Name _____ Class _____ Date _____

Model-Making Lab **DATASHEET FOR LABBOOK**

G3.2 Dune Movement

PROBLEM

- How do dunes move?
- Why are some areas more affected by wind erosion than other areas?

BACKGROUND INFORMATION

Wind moves the sand by a process called saltation. The sand skips and bounces along the ground in the same direction as the wind is blowing. As sand is blown across a beach, the dunes change. In this activity, you will investigate the effect wind has on a model sand dune.

MATERIALS

- bag, paper, large enough to hold half the box (if using hair dryer)
- box, cardboard, shallow (or tray)
- hair dryer (or) fan
- sand, fine

PROCEDURE

1. Fill the box about halfway with sand. Brush the sand into a dune shape about 10 cm from the end of the box.
2. Draw the before picture on the data chart before turning on the hair dryer/fan.
3. If you are using a hairdryer, then slide the box into the paper bag until only about half the box is exposed.
4. Put on your safety goggles. Hold the hair dryer so that it is level with the peak of the dune.
5. Turn on the hair dryer/fan at the lowest speed, and direct the air toward the model sand dune for 1 min. Repeat if necessary. Observe and draw the during picture on the data chart.
6. Record the new location of the model dune as your after picture on the data chart.

HYPOTHESIS - *RE-READ THE PROBLEM!!*

_____

_____

Name _____ Class_____Date_____

DATA

BEFORE	DURING	AFTER

CONCLUSIONS - *USE COMPLETE SENTENCES!!*

1. How far did the dune move? What did you see as it moved?

_____

_____

2. How might the dune's movement be affected if you were to turn the hair dryer or fan to the highest speed? How does this relate to the wind?

_____

_____

3. If you climbed up the steep side of a sand dune, is it likely that you traveled in the direction the wind was blowing?

_____

_____

4. What type of areas might be more vulnerable than other areas to wind erosion? Explain the relationship between plant cover and wind erosion.

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Name _____ Class_____Date_____

Skills Worksheet

G3.2 Wind Erosion and Deposition Directed Reading A

Section: Wind Erosion and Deposition

_____ 1. How do plants reduce wind erosion?
   a. Plants shade the soil.
   b. Plant roots hold sand and soil in place.
   c. Plants break down and make soil.
   d. Plant roots help break up soil.

THE PROCESS OF WIND EROSION

Match the correct description with the correct term. Write the letter in the space provided. Some terms will not be used.

_____ 2. wind causes sand-sized particles to skip and bounce

_____ 3. wind erosion in which fine, dry soil particles are blown away

_____ 4. grinding and wearing down of rock by other rock or sand

a. deflation hollows
b. abrasion
c. saltation
d. deflation
e. desert pavement

WIND-DEPOSITED MATERIALS

_____ 5. Wind carries particles like rivers carry
   a. water.
   b. grass.
   c. sediment.
   d. fish.

_____ 6. Very fine-grained sediment deposited by wind is called
   a. dunes.
   b. beach.
   c. loess.
   d. talcum.

Place the five steps involved in forming a sand dune in order from first to last. Write the appropriate number in the space provided.

_____ 7. Material collects and creates an additional obstacle.

_____ 8. Wind deposits more material, forming a mound or dune.

_____ 9. Slowing wind drops the heavier particles.

_____ 10. Wind hits a rock, plant, or other object and slows down.

_____ 11. The original object eventually becomes buried.

12. Explain how dunes migrate in the direction of the wind.

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