

Sample page from the Weather Assessment (Teacher Key)

1. Carlos was waiting in the car for his mother while she went into the store. He noticed that when the windows were shut, the car became very warm. What was causing the excess heat inside the car? (4 points)
 - a. A meteorological forecast
 - b. A change in air pressure
 - c. The cooling of the air molecules
 - d. The greenhouse effect *

2. Katrina was proud of her home being near the Gulf of Mexico. She often wrote to her aunt in New York about the year-round warm days and cool nights on the beach. What is being described here? (4 points)
 - a. Sinking water molecules
 - b. Weather
 - c. Climate *
 - d. Greenhouse gasses

3. In your investigation with the crushed paper towel, plastic cup, and water, why did the towel stay dry? (4 points)
 - a. The towel was waterproofed
 - b. The trapped air exerted pressure and kept the water away from the towel *
 - c. The water stayed away from the towel because of its attraction for the bottom of the container
 - d. The air molecules were cooled first before adding them to the cup

4. Mary and her family have been closely tracking an oncoming hurricane. The weather man reported that it would probably reach land near their home in two days. Which of the following would **NOT** be one of its effects? (4 points)
 - a. Hurricanes only cause damage along the coastline. *
 - b. High winds damage roofs and windows of houses.
 - c. Hurricanes are accompanied by high water and storm surges.
 - d. Power outages sometimes occur.

5. Which of these describes what occurs when the sun's energy heats air molecules in the troposphere? (4 points)
 - a. The air molecules turn into water molecules.
 - b. The air molecules slow down, move closer together and sink.
 - c. The air molecules are not affected by the sun's heat energy.
 - d. The air molecules move faster, spread out and rise up into the atmosphere. *

