient

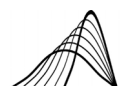
- The student finds information about the weather on this date from other years. He or she finds the record high and low temperatures for this day.
- The differences in the temperatures are correctly calculated.
- The student imagines how his or her activities would have been different on those two days.

### 2 Progressing

- Two of the criteria in the “Proficient” category have been met.
- More work is needed.

### 1 Not meeting the standard(s)

- Fewer than two of the criteria in the “Proficient” category have been met.
- The task should be repeated.



# The Weather and You

## Task 4: A Weather Detective

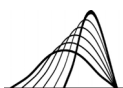
Now, go back to the data you collected in Task 1. Let's suppose that sometime in the future a student your age discovers your data. Let's also imagine that the day of the year that your data were collected is missing. The student also discovers videotape that was recorded on the same day. It is missing information about the date!

This student has a bunch of data that was collected on a certain day, but he or she does not know what day of the year it was or what month.

- How could this student figure out what season of the year it was on the day that the data were collected?
- How could the student prove what *month* the data were collected?

To do this, you must find information about typical weather for your location at various times of the year. Using just one type of data might mislead you. For example, it can be 80 degrees outside in March, June, or September in some places.

Use as many clues from the video as you can, and tell how the student could determine what month the data were collected. (You *know* the answer because you know when the tape was made. But a good answer will include more than just the day that the tape was made. A good answer will explain how you know when the tape was made based on clues from the tape, so explain your reasoning.)



# The Weather and You

## Task 4: Scoring Guide

### 4 Exemplary

- ❑ Criteria for the “Proficient” category have been successfully completed.
- ❑ The response includes advanced work. For example, he or she includes less obvious clues or suggests other data that would be helpful in determining the date. Other examples of advanced work include:

### 3 Proficient

- ❑ The student views the video and collects information about the seasonal changes in the area.
- ❑ The student tells how the future student could determine in what month the data were collected.
- ❑ The student uses both the video and historical information to make conclusions.

### 2 Progressing

- ❑ Two of the criteria in the “Proficient” category have been met.
- ❑ More work is needed.

### 1 Not meeting the standard(s)

- ❑ Fewer than two of the criteria in the “Proficient” category have been met.
- ❑ The task should be repeated.

