# Earth Science Name

## Landforms, Weathering, and Erosion Reading Comprehension

**Landforms, Weathering, and Erosion**

1. **How many people have been to the Rocky Mountains or the Grand Canyon? When people go to visit these natural wonders, they may not realize that it took millions of years for each of them to form. Today, the Earth continues to go through changes that effect the land around us. Many of these changes, such as the formation of a canyon or mountain range can take millions of years.**
2. **Many of the changes to the Earth’s surface come about through the process of weathering, erosion, and deposition. The surface of the Earth is constantly exposed to water, wind, ice, and growing plants. Each of these can break down rocks into smaller and smaller pieces. This breaking down of the rocks is called weathering. Water can cause some rocks and minerals to dissolve. When this happens underground, huge caverns can be formed. Water rushing through these underground caves pushes the smaller bits of rock and sand away and smoothes down rough edges of larger rocks. Strong winds can also break down large rocks into smaller pieces and smooth out rough parts of large rocks. The wind can carry away very small pieces of rocks and dirt to other places. Ice can cause rocks to break as well. When water seeps into small cracks of rocks and freezes, the ice expands and breaks the rock. Plants can also break some rocks as their roots grow underground. The roots spread inside cracks and cause the rocks to break apart.**
3. **When water and wind carry small pieces of rock, sand, and dirt from one place to another it is called erosion. Erosion carries materials that have been weathered away from a place. These materials are then dropped and left in a new place in the final part of the cycle. The cycle that began with weathering and continued with erosion is now concluded with deposition. Deposition is the leaving of the particles in a new place. The cycle of weathering, erosion, and deposition destroys old natural structures and create new ones. This cycle is responsible for creating many of the natural structures on the Earth. These natural structures are called landforms.**
4. **Some of the most common landforms created by moving water are canyons. As rivers flow, they weather and erode the surface of the Earth around them. The rivers**

literally carve deeper and deeper into the Earth’s surface. After many years, the rivers have cut deeply into the surface of the Earth. The high walls on either side of a river along with the river itself are now known as a canyon. The Grand Canyon in Arizona was formed by the weathering and erosion caused by the Colorado River.

1. **Moving water and wind are the major forces behind weathering, erosion, and deposition, but ice can also generate the cycle. In many cold parts of the world there are very large sheets of ice on the Earth’s surface. These huge chunks of ice are called glaciers. Glaciers move very slowly across the Earth’s surface. As glaciers move, the ice scrapes away pebbles, rocks, and even large boulders. As the glacier drags the pieces of rock along, holes are formed in the land. If a glacier melts, some of the rock and dirt is left behind, completing the cycle of weathering, erosion, and deposition. Some of the glaciers leave behind open holes in the surface of the Earth that are large enough that they are considered valleys. As glaciers melt, these valleys can fill with water to form lakes.**
2. **The area where the land meets the ocean is called the coastline. Because this coastline is a place where water is constantly crashing against the land, the place is always changing. The land area next to the ocean may be filled with rocky cliffs or sandy beaches. Winds that push waves toward the shore weather away rocks on the shore. These same waves can erode away the sand on the beach or deposit more sand onto the beach.**
3. **The natural cycle of weathering, erosion, and deposition does not create all of the Earth’s landforms. Some mountains are created when land is squeezed together. When this happens, some of the surface of the Earth is pushed upward, forming a mountain range. The Appalachians in North America were formed in this way. Other types of mountains are made when landslides upward or downward along a crack in the Earth’s surface called a fault.**
4. **Canyons and mountains take a long time to form. Some things can change the Earth’s surface relatively quickly. Volcanoes, earthquakes, floods, and landslides can cause rapid changes to the surface of the Earth. Volcanoes are formed when melted rock, called magma, from deep inside the Earth pushes upward and breaks through the Earth’s surface. When the magma pushed upward, it caused the land to rise forming a volcano. When the magma makes it to the surface it is called lava. When the magma pushes out onto the surface of the Earth as lava, it is known as an eruption. An eruption not only can throw lava onto the Earth’s surface, but can also throw ash, hot boulders, and gases into the air. Volcanoes can be very destructive. Earthquakes happen when giant pieces of rock push against each other underneath the Earth. These pieces of rock touch each other along a fault. When the rocks push against each other, one of the pieces suddenly begins to move a short distance. The force of this movement causes powerful waves to spread out from the point where the pieces of rock have pushed against each other. These waves are what is known as an earthquake. Landslides are caused when the force of gravity pulls down some of the land on the slope of a hill. Dirt and rock then come crashing down onto the surface. The loosened rock and dirt is usually eroded away and deposited somewhere else. Floods are usually caused by heavy rain. Floodwater can weather and erode rock and other landforms as the water rushes across the land. Dirt eroded away in a flood is deposited in a new place, usually at the mouth of a river.**
5. **The face of the Earth is always changing. Forces such as water, wind, and ice create many of these changes. These forces cause rocks and other landforms to break down in a process known as weathering. These forces can also move pieces of the Earth in a process known as erosion. When the pieces of Earth are left in a new place it is called deposition. It normally takes many, many years for the changes to be noticeable. Millions of years from now, the surface of the Earth may look much different than it does today.**

