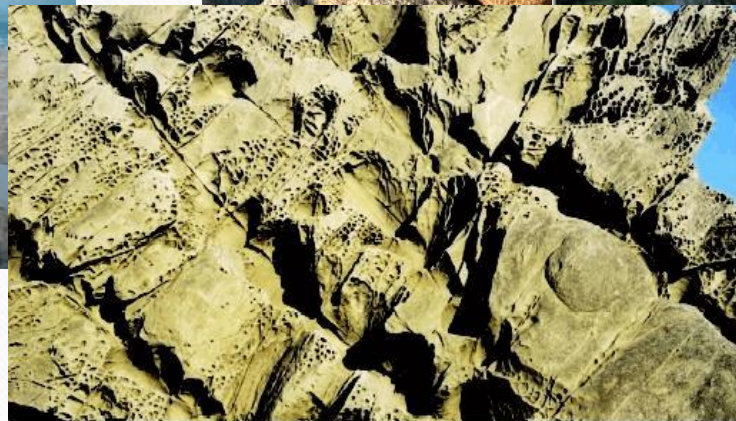


- ***Standard: S6E5.*** Students will investigate the scientific view of how the earth's surface is formed.
- ***Essential Question:*** How was the surface of the Earth constructed and changed over millennia?

What do all of these pictures have in common?



***All of the rocks have been worn
away by something.***

Changes to the Earth's Surface

There are natural processes that can affect Earth's oceans and land.

Weathering

- Weathering describes the processes that break down rocks at or near the surface of the earth.
- This process causes the surface of the earth to dissolve, decompose, and break into smaller pieces called sediments.



There are two types of weathering:

1. PHYSICAL WEATHERING

Physical weathering is the breaking down of earth material without undergoing a chemical change.

Examples:

- 1. when water expands as it freezes in cracks and then thaws**
- 2. when rocks are heated by day and cooled by night**
- 3. when roots of plants break up the earth - root wedging**
- 4. when water runs over a surface or sand blows over a surface**



2. Chemical Weathering

Chemical weathering changes the minerals that make up rock.

Example: 1 water dissolving minerals in the rocks and then washing them away



MECHANICAL ACTION OF RAIN
WORKS ON THE GREY WHILE
CHEMICAL ACTS ON THE RED.



***Bryce Canyon in Utah
was formed by ice
weathering.***

Erosion

Weathering breaks up the Earth's surface into small pieces called sediment. Erosion is the process of moving sediments from one place to another.

Wind, water, gravity, ice and humans are all causes of erosion.



Deposition

- The dropping, or depositing, of sediments by water, wind, or ice.
- Deposition builds up new land on Earth's surface (like the delta at the end of a river or the pile up of a sand dune in the desert)



Weathering causes rocks and earth materials to break down



The earth material is then moved through **erosion**



The earth material is finally dropped off through **deposition**

The natural processes that change Earth's oceans and land can be categorized in two ways:

- **Constructive: Those processes that create landforms**
- **Destructive: Those processes that destroy landforms**

Constructive Processes	Both Constructive and Destructive Processes	Destructive Processes
Deposition	Erosion	Weathering