The rocks (bedrock) underlying Prince Edward Island were made from sediments laid down by ancient freshwater rivers. These rivers flowed over the region 250 million years ago.

Why are our soils red?

The parent materials from which our soil was made contain oxidized iron. The sediments which formed our rocks contained a large amount of iron. This iron over the years has oxidized, forming rust which makes Prince Edward Island’s sedimentary rocks red. The iron oxide helps bind together sands, muds and gravels that form sandstone, mudstone, and conglomerates.

Are all of PEI’s rocks sedimentary?

No, one outcrop of igneous rock has been found on the Island. It lies at the bottom of Malpeque Bay and is the only rock on the Island which was not formed by sedimentary processes. This igneous rock is a vein of dolerite and three metres wide which pushed its way to the surface through the sedimentary rock in a molten state and then hardened.

What rocks are found on Prince Edward Island?

On Prince Edward Island, you will find six basic rock types. Five of these are sedimentary and one is the igneous dolerite mentioned earlier.

**Sandstone:**

Sandstone is the most common rock type found on the Island. It may be fine to coarse grained and varies in colour from red to a greyish-green. The greenish colour occurs in rocks where there was little oxygen for oxidation of the iron when they were laid down. These sandstones usually consist of 70% sand held together by a matrix of clay and silt mixed with iron oxide and a considerable amount of calcium and magnesium carbonates.

**Mudstone:**

Mudstone makes up about one quarter of the Island’s bedrock. These include siltstone and claystone. Mudstone can often be found in layers up to three metres thick between fine sandstones.

**Conglomerates and Breccias:**

These make up about one-fifth of the Island’s rocks and occur usually in short beds. Breccias were formed when ancient floods tore up existing mudstone whose broken pieces were later redeposited and cemented together by carbonates. Conglomerates are made from rounded, water worn pebbles (usually quartz) cemented together by carbonates and embedded in a matrix of mudstone or sandstone.

**Limestone:**

Limestone is rare in Prince Edward Island.

**Dolerites:**

The only igneous rock found on the Island. It is rare. An outcrop lies at the bottom of Malpeque Bay and is visible on the northeast tip of George Island.

**Glaciation**

Since the Pleistocene epoch, two million years ago, a number of sheets of glacial ice have travelled over Prince Edward Island. The last one melted about 15,000 years ago. As the glaciers melted, the ocean began to rise and the land rebounded when the weight of the ice was gone. During this time, Prince Edward Island went through a number of size and shape changes. At one time, there were actually three islands where PEI is now. The Northumberland Strait has not always been covered with water. It became a continuous body of water about five thousand years ago, when a land bridge from New Brunswick was broken by rising sea levels.

Glaciers did more than change the shape of our coastline. Marine sediments were laid down by the sea on the western end of the Island before the land sprang back. These deposits of sand and gravel now lie far above sea level in sorted bands. The melting glaciers left a layer of broken rock, sand, silt, clay and gravel over the bedrock. This layer ranges from as little as a few centimetres to as much as twenty metres. These deposits are called glacial till and became the parent material for many of our soils.
1. Bedrock is made from ________________

2. Sediment was carried over PEI by ancient freshwater ________________

3. All soil is made from ________________

4. This element is abundant in our sedimentary rock ________________

5. Iron turns red when it is ________________

6. Oxidized iron is also known as ________________

7. Gravels bind together to form ________________

8. Rocks not formed from sediment are called ________________

9. An outcrop of dolerite can be seen in ________________

10. This is the most common rock type on PEI ________________

11. Two types of mudstone are ________________

12. These rocks are cemented together by carbonates ________________

13. This rock type is rare on PEI ________________

14. The last one of these melted on PEI 15,000 years ago ________________

15. Until 5,000 years ago PEI had a land bridge to this province ________________

16. This is the parent material for many of our soils ________________

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