Rock Identification
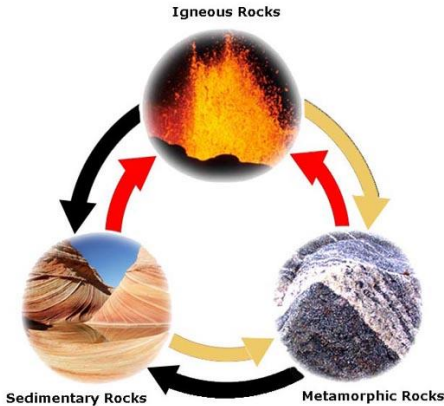

DO/SHOW	SAY
Rocks versus Minerals	The earth's crust, or the upper lithosphere is made of rocks and minerals. **Minerals** are naturally occurring pure substances that have a crystalline structure. Most minerals are chemical compounds formed from several elements. **Rocks** consist of a combination of one or more minerals that are physically rather than chemically combined
Igneous Rocks	Rocks formed from the solidification of molten rock materials. The two basic types are intrusive and extrusive. Intrusive igneous rock, such as granite, solidifies below Earth's surface. Extrusive igneous rock, such as basalt and pumice, solidify above the surface.
Metamorphic Rocks	Rocks that have been modified by heat, pressure, and chemical process usually while buried deep below the planet's surface. The two basic types of metamorphic rock are foliated and non-foliated. Foliated metamorphic rock such as gneiss and slate have a layered appearance produced from exposure to heat and directed pressure. Non-foliated metamorphic rock such as marble and quartzite do not have a have a layered appearance.
Sedimentