

Earth Science



Critical Concepts

- Landforms occur as a result of changes to the surface of the Earth over time.
- Wearing away of the Earth's surfaces involves physical and chemical processes.
- Weathering of exposed surfaces occurs on site by the action of rain, frost and wind; it involves physical and chemical processes often occurring together.
- Erosion involves the breakdown and transportation of particles of rock or soil, which have been worn away; agents of erosion at the Bluff include the sea, wind, glaciers, and rivers.
- Sand grains become cemented together over time by the materials leached out of the fragments of shells to form the dune limestone that makes up the Bluff.
- Materials carried by agents of erosion wear away surfaces and particles are eventually deposited at a distance from their source; the materials may form the basis for the formation of new sedimentary rocks following compression, consolidation and cementation over time.
- The lithosphere is the region of the Earth where rocks are formed.
- Deep below the surface, the Earth's materials are heated to the extent that molten material, magma, forms. Under pressure, this rises in fissures and cools, eventually solidifying to form igneous rocks.
- Magma that reaches the surface is called lava. The basalt at the Bluff is an example of this lava. It was formed when the volcano erupted and the lava flowed down to the sea.
- The origin of different kinds of rock can be inferred from examining their properties.
- The rock cycle describes the continual formation, breakdown and reformation of rocks over time.

Strategic Questions

- How does weathering and erosion change the coast?
- What changes do winds make to the surface of water, sand on the beach or dunes?
- How do waves bring about changes to the cliffs, shore line and rock ledges?
- What causes sandbars to be made or washed away?
- How has shell grit and sand been formed?
- What is the chemical composition of the sea and how did it become salty?
- Devise a time line that shows the different events that have shaped the Bluff.
- Find out about the geology of the area from the notes and describe what it would have been like at different periods in the earth's history.

