



***Deliberate and specific retrieval of expected prior knowledge (be specific)***

Retrieval should occur regularly throughout the learning journey:

Awareness of different types of rocks

- Earthquakes are natural disasters that cause devastation.
- Volcanoes release lava onto the surface of Earth, which is molten rock.
- Knowledge that fossils living things that have died and are encased in rocks

***Academic transformation (be specific)***

Your core curriculum must do all of the following:

- the structure of the Earth – a solid outer crust with a mostly solid mantle, and liquid metal outer core and solid inner core.
- The rock cycle and the formation of igneous, sedimentary and metamorphic rocks
- Tectonic plates and their movement by convection currents in the mantle.
- How rock formations and natural structures form by erosion and weathering.

***Personal transformation (2 or 3)***

Deliberately inviting students and our community to enrich learning by sharing their experiences, history and first hand accounts. Explicitly choose application opportunities for learners to:

- Learn about the earthquakes in Turkey and Syria and it's causes.
- How scientists discovered the Earth's structure using seismic waves.
- Pangea and continental drift.
- Link to careers in geology

***Can I Learning Questions***

*Can I describe the structure of the Earth?*

*Can I explain the movement of tectonic plates?*

*Can I explain how rocks and structures can erode over time?*

*Can I compare the different types of weathering?*

*Can I describe how igneous rocks are formed?*

*Can I describe how sedimentary and metamorphic rocks are formed?*

*Can I describe the stages in the rock cycle?*

***Literacy***

***Key vocabulary***

*Igneous, metamorphic, sedimentary, magma, mantle, tectonic, convection.*

***Disciplinary reading***

News articles about recent Earthquakes/volcanoes (will need updating regularly)

***Classroom talk***

*Describing the stages in the rock cycle*

***Misconceptions***

- Earth is a solid sphere (Earth has solid and liquid layers)
- All rocks are the same (There are 3 different types of rock).
- Idea of rocks being permanent and unable to change
- Mantle is a liquid (The mantle is a plastic-like solid which flows EXTREMELY slowly)
- Obsidian is a chemical reaction between lava and water (obsidian is formed when lava is cooled extremely quickly, it does not react with the water)