Weathering and Erosion of Big Bend – Teacher’s Guide

(Grades 6-8)

Weathering is the process of rocks being broken down into smaller fragments by wind, water, and ice. After bits of rocks are weathered, they can be carried away by the wind, water, or gravity through a process known as erosion. One of the most obvious examples of this in Big Bend National Park is the Rio Grande River itself. This long river, which marks the southern boundary of the park, has carved massive canyons out of the rocks over millions of years. Specifically, the Santa Elena Canyon is more than 1500 ft. deep.

Today, the river is still flowing and cutting through these canyons, carrying away more sediment over time.

On the main site, find the embedded PPT titled “Weathering and Erosion”. This is a PPT taken from a website that has free science PPT’s (<http://science.pppst.com/erosion.html>). This PPT can be used over several days and shows good pictures of weathering and erosion while allowing students to make predictions about what they see.

The YouTube video gives a modern explanation using characters the kids can connect too and at a level that most 6-8 students can understand. <http://www.youtube.com/watch?v=lyysL02ZvQ8>

Other Helpful Links:

<http://www.kidsgeo.com/geology-for-kids/0060-weathering.php>

<http://science.howstuffworks.com/environmental/earth/geology/landslide2.htm>

<http://science.nationalgeographic.com/science/earth/the-dynamic-earth/weathering-erosion-article/>

<http://www.geography4kids.com/files/land_erosion.html>

<http://www.teachersdomain.org/resource/ess05.sci.ess.earthsys.erosion/>

<http://quizlet.com/1484676/weatheringerosionrivers-test-vocab-flash-cards/>

(a list of helpful vocabulary words)

Demonstrations

|  |  |  |
| --- | --- | --- |
| Landform Features | Description of Land Feature | Illustration/Diagram |
| Valley |  |  |
| Flood Plain |  |  |
| Meander |  |  |
| Cutbank |  |  |
| Pointbar |  |  |

See the sand table demonstration to show how canyons, meanders, etc.; can be formed. Be sure to talk to students about the limitations to this model. IE: This process takes place over millions of years, not just minutes. Also, have them identify what represents “weathering” and have them point out examples of erosion throughout the experiment.

Here is a sample worksheet of what you can give students as they watch the demo or as they complete the lab. This can easily be added to fit the needs of the lab.

Links to Stream Table labs with varying degree of difficulties and standards:

<http://www.fdlrez.com/education/teacherpages/science/files/Building%20a%20Stream%20Table.pdf>

<http://serc.carleton.edu/NAGTWorkshops/intro/activities/23422.html>

educatoral.com/documents/**stream**\_**table**\_**lab**.doc

<http://www.wesleyan.edu/ctgeology/LISproject/try_the_stream_table_outdoors.htm>