

“Weather and Me”

Grade 1 – Summative Assessment

Assessed Understandings

Students will understand:

1. Weather conditions impact living organisms.
2. Weather conditions create patterns.
3. Weather conditions (wind, precipitation, cloud cover, and temperature) can be measured and observed by scientific tools, e.g. thermometer, wind gauge, and rain gauge.
4. Weather data is summarized on graphs and charts.

Teacher Notes for the “Weather” Assessment

Introduction

These items are designed to provide an assessment of what students know and understand at the completion of the Science & Technology for Children (STC) “Weather and Me” module. This document includes teacher directions, response sheets for the individual students, and analytic scoring rubrics for each question. A separate document contains the anchor papers for each question. A close look at the rubrics prior to the administration of the assessment will be helpful to the teacher.

Time and Preparation for the Assessment

This assessment should take about **one hour** to administer. You are free to read aloud any or all portions of the assessment to your students. Without giving away a more appropriate response, please help students understand the intent of the question or task. This is not a test of reading, writing, or artistic ability. Students may be encouraged to use any and all resources available, including material from classroom charts and individual journals.

Prior to the assessment, the teacher will need to have the following materials available for each student:

- An assessment
- A thermometer
- A red crayon
- A pencil
- Rain gauges filled to 2 units at easily accessible stations
- A teacher response sheet (page 10 of “Teacher Notes”)

Directions for Administration

Bolded print indicates the read-aloud teacher instructions to students.

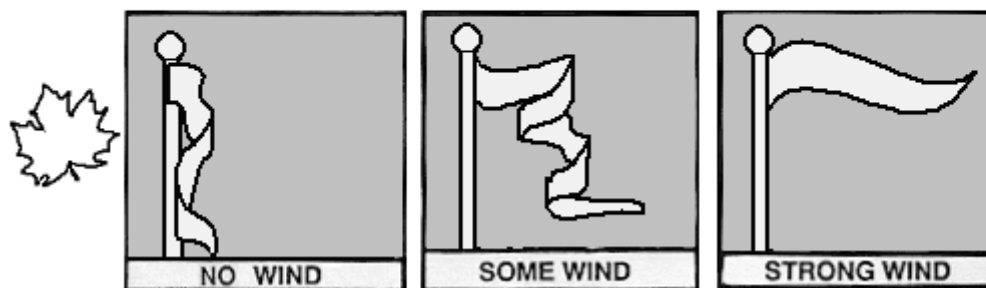
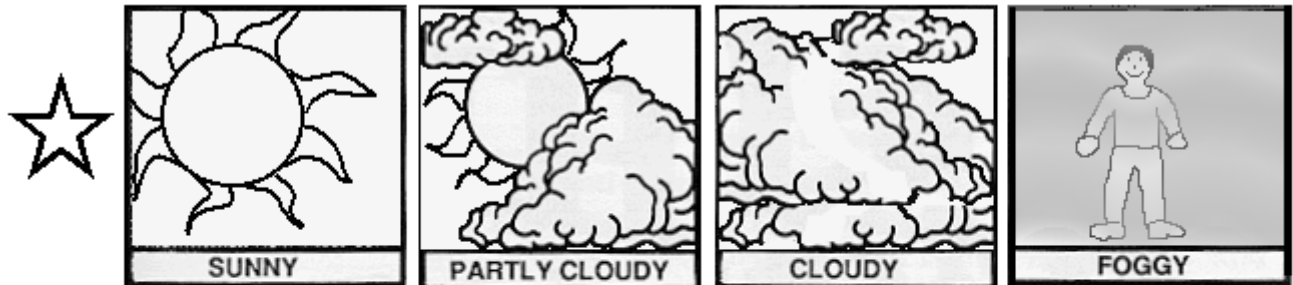
Question 1: In this question, the student is asked to identify his/her observation of the day’s weather. See sample on next page. Using a bookmark or cover sheet under each row will help students to focus on one row at a time.

“Today we are going to do a test on weather. We have been working with weather, so I would like to find out how much you know and can do by yourself.” (Pass out the assessment and a pencil). **“We are going to begin by observing today’s weather.”** (You may want to take your students outdoors to do this part of the assessment). At the time of assessment, please instruct your students to observe the weather over a one-minute time frame. This should be more than a quick glance. Teacher reads the directions for Question 1. **“Please write your name on the *Name* line. Put today’s *Date* below it. Please point to number 1. Now read the directions to yourself as I read them aloud. Look at today’s weather. Put your finger on the row with a star. Circle one stamp in that row that best describes today’s weather.”** Use same procedure for the row with the apple and the row with the leaf.