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## Landforms, Weathering, and Erosion Concept and Vocabulary Practice

### The breaking down of rocks on the Earth’s surface is called –

1. List at least 3 forces that can weather the surface of the Earth.
2. The process in which pieces of dirt and rock move from one place to another is called –
3. How does a glacier change the surface of the Earth?
4. How is a canyon formed?
5. The process in which eroded pieces of rock are left in a new place is called –

Concept Practice

1. **What does the word weathering mean in paragraph 2?**
2. **The breaking down of rocks into smaller pieces by natural forces.**
3. **The moving of pieces of the Earth from one place to another.**
4. **The destruction of natural resources by wind and water.**
5. **Types of landforms created by living organisms.**
6. **What does the word erosion mean in paragraph 3?**
7. **The breaking down of rocks by wind and water.**
8. **The moving of pieces of rock and dirt from one place to another.**
9. **Rock and dirt left behind by natural forces.**
10. **The movement of glaciers.**
11. **The word landforms in paragraph 3 means**

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A forces such as wind and water B types of energy

1. **natural structures such as mountains and canyons on the Earth**
2. **the moving of rocks from one place to another**
3. **The word deposition in paragraph 3 means the –**
4. **leaving of small particles of the Earth in a new place**
5. **breaking down of the Earth’s surface**
6. **moving of pieces of the Earth by forces such as water or ice**
7. **formation of new particles of rock and dirt**
8. **Which words in paragraph 5 help the reader to know the meaning of the word glacier?**
	1. ***major forces***
	2. ***huge chunks of ice***
	3. ***drags the pieces of rock***
	4. ***valleys can fill with water***
9. **What does the word coastline mean in paragraph 6?**
10. **The area where rocks underneath the surface of the Earth touch.**
11. **The place where magma pushes out to the surface of the Earth.**
12. **The place where rivers leave rocks and dirt behind.**
13. **The area where the oceans meet the land.**
14. **A fault in paragraph 7 is a –**

A crack in the Earth’s surface B piece of rock

C type of earthquake D type of mountain

1. **What does the word magma mean in paragraph 8?**
2. **Melted rock**
3. **Large particles of sand C Unknown volcanoes**

D Underground volcanoes

1. **What does the word lava mean in paragraph 8?**
2. **Large cracks in the Earth’s surface.**
3. **Magma that has pushed through to the surface of the Earth.**
4. **The force of wind. D Very hot water.**

# Earth Science

## Landforms, Weathering, and Erosion Essential Vocabulary

### weathering: the breaking down of rock on the surface of the Earth usually by the force of water, wind, or ice

erosion: the movement of weathered particles by water, wind, or ice

deposition: the process in which materials that have been eroded are dropped in a new place

landform: a natural structure found on the surface of the Earth glacier: a huge piece of ice that slowly moves across the surface

of the Earth and remains frozen during the entire year fault: A crack in the Earth’s crust

earthquake: the shaking of the Earth’s crust caused by large pieces of rock underneath the Earth’s surface moving against each other

volcano: a mountain made from hardened lava, rocks, and ash that erupted out from underneath the Earth’s surface

magma: melted rock below the Earth’s surface

lava: magma that has flowed out onto the surface of the Earth