What Kind of Rock am I Looking At?

**Igneous Rock** is formed when a magma cools underground and crystallizes or when it erupts unto the surface of the ground, cools and crystallizes. Magma that erupts onto the surface is called lava. When magma cools slowly underground the crystals are large enough to see. When it cools quickly on the surface, the crystals are very small and you would need a magnifier or a microscope to see them.

Sometimes, when the magma cools very quickly, it forms a kind of black glass that you cannot see through.

Igneous rocks: usually hard. Lavas often contains crystals, in a fine matrix. Usually crystals show well formed crystal faces.

Plutonic rocks: large interlocking crystals. In igneous rocks often they do not show “layering”.

No fossils.

**Sedimentary Rock** forms from particles, called sediment, that are worn off other rocks. The particles are sand, silt, and clay. Sand has the largest particles while clay has the smallest. If there are a lot of pebbles mixed with the sand, it is called gravel. The sediment gets turned into rock by being buried and compacted by pressure from the weight above it. Another way it becomes rock is from being cemented together by material that has been dissolved in water. Often, both cementing and compaction take place together.

They are layered, appearing as agglomerations of gravel, pebbles, sand, clay, or compositions precipitated from water such as limestone. Crystals are often rounded from abrasion during transport. Often contain fossils.

If there is clay, or pieces of gravel, or fossils, the rock is sedimentary.

**Metamorphic Rock** is formed by great heat, or pressure, or both. The pressure can come from being buried very deep in the earth's crust, or from the huge plates of the earth's crust pushing against each other. The deeper below the surface of the earth, the higher the temperature, so deep burial also means high temperatures. Another way that high temperatures occur is when magma rises through the earth's upper crust. It is very hot and bakes the rock through which it moves. Hot liquids or gases from the magma also can cause chemical changes in the rock around the magma.

They often appear to show “layering”, but they are much harder rocks than sediments. They may appear like either granites (and may be metamorphosed granites or sediments)

Schist is a typical texture, where the clay minerals have turned to mica. Marble is metamorphosed limestone.

Generally no fossils.