Pictou County Forest School - Grade 7 Lesson Plans
Geological Evolution

Activity: Mountain Movers
Overall Curriculum Outcome: *Learners will analyse how geographic features are formed and changed.*
Specific Curriculum connections:
Geographic Features
- How have the geographic features of Nova Scotia changed over time?
- How quickly does/can geological change happen?

Erosion and Deposition
- How do human activities impact geological change?
- How have local landforms been impacted by erosion and deposition?

Materials:
- Plastic totes and water jugs for both storage and pouring
- Sand, gravel, clay, loam, humus
- Found natural items (leaves, moss, sticks, stones)
- Clipboards, paper and pencil crayons

Intro/Activation:
Explain to the students that where we stand is in a region called the Appalachian Mountains. The Appalachian mountains are currently so low in elevation due to their old age but were once as high as the Himalayas (Mount Everest). Their rock is over 400 million years old and over time erosion has reduced their height to current elevations.

Ask students how a mountain range once as high as Mount Everest could be reduced to the size of, say, Fitzpatrick Mountain in Scotsburn?
EROSION = glaciers, wind, water (rain, rivers, freezing), sand, human induced (mining, flooding induced erosion).

Instructions/Activity:
Activity #1 Erosion Walk
We walk to various locations to perform a water bucket erosion test: pour water down a gradient to observe erosive forces at play.
- More erosion: Gravel road; tracking box; unvegetated humus in the blowdown section at basecamp; hard packed soil etc.
- Less erosion: grassy slope, vegetated/leaf matter slopes; loose tilthy soil

Activity #2 Terraforming/Erosion Inquiry

Totes	Natural gradient
Provide each group a large plastic tote. Each group is responsible for 'terraforming' their tote to look like the Earth's surface. It is beneficial for students to create a gradient from one side of the tote to the other so that they create a river effect. Students pour water from the top of their watershed and observe where the water goes.	Find a suitable gradient for students to observe water running downhill. The experiment runs similar to the tote experiment, having kids add rocks, stones and organic materials to their water courses and observing the results.

- Does the water run fast? Does it take lots of sediment with it? - What could be done to slow down the moving water and slow Ask students how adding rocks, sticks, moss, leaves etc to their totes would change the flow and colour of water? Retry the experiment with their added features.	