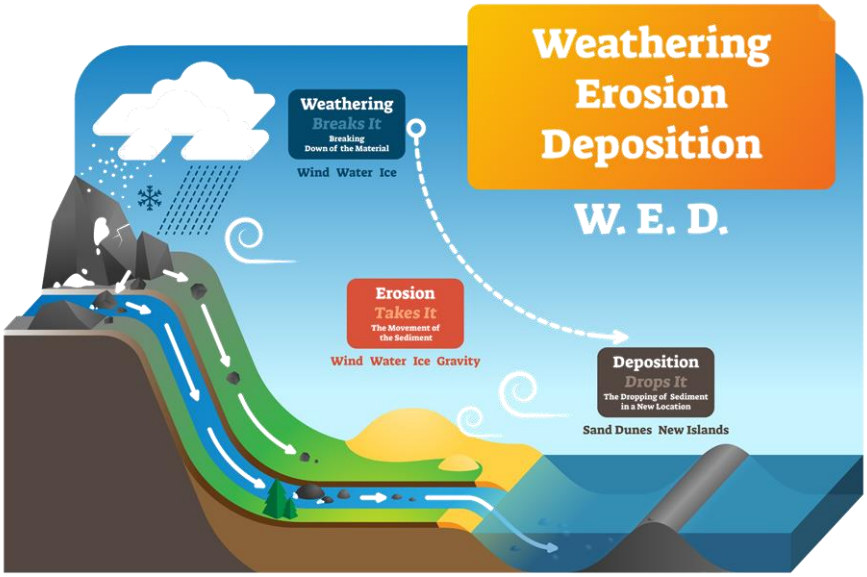
Earth's Changing Surface

Section 4: Erosion & Deposition: Mass Movement & Glaciers

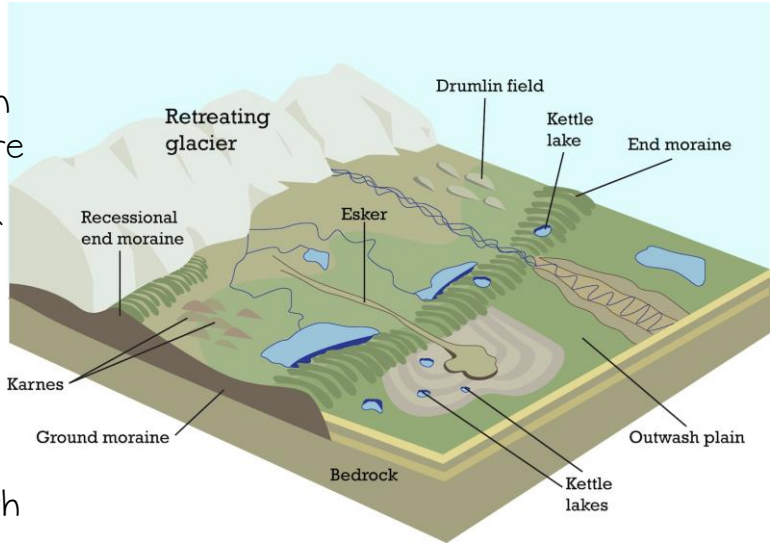


Weathering, erosion, and deposition all work in a continuous process that wears down and builds up Earth's surface. Deposition changes the shape of the land. **Deposition** is the laying down or settling of eroded material. **Mass wasting** is the downhill movement of a large mass of rocks or soil because of the pull of gravity. Landslides and mudslides are examples of mass wasting.

A **glacier** is a large mass of ice that formed on land and moved slowly across Earth's surface. As snow accumulates over many years, it eventually turns to ice and moves by sliding on a thin layer of water that is underneath the ice. They form in areas where the amount of snowfall is greater than the amount of snowmelt. There are two types of glaciers. A **continental glacier**, or an ice sheet, covers large areas of land and moves outward from a central location. They exist today in Antarctica and Greenland. A **valley glacier** is a long, narrow glacier that forms when snow and ice build-up high on a mountain valley.

There are two processes by which glaciers erode the land, **plucking** and **abrasion**. Plucking occurs as a glacier flows over the land. It picks up rocks and large boulders, dragging them across the land. This causes abrasions or gouges and scratches in the bedrock.

When a glacier melts, it deposits the eroded sediment, creating various landforms. These landforms remain even after a glacier as melted. A **till** is a mixture of sediment that is deposited directly on the surface. It's made up of particles of many sizes. Clay, silt, sand, and boulders can all be found in a till. A **moraine** is a ridge formed from till deposited at the edge of glaciers. A **kettle** is a small depression that forms when a chunk of ice eventually melts. Kettles often fill with water and become kettle lakes.



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Review:

1. What is deposition?
2. Explain plucking and abrasion.
3. What is a kettle?

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