Weathering, Erosion and Deposition

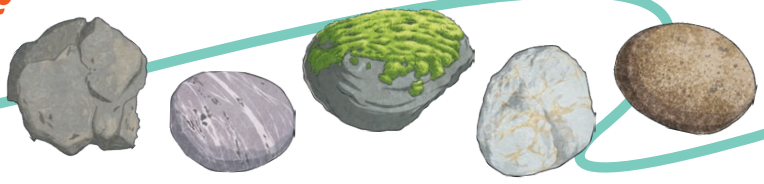
Weathering describes the way that rocks, minerals or other parts of Earth's crust break down into smaller pieces called sediments. This has been happening for as long as Earth has existed. Wind, rain, ice, plants, animals and changes in temperature are all helpers in the weathering process. Weathering is strong enough to break down even the toughest rocks and stones.

Have you ever heard of Murphy's Haystacks in South Australia? They have been weathered over thousands of years by the wind to create these cool shapes.

Murphy's Haystacks

Wave Rock

Once the rocks and pieces of earth have been broken down, then **erosion** moves these pieces of sediment to a new location. Water is a common way for pieces of earth to be moved, but wind is helpful too.



Have you ever been in a dust storm? A dust storm is erosion taking place, where millions and millions of tiny particles of earth are being moved to a new location. Weathering and erosion helped to shape Wave Rock in Western Australia. It took over 2,500 years to create this amazing 15 metre high wave.

After weathering and erosion has taken place, then **deposition** occurs. This is when millions of tiny pieces of earth that have been moved, are put in a new location. The new location might be near to the original location or it could be a really, really long way away from where it once was. Deposition moved sediments of sand and soil to Lake Mungo in New South Wales over 100 000 years ago. How cool is that!

Weathering, erosion and deposition is happening everyday. Sometimes we can see it, but sometimes it is happening right in front of us and we are not aware. Have you ever noticed the way the ocean moves the sand on the beach when the tide changes? That is a form of erosion.

The sand was created over millions of years by the waves consistently hitting the rocks and breaking off tiny pieces at a time; that is weathering. When the tide moves sand out from the beach at low tide; that is erosion. When the tide moves the sand to a new location at high tide; that is deposition.

Earth's landscape is constantly changing because of weathering, erosion and deposition. They might be very slow and hard to see, but they are still happening!

Questions

1. What is the purpose of this text?

2. Describe the weathering, erosion and deposition process in your own words.

3. What are the differences between each of these processes?

4. Explain how you think wind, rain, ice, plants, animals and changes in temperature each contribute to the weathering process in rocks.

Questions

5. Describe how Murphy's Haystacks were formed?

6. How does a dust storm show erosion?

7. Do you think any other process other than deposition contributed to the creation of Lake Mungo? Explain why.

8. Discuss the pros and cons of the weathering, erosion and deposition process and the impact it has on the environment.

Weathering, Erosion and Deposition **Answers**

1. What is the purpose of this text? **To inform the reader about weathering, erosion and deposition.**

2. Describe the weathering, erosion and deposition process in your own words. **Answers will vary but may include: weathering is when parts of Earth's crust are broken down into tiny pieces, erosion is when these tiny pieces are moved to a new location, deposition is when these pieces are deposited in a new place.**

3. What are the differences between each of these processes? **Weathering breaks things down. Erosion takes things away. Deposition drops things in a new location.**

4. Explain how you think wind, rain, ice, plants, animals and changes in temperature each contribute to the weathering process in rocks. **Answers will vary but may include: wind and rain cause rocks to break off over time, ice changes the temperature of the rock which causes breakages, the roots of plants cause stress to form within the rocks, and animals move over rocks which cause breakages.**

5. Describe how Murphy's Haystacks were formed? **Murphy's Haystacks were formed by weathering from the wind.**

6. How does a dust storm show erosion? **A dust storm shows erosion as the wind is picking up the dust and dirt from the ground and moving it to new locations.**

7. Do you think any other process other than deposition contributed to the creation of Lake Mungo? Explain why. **Weathering would have needed to occur to create the sand and soil and then erosion would have moved the sand and soil to the new location to create Lake Mungo.**

8. Discuss the pros and cons of the weathering, erosion and deposition process and the impact it has on the environment. **Answers will vary.**