Cycle 1 Week 23 - Types of Rocks

Rocks come in many different colors, shapes, and sizes. No two rocks are exactly alike!
Geologist classify rocks into three basic groups based on how they were formed in nature.

The types of rocks are:

- ***Igneous***
- ***Sedimentary***
- ***Metamorphic***

Igneous Rocks

Igneous rocks are formed from melted rock that has cooled and solidified. When rocks are buried deep within the Earth, they melt because of the high pressure and temperature; the molten rock (called magma) can then flow upward or even be erupted from a volcano onto the Earth's surface. When magma cools slowly, usually at depths of thousands of feet, crystals grow from the molten liquid, and a coarse-grained rock forms. When magma cools rapidly, usually at or near the Earth's surface, the crystals are extremely small, and a fine-grained rock results. Obsidian (volcanic glass), granite, basalt, and andesite porphyry are four of the many types of igneous rock.

Igneous Rock Specimen:
Serpentine

Serpentine minerals are light to dark green, commonly varied in hue, and greasy looking; the mineral feels slippery.

Sedimentary Rocks

Sedimentary rocks are formed at the surface of the Earth, either in water or on land. They are layered accumulations of fragments of rocks, minerals, or animal or plant material. Most sedimentary rocks become cemented together by minerals and chemicals or are held together by electrical attraction. The layers are normally parallel or nearly parallel to the Earth's surface; if they are at high angles to the surface or are twisted or broken, some kind of Earth movement has occurred since the rock was formed. Sedimentary rocks are forming around us all the time. Compacted and dried mud flats harden into shale.

Sedimentary Rock Specimen:
Shale

Sedimentary rock derived from mud. Particles in shale are commonly clay minerals mixed with tiny grains of quartz eroded from pre-existing rocks.

Metamorphic Rocks

Sometimes sedimentary and igneous rocks are subjected to pressures so intense or heat so high that they are completely changed. They become metamorphic rocks, which form while deeply buried within the Earth's crust. The process of metamorphism does not melt the rocks, but instead transforms them into more compact rocks. Granite is a type of metamorphic rock.

Metamorphic Rock Specimen:

Slate

Slate is a metamorphic rock. Metamorphic rocks are formed when sedimentary or igneous rocks are exposed to conditions of very high pressure or temperature, or are exposed to large amounts of very hot water. Slate is formed when fine-grained sedimentary rock (shale) is buried and exposed to high pressure deep beneath the Earth's surface.