Sample page from the Weather Assessment

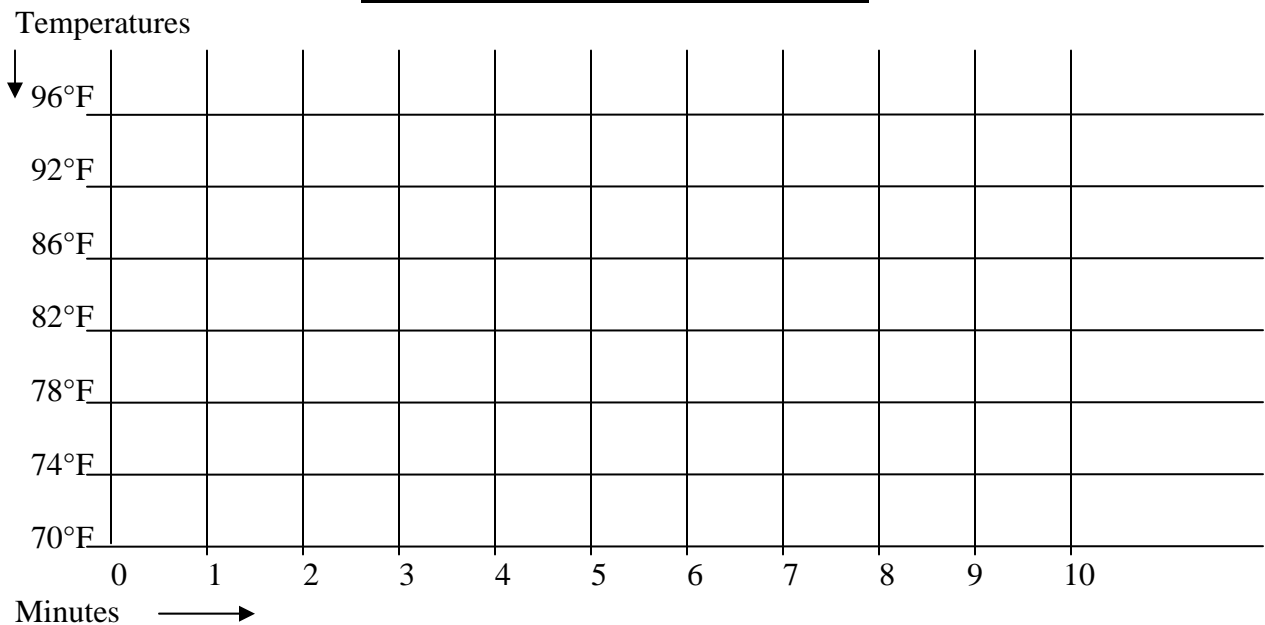
III. Working with Charts and Graphs

6. Plot the points from the Data Chart for **Thermometer #1**, on the Graph given below. (6 points)

TEMPERATURE DATA FOR THERMOMETERS IN THE SUN

TIME	THERMOMETER #1 (in Jar)	THERMOMETER #2 (in Air)
Initial reading	70°F	70° F
1 st minute	72°F	71°F
2 nd minute	74°F	72°F
3 rd minute	78°F	74°F
4 th minute	82°F	74°F
5 th minute	88°F	74°F

THE GREENHOUSE EFFECT



Use the information above to answer the following question.

7. If the temperature for Thermometer #1 continued to increase following the same pattern, the temperature at the 6 minute mark would be: (4 points)

- e. 92°F
- f. 94°F *
- g. 96°F
- h. None of the above

Sample page from the Soil Assessment –Part 1

IV. Complete the chart

Directions: Fill in the numbered blocks in the chart below with the correct data. Each is worth 3 points.

Weathering and Erosion

CAUSE	EFFECT	EXAMPLE
Acid rain and or chemicals in plants and soils	Chemicals dissolve minerals in rock and washes nutrients from soil	1.
Water – wave action	2.	Lack of sand in one area and too much sand in another
3.	Carries soil and rocks downhill to the sea	Loss of soil on banks and the building of deltas
Water – heavy precipitation	Breaking up rock and soil and moving it to other locations	4.
5.	Gravity pulling ice masses down a slope, breaking up rock and plant material	Large valleys carved and lakes formed
6.	Moving soil from one place to another; sandblasting rocks	Carving of caves and rock formations, creating sand dunes
Melting snow, heavy rains or earthquakes	7.	Houses and topsoil sliding down a mountain in a landslide

V. Discussion

How can some soil conservation techniques help solve some soil erosion problems? Discuss and explain **3 methods**. (9 points total – 3 points each)

Sample page from the Soil Assessment –Part 2

NAME _____ DATE _____

SOIL AND FOSSIL ASSESSMENT – 2

I. Label the Model (3 points each)

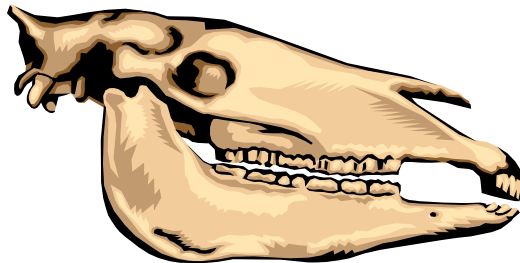
Label and describe each of the horizons (layers) in this soil profile. Be sure to include the organic material present in any of the horizons.

<u>Layer</u>	<u>Description</u>
1.	
2.	
3.	
4.	

BEDROCK



5. Identify the type of fossil shown in the picture below. _____



Grading Rubric for Alternate Assessment in Soil and Fossil Module

NAME _____ DATE _____

SOIL SPEAKS OUT
Scoring Rubric

CATEGORY	REQUIREMENTS	INDIVIDUAL POINTS	GROUP POINTS
		10 pts.	0 pts.
Data Collection	<ul style="list-style-type: none"> • Background information on soil problems and solutions • Accuracy of scientific data • Other interesting facts • Use of available resources 		
		40 pts.	40 pts.
Play Preparation	<ul style="list-style-type: none"> • Well defined plot and story • All characters and actions from card present in script • Characters' dialogue describes problem and offers solutions • Scientific facts presented • Prop and costume design • Creativity 		
		40 pts.	40 pts.
Presentation	<ul style="list-style-type: none"> • All members participate • Well prepared • Use of props and costumes • Performance quality • Meets time requirements 		
		10 pts.	20 pts.
Cooperative Group Behaviors	<ul style="list-style-type: none"> • Followed cooperative group procedures • Used time management • Members of group involved in all stages of the play 		
Totals			