Name: _____

Date: _____

1. Look at today's weather. **Circle** one stamp in **each** row that best describes today's weather.



Question 2: This question must be done outdoors unless you have a window thermometer. For this question, please make a thermometer available to the students by giving each student a thermometer to take outdoors, by placing some thermometers outside before the assessment, or by having a window thermometer available to use. Record the weather on your **Teacher Response Sheet** indicating the weather characteristics at the time you administer that part of the assessment so that the score reflects the proper credit. Please record the temperature on the bottom of the **Teacher Response Sheet**.

Question 2: “Please point to number 2. Now read the directions to yourself as I read them aloud. What is today’s temperature?”

2. What is today’s temperature? _____°F

Question 3: Prior to the assessment, the teacher should set up rain gauges with two units of water for students to read and record. Plan to have enough rain gauges that students can do this in small groups or have a station set up for students to visit.

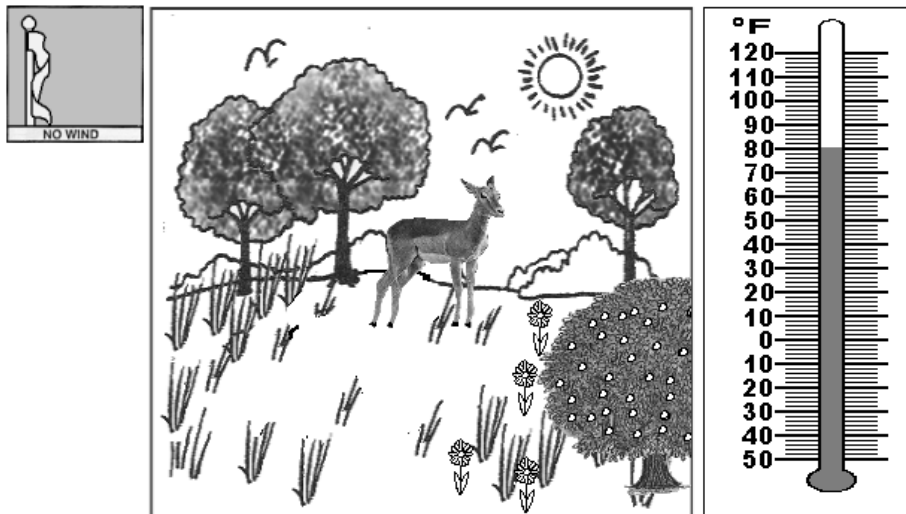
“Please point to number 3. Now read the directions to yourself as I read them aloud. How many units of water does the rain gauge show? Record your response on the line by question 3.”

3. How many units of water does the rain gauge show? _____

Question 4: In this question, the student is asked to identify his/her observation of a day’s weather and the interpretation of the appropriate clothing.

“Please look carefully at this weather picture. Look at the stamp showing wind. Next look at the temperature on the thermometer.”

Look carefully at this weather picture.

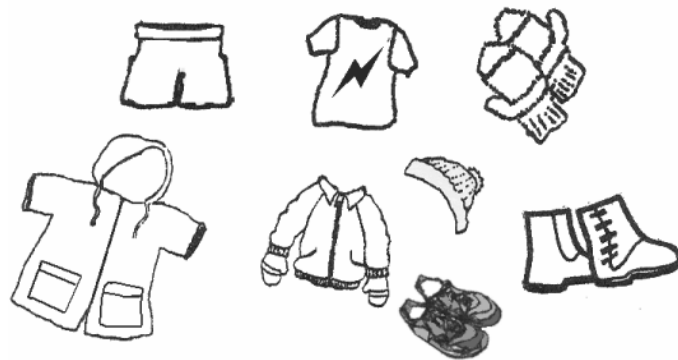


“Please point to number 4. Now read the question to yourself as I read it aloud. What season is it? Write the name of the season on the line.”

4. What season is it? _____

Question 5: “Now point to number 5. Now read the directions to yourself as I read them aloud. Circle at least two pieces of clothing you would put on to go outside in the above picture.”

5. Circle at least two pieces of clothing you would put on to go outside in the above picture.



Question 6: For this question, all students will need a **red crayon** to mark the thermometer. Make sure students understand the thermometer should show a temperature related to the picture below.

