Name _____   Class Period: _____

Weathering and Erosion Lab

Instructions:	1. There are 6 stations in the room.	5. <u>Follow the directions exactly</u>.
	2. Rotate through the stations one at a time.	6. Record your observations.
	3. Read the task card at each station.	7. Answer all questions.
	4. Read it again.	8. Clean up after each station.
	NO MORE THAN THREE PEOPLE AT A TIME TO A STATION.	

STATION 1 – BREAKING DOWN **(physical weathering)** --- *The sugar cubes serve as a model for rocks.*

Observations BEFORE	Observations after 20 shakes	Observations after 40 shakes

What changes did you notice in the sugar cubes?

Abrasion is the grinding and wearing away of rocks by friction. Describe how abrasion took place in this investigation.

STATION 2 – BREAKING DOWN **(chemical weathering)** --- *chalk represents Texas limestone.*

Observations BEFORE	Observations with water	Observations with vinegar drops	What do the vinegar drops represent?
			If chalk represents the limestone, the vinegar is:

Describe the changes did you observed in the chalk after adding vinegar drops:

Station 3 BREAKING DOWN TWO WAYS --- *The sugar cubes serve as a model for rocks.*

Coarse Sandpaper	Fine Sandpaper

Describe the relationship between the size of the sandpaper and the weathering of the sugar cube.

State the independent and dependent variables in this investigation.

STATION 4 – BREAKING DOWN WITH WATER --- *The sugar cubes serve as a model for rocks.*

Observations BEFORE	Observations after 15 drops	Observations after 30 drops

If the sugar cube is a rock and the water is the rain, how would rain affect some kinds of rocks over a long period of time?

Why might rain affect some rocks and not others?

STATION 5 – WIND EROSION --- *The pan holds rocks and sand representing the rocks and soils.*

Draw Your Observations

If the wind can actually move smaller rocks on the earth's surface, how does this wear away the landscape?

Why might some areas have more wind erosion than others?

STATION 6 – WATER EROSION --- *The funnel serves as a model for river erosion.*

Drawing Observations	Sand Before	Sand After
Draw what happens before and after.		

The sand moved because the water came through the "land". Why did the sand move in the pattern that it did?

How does this replicate (model) river erosion? Explain how a river causes erosion.

A river carries sediment when it is moving fast, as it slows down what happens to the sediment it is carrying?

Weathering and Erosion Lab Reflection and Application Questions.

Answer the questions below:

1. **High Plains**
   The High Plains ecoregion is one of the windiest regions in the United States. The climate is generally dry, and areas without vegetation experience wind erosion. The Palo Duro Canyon was formed by water erosion by a fork of the Red River. The canyon continues to become deeper as the water moves sediment downstream.
   • Which station activity most closely models the formation of the Palo Duro Canyon? Justify your answer.

   _____
   _____
   _____
   _____

2. **Trans Pecos/Chihuahuan Desert**
   The Trans Pecos ecoregion includes the Chihuahuan Desert. The Guadalupe Mountains and the Davis Mountains are located in this ecoregion, making it the most mountainous area of Texas. In general, soil in this region is eroded due to the decline of grasslands and the lands are exposed.
   • Which station activity most closely models the Trans Pecos/Chihuahuan Desert? Justify your answer.

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   _____
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3. **Big Bend National Park**
   Big Bend National Park is also located in this ecoregion. Flash-flooding and rapid runoff are agents of erosion in the park. Erosion of the limestone cliffs takes place because of acid rain.
   • Which station activity most closely models the erosion of the limestone cliffs in Big Bend National Park? Justify your answer.

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