Lesson 18

How does wind change the earth's surface?

KEY TERMS

dunes: deposits of sand

loess: deposits of wind-blown dust

LESSON 18 | How does wind change the earth's surface?

Did the wind ever blow your hat away? Did you ever drop your notebook on a windy day? How many important pages did you lose? Wind is moving air. It can pick up loose materials and carry them far away.

Wind is a force of erosion. It can remove loose materials such as sand and dust particles from the earth's surface. However, wind itself does not erode much. Most "wind" erosion is done by particles carried by wind. Wind is an important force of erosion in dry places.

Wind picks up sand particles. When they are blown against rocks they act like abrasives. The sand particles grind the rocks like sandpaper. This happens over and over again. Little by little, the rocks wear down.

The particles carried by wind erode. They also build. What is worn away in one place settles somewhere else.

When wind slows down, it drops the material it is carrying. When sand is dropped, it builds up mounds called **dunes**. Sand dunes are common in deserts and on beaches. Some dunes can cause great damage. They can bury farms and homes, even whole towns.

Wind carries dust higher and farther than it carries sand. Thick deposits of wind-blown dust may build up. The wind-blown dust is called **loess** [LESS]. Some places loess deposits are found are Washington state and Oregon.

Sometimes people plant grasses and shrubs to try to stop wind erosion. How does this help? The roots of plants help to hold down soil and other particles found on the ground.

WIND EROSION

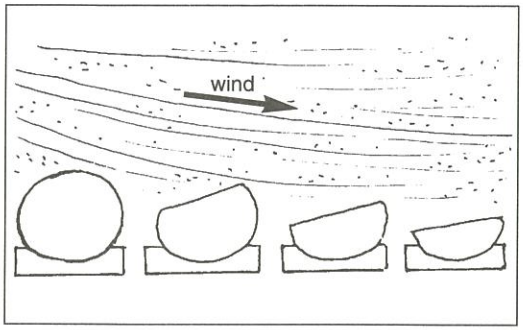

Figure A

Wind erosion wears pebbles and rocks into sharp, flat forms.

Figure A shows the stages of erosion. The sand carried by the wind wears down the rocks little by little.

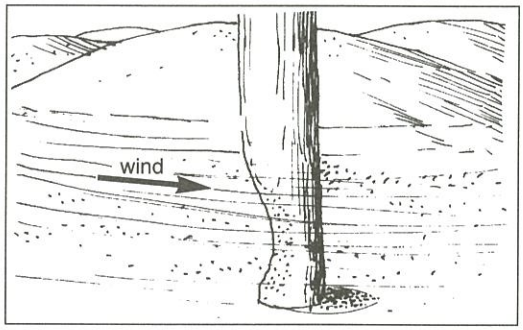

Figure B

Most wind erosion takes place only a few feet off the ground.

In time, what will happen to this pole? _____

_____

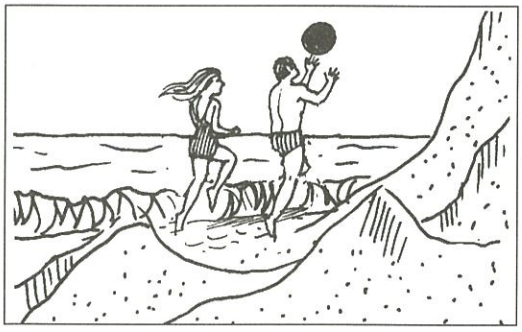

Figure C

Sand dunes come in many sizes.

Some dunes are only a meter (3½ ft.) high. Others are hundreds of meters high and many kilometers long.

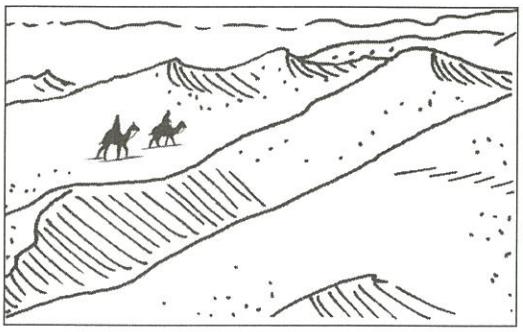

Figure D

The Sahara Desert has gigantic dunes.

FILL IN THE BLANK

Complete each statement using a term or terms from the list below. Write your answers in the spaces provided.

beaches	sand	roots
build up	deposited	erosion
dry	deserts	planting grasses and shrubs
dust	abrasives	dunes

1. Wind is a force of _____.
2. Wind is an important foce of erosion in _____ places.
3. Winds pick up and carry light-weight materials like _____ and _____.
4. Sand dunes are common in _____ and on _____.
5. Winds not only wear away, they also _____.
6. Material eroded in one place is _____ somewhere else.
7. Winds deposit sand in mounds called _____.
8. When sand particles are blown against rocks, they act as _____.
9. Wind erosion is sometimes controlled by _____.
10. The _____ of grasses and shrubs help hold soil together.

MATCHING

Match each term in Column A with its description in Column B. Write the correct letter in the space provided.