“Please point to number 6. This shows a picture of two friends dressed for outdoors. Now read the directions to yourself as I read them aloud. These friends are ready to play outside. Color the thermometer to show the temperature outside.”

6. These friends are ready to play outside.

Color the thermometer to show the temperature outside.



Question 7: “Now point to number 7. Look at the picture above. Is it hot or cold outside? Write your answer on the line.”

7. Look at the picture above. Is it hot or cold outside? _____

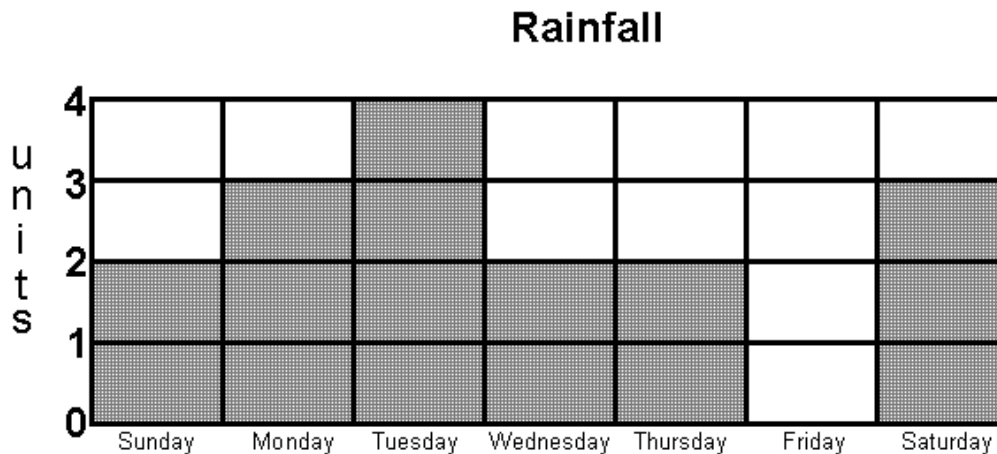
Question 8: “What will they play outdoors? Think about what they could do. Write it on the line.”

8. What will these friends play outdoors? _____

Questions 9, 10, and 11: Please make sure students understand that these questions relate to the rainfall graph.

Question 9: “Please look at the Rainfall graph below. See the days of the week on the bottom. Notice the number of units on the side. Each block is one unit. Look at how much rain fell each day. Now, by number 9, read the question to yourself as I read it aloud. What day did it rain the most? Write the answer on the line.” (Allow students time to respond.)

Look at the Rainfall graph below. Each block is one unit.



9. What day did it rain the most? _____

Question 10: “Now point to number 10. Read the question to yourself as I read it aloud. How many units of rain fell altogether during the week? Write the answer on the line.”
(Give students time to respond.)

10. How many units of rain fell altogether during the week? _____

Question 11: “Point to number 11. Read the questions to yourself as I read them aloud. Use the Rainfall graph to choose the best day for going outside on a picnic.” (Give students time to respond).

