**Station 1: Stream Table Erosion and Deposition, Low Elevation**

At this station, you will observe erosion of sediments and how they are deposited when there is a lower elevation. You will observe water erosion, the most common type of erosion.

GOAL: Explain how erosion happens and how it affects different types of soil

Name landforms created by the DESTRUCTIVE process of erosion,

Name landforms created through the CONSTRUCTIVE process of deposition

Procedure:

1. Check that the sediment is piled up into a plateau at the end of the stream table where the water source is.

2. Make sure the water is flowing consistently but not too fast

3. Observe what happens as the water flows over the stream table. Look fors:

• What happens to the sand grains as they move along?

• Where is the eroded material being deposited?

• Where are the largest particles being deposited? The smallest particles?

• Is a delta forming? Where? Why is it forming there?

• Where is water flowing fastest? Slowest?

• What color is the water flowing out of the stream table into the basin?

4. Record these observations in the station 1 section of your lab notebook

5. In the station 1 section of the lab notebook, draw a picture of what has happened to the stream table.

6. Label the landforms that have appeared in your stream table.

7. If time permits, start answering these questions (if you can) at the bottom of p. 62:

Write a summary statement the steps involved in breaking down mountain rocks and depositing the sand, silt, and clay in different places hundreds of miles away.

Compare the erosion that happened in stations 1 and 2.

**Station 2: Stream Table Erosion and Deposition, High Elevation**

At this station, you will observe erosion of sediments and how they are deposited when there is a higher elevation. You will observe water erosion, the most common type of erosion.

GOAL: GOAL: Explain how erosion happens and how it affects different types of soil

Name landforms created by the DESTRUCTIVE process of erosion,

Name landforms created through the CONSTRUCTIVE process of deposition

Explain how slope affects erosion

Procedure:

1. Check that the sediment is piled up into a plateau at the end of the stream table where the water source is.

2. Make sure the water is flowing consistently but not too fast

3. Observe what happens as the water flows over the stream table. Look fors:

• What happens to the sand grains as they move along?

• Where is the eroded material being deposited?

• Where are the largest particles being deposited? The smallest particles?

• Is a delta forming? Where? Why is it forming there?

• Where is water flowing fastest? Slowest?

• What color is the water flowing out of the stream table into the basin?

4. Record these observations in the station 2 section of your lab notebook

5. In the station 2 section of the lab notebook, draw a picture of what has happened to the stream table.

6. Label the landforms that have appeared in your stream table.

7. At the bottom of p. 62, write a summary statement the steps involved in breaking down mountain rocks and depositing the sand, silt, and clay in different places hundreds of miles away.

Compare the erosion that happened in stations 1 and 2.

**Station 3: Types of Weathering**

At this station, you will use articles, pictures, and a computer “virtual lab” to learn about the different types of weathering and what causes them.

GOAL: Name and define the 2 main types of weathering

Identify examples of weathering and explain what type of weathering they are

Procedure:

1. Read the article about weathering (kidsgeo.com)

2. Write down definitions for the two types of weathering

3. Go to the link for the virtual lab

4. Read ALL of the procedure in the sidebar.

5. Practice identifying examples of weathering as either mechanical or chemical. Be sure to listen to the descriptions and try BOTH weathering examples for each scene.

6. Record the examples and their identifications.

7. Make sure you have 3 examples for mechanical weathering and 3 examples for chemical weathering

8. See if you can find real life pictures of these types of weathering using google images

**Station 4: Chemical Weathering and Limestone**

At this station, you will experiment and read about chemical weathering. You will learn how this affects limestone, the type of rock most common in the canyon.

GOAL: Name the mineral found in limestone

Explain what happens when acid reacts with that mineral in limestone

Describe the effects of chemical weathering

Give 3 examples of chemical weathering

Procedure:

1. Read over the labeled section in the book “Caves and Caverns”

2. In station 4 section of your lab notebook, write down a description of what chemical weathering can do to rock (based on what you’ve just read).

3. Write down a description of limestone. Make sure you name the mineral found in limestone.

4. Test the rocks with the acid. Which ones react? These ones are limestone.

5. Record observations of what happens when acid is on limestone.

6. List 3 examples of things that cause chemical weathering

**Station 5: Types of Erosion**

At this station, you will observe the 3 less common types of erosion: erosion by wind, gravity, and glaciers.

GOAL: Identify the 4 factors that cause erosion

Describe the effects of and landforms made by erosion by wind, glaciers, and gravity

Procedure:

1. Read the article about erosion (nationalgeographic.com)

2. In the station 5 section of p. 64, write down a definition for erosion and record the FOUR factors that cause erosion.

3. Use the straw to simulate wind erosion and try to create a sand dune

4. Use the ice cube to try to simulate erosion by glaciers – can you make a valley?

5. Try to cause a landslide with the pebbles and sand to simulate erosion by gravity

6. Record a description and sketch that represents each type of erosion

7. Answer this question:

Wind blowing across bare soil moves earth material. Which size of particle do you think the wind would carry farther and which would it deposit first? Why?

**Station 6: Erosion Prevention**

At this station, you will do an experiment to see how vegetation affects erosion.

GOAL: Explain how vegetation affects erosion

Describe ways erosion could be prevented in Monterrey

Procedure:

1. Take the container and create a hill

2. Slowly pour water down the hill and observe what happens

3. In the section 6 section of p. 64, record what happened to the hill without vegetation

4. Reform your hill and add in some popsicle sticks to represent trees

5. Slowly pour water down the hill and observe what happens

6. In the section 6 section of p. 64, record what happened to the hill with vegetation

7. Draw a picture and write a description in response to this prompt

You like to hike at Parque Chipinque, but you find that after a rainstorm your favorite hiking trail has started to eroded away. What suggestion can you give to the park workers to help prevent this problem in the future?