The Niagara Escarpment:

**FASTEN YOUR SEATBELT, THE PLATES ARE MOVING!**

The Earth’s crust is made up of pieces called tectonic plates. The plates are not stationary, but move relative to each other over millions of years. These movements are caused by the movement of the Earth’s mantle, the layer of the Earth that lies below the crust. The movement of the plates over time is responsible for the formation of the Niagara Escarpment.

**The Geological History of the Niagara Escarpment:**

- **Cretaceous Period (65 to 145 million years ago)**: The region was part of a vast ocean called the Western Interior Seaway. As the seaway slowly shrank, it left behind a series of sandbars, creating a landscape similar to modern-day Nebraska.

**KEY**

- **Geological periods:**
  - Proterozoic
  - Mesozoic
  - Cenozoic

**SAPPING PROCESS**

Since the tropical sea disappeared millions of years ago, exposure to the elements has caused weathering and eventual removal of the softer underlying clay, forming a steep dolostone escarpment. This weathering process, called sapping, continues today.

**UNBURIED TREASURE!**

The escarpment contains valuable and rare geological formations. The soft rocks are susceptible to weathering, creating unique and fascinating features. The softer rocks are easily eroded, forming caves, cliffs, and rock shelters. These features provide a glimpse into the geological history of the region.

**In Ontario, the Niagara Escarpment is a prominent cliff extending for over 500 kilometers from Niagara Falls, through the western part of the GTA and northward into Haliburton County, following the rim of the Michigan Basin.**

**TROPICAL VACATION ANYWHERE?**

During the Cretaceous Period, living coral reefs formed on the continental shelf. The warm, shallow waters supported a diverse range of marine life, including large coral reefs. This period is known for its warm, tropical climate, providing a perfect environment for marine biodiversity.

**The Niagara Escarpment provides habitat for many unusual species including 1190-year-old Eastern white cedars, the oldest living trees in eastern North America.**

**Grey cliffs of the escarpment are exposed within a forested area. Below the cliffs, a golf course shows one of the recreational uses of this area. Above the cliffs, downtown is in the background for construction.**
The Niagara Escarpment

Geological Map of the Niagara Escarpment

Legend

Geological Periods

- Pennsylvanian
- Mississippian
- Devonian
- Silurian (Niagara Escarpment)
- Ordovician
- Cambrian
- Precambrian

Niagara Escarpment

Greater Toronto Area (GTA)

Layers tilt gently toward centre
The Niagara Escarpment

Changes Through Time

Niagara Escarpment: 1954

Niagara Escarpment: 1978