11a. The best day for a picnic is _____

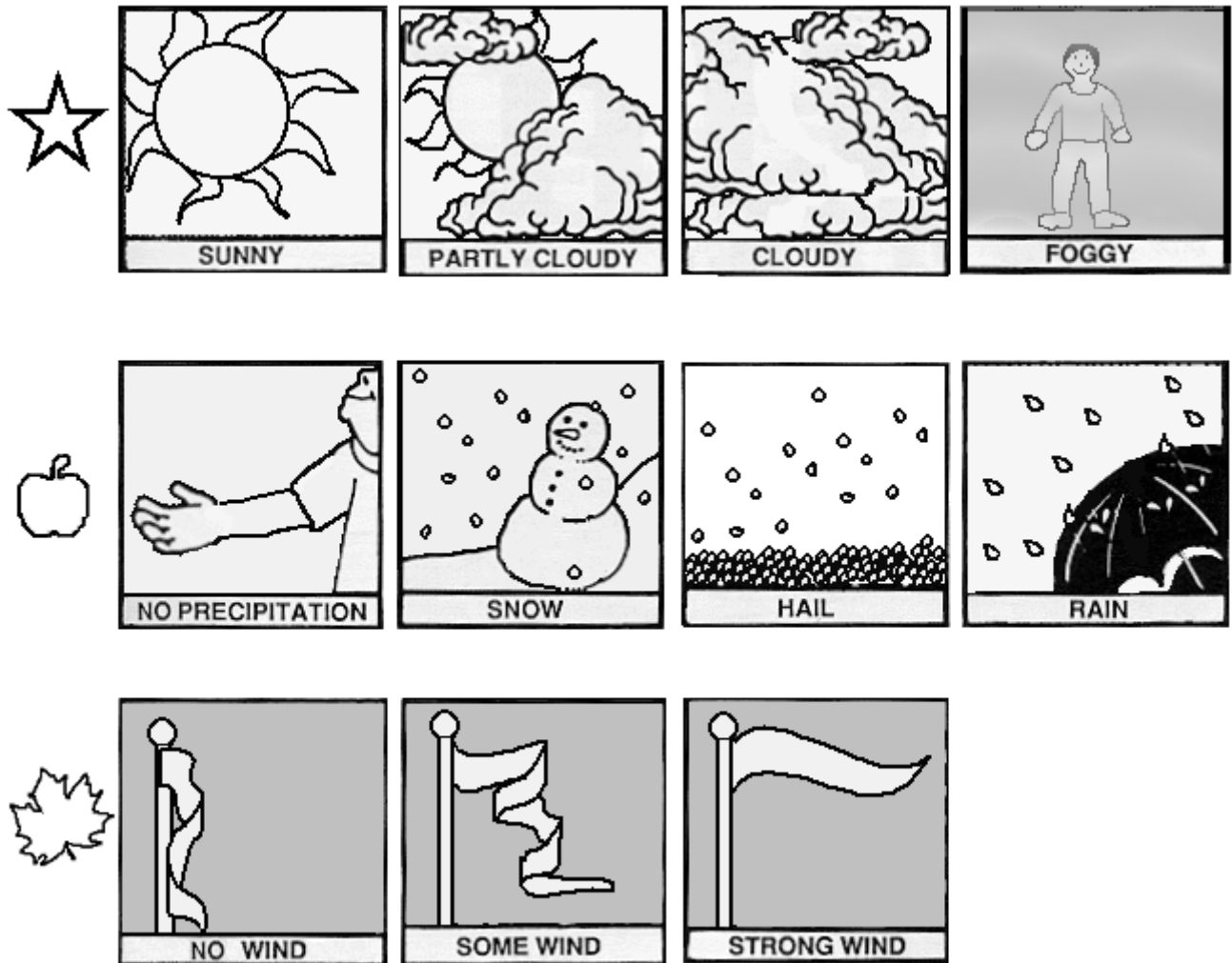
Part b: **“Why did you choose this day? Write your answer.”**

11b. Why did you choose this day?

Teacher Response Sheet for Weather Assessment

At the time of the assessment, record the following weather conditions to use when you score student work.

Today's Date: _____



Today's temperature: _____ ° F

Units of water in rain gauge: _____

Scoring Rubrics “Weather and Me” Summative Assessment

Question 1: Look at today’s weather. Circle one stamp in *each* row that best describes today’s weather.

This question measures a student’s ability to observe and record today’s weather.

Criterion for a complete response:

1. Observes and records three correct weather descriptions (i.e., cloud cover, precipitation, and wind).

Code	Response
	<i>Complete Response</i>
30	The response meets the above criterion.
	<i>Partially Correct Response</i>
20	Observes and records two correct weather descriptions but makes mistake in or omits cloud cover.
21	Observes and records two correct weather descriptions but makes mistake in or omits precipitation.
22	Observes and records two correct weather descriptions but makes mistake in or omits wind.
	<i>Minimally Correct Response</i>
10	Observes and correctly records cloud cover but makes mistake in or omits precipitation and wind.
11	Observes and correctly records precipitation but makes mistake in or omits cloud cover and wind.
12	Observes and correctly records wind but makes mistake in or omits precipitation and cloud cover.
	<i>Incorrect Response</i>
70	Circles more than one response in a row.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 2: What is today's temperature?

This question measures a student's ability to read and record temperature correctly.

Criterion for a complete response:

- 1. Measures temperature with a thermometer and records temperature accurately.

Code	Response
	<i>Complete Response</i>
10	The response meets criterion above.
11	Measures accurately within the appropriate decade.
	<i>Incorrect Response</i>
70	The response is directly above or below the appropriate decade.
76	The response merely repeats the substance or stem of the question.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 3: How many units of water does the rain gauge show?