	Column A		Column B
_____	**1.** wind	**a)**	carried by wind
_____	**2.** dunes	**b)**	wind-blown dust deposits
_____	**3.** sand and dust	**c)**	help control wind erosion
_____	**4.** plants	**d)**	a force of erosion
_____	**5.** loess	**e)**	built by sand particles laid down by wind

TRUE OR FALSE

In the space provided, write "true" if the sentence is true. Write "false" if the sentence is false.

_____ **1.** Wind only erodes.

_____ **2.** Wind is a force of erosion only in dry places. (Careful, this one is tricky.)

_____ **3.** Deserts are found in dry places.

_____ **4.** All eroded material must be deposited.

_____ **5.** Dunes are made of large rocks.

_____ **6.** Wind can move dunes from place to place.

_____ **7.** Dunes are found only in deserts.

_____ **8.** Roots help keep soil together.

_____ **9.** Loess is made up of dust.

_____ **10.** Wind itself causes much erosion.

WORD SEARCH

The list on the left contains words that you have used in this book. Find and circle each word where it appears in the box. The spellings may go in any direction: up, down, right, or diagonally.

RAIN
SAND
FLOOD
DELTA
CHANNEL
MORAINE
GLACIER
WIND
DUNE

S	P	D	G	A	R	Y	L	E	S	G	R	J
I	A	O	P	A	T	F	L	O	P	E	D	E
L	E	N	L	B	A	T	R	E	T	A	W	R
L	L	T	D	O	M	O	R	A	I	N	E	R
Y	I	E	N	A	W	S	W	A	M	P	R	Y
F	E	A	T	L	E	D	A	T	A	E	D	N
O	L	M	D	U	N	E	D	N	I	W	O	E
R	N	O	T	U	D	I	O	C	H	A	N	L
A	G	I	O	N	S	W	A	M	I	Q	A	E
N	O	R	E	D	P	L	G	R	S	E	Y	H
E	G	D	A	L	G	L	E	N	N	A	H	C

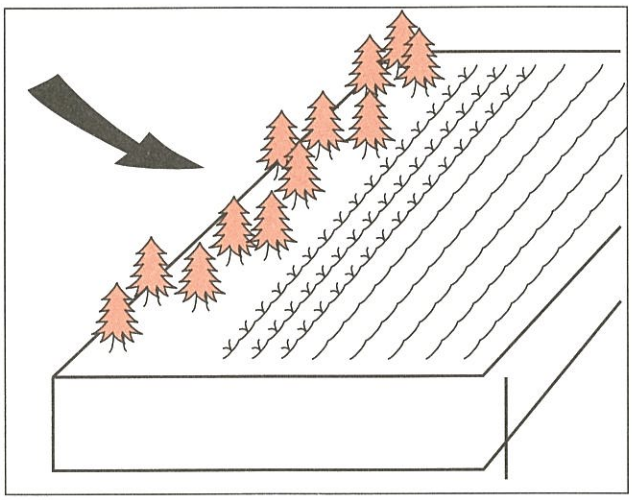

Figure E

Plant roots help hold soil together. How can shrub and tree branches also help hold soil together? _____

_____

_____

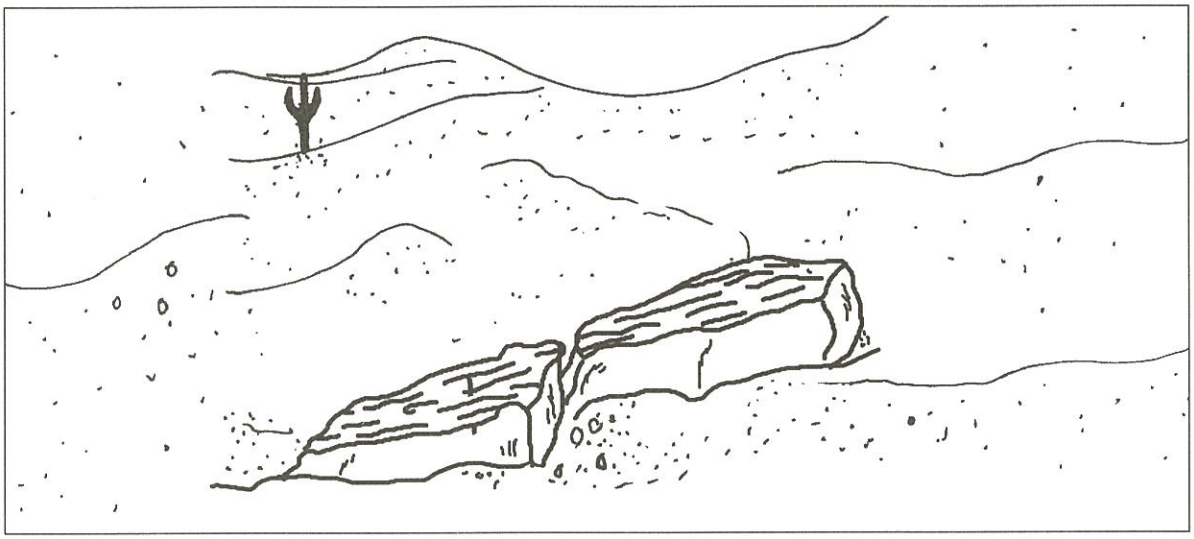

Figure F

Scratches from glaciers have been found on many desert rocks. What does this tell us about the earth's climate? _____

_____

_____