This question measures a student's ability to read and record rain gauge level to the nearest unit.

Criterion for a complete response:

- 1. Accurately reads rain gauge.

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
	<i>Incorrect Response</i>
70	Response of 1 unit.
76	Repeats the stem of the question.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 4: What season is it?

This question measures a student’s ability to infer a season based on several pieces of data.

Criterion for a complete response:

- 1. Observes information and gives one reasonable response (e.g., summer, fall, spring).

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
	<i>Incorrect Response</i>
70	Response identifies a month.
76	The response merely repeats the substance or stem of the question.
79	Any other incorrect response.
	<i>Non Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 5: Look at the above picture. Circle at least two pieces of clothing you would wear.

This question measures a student’s ability to select clothing appropriate for the weather.

Criterion for a complete response:

- 1. At least two appropriate articles of clothing are circled (e.g., shorts, shirt, sneakers).

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
	<i>Incorrect Response</i>
70	Student combines the clothing for two different seasons (for example, T-shirt with winter gloves in 80° weather).
71	Response circled only shorts.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 6: Color the thermometer to show the temperature outside.

This question measures a student’s ability to infer a correct outside temperature based on clothing and weather conditions. It also measures a student’s ability to indicate temperature on a thermometer.

Criterion for a complete response:

- 1. Temperature is recorded between 40° F and 0° F.

Code	Response
	<i>Complete Response</i>
10	The response meets the criterion above.
	<i>Incorrect Response</i>
70	Records temperature at minus 40° or below.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 7: Look at the picture above. Is it hot or cold outside?

This question measures a student’s ability to associate weather conditions with correct description of temperature (e.g., cold).

Criterion for a complete response:

- 1. Cold or some other appropriate synonym.

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
	<i>Incorrect Response</i>
70	Response identifies hot or warm.
76	Repeats the stem of the question.
79	Any other incorrect response.
	<i>Non Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 8: What will these friends play outdoors?

This question measures a student’s ability to relate weather conditions to human activity.

Criterion for a complete response:

- 1. Suggests appropriate activity to go with the picture (e.g., making a snowman, sledding, or making snow angels).

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
11	Appropriate outdoor activity, e.g., playing tag, football.
	<i>Incorrect Response</i>
70	Inappropriate response, e.g., swimming.
76	The response merely repeats the substance or stem of the question.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 9: What day did it rain the most?

This question measures a student’s ability to interpret weather data on a graph.

Criterion for a complete response:

- 1. Response indicates Tuesday had the most rain.

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
	<i>Incorrect Response</i>
70	Response lists all the days that it rained.
76	The response merely repeats the substance or stem of the question.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 10: How many units of rain fell altogether during the week?

The question measures a student’s ability to tally graphic information.

Criterion for a complete response:

- 1. Response indicates that a total of 17 units of rain fell.

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
11	Responds “17” but uses an inappropriate label for the units of rain, e.g., inches.
	<i>Incorrect Response</i>
70	Responds “4” (Note: Tuesday had the most rain during the week).
76	The response merely repeats the substance or stem of the question.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 11a: Use the Rainfall graph to choose the best day for going outside on a picnic. The best day for a picnic is _____.

This question measures the student’s ability to use the data in the graph to decide an appropriate activity based on weather conditions.

Criterion for a complete response:

1. Friday is selected as the best day for going outside on a picnic.

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
11	Chooses another day, but gives a valid reason (e.g., Sunday because there is a house we can go into).
	<i>Incorrect Response</i>
70	Chooses Saturday or Sunday because it is the weekend.
71	Chooses another day because they are off from school.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.

Question 11b: Why did you choose this day?

This question measures a student’s ability to use the data in the graph to decide an appropriate activity based on weather conditions.

Criterion for a complete response:

1. Gives an explanation that suggests there was no rain (e.g., “This day has no rain so it would be the best day for a picnic,” or “No units on the graph,” or “No filled in blocks”).

Code	Response
	<i>Complete Response</i>
10	Response meets the above criterion.
11	Chooses another day but gives a valid reason (e.g., Sunday because there is a house we can go into).
	<i>Incorrect Response</i>
70	Chooses Saturday or Sunday because it is the weekend.
71	Chooses another day because they are off from school.
76	The response merely repeats the substance or stem of the question.
79	Any other incorrect response.
	<i>Non-Response</i>
90	Crossed out, erased, illegible, or impossible to interpret.
99	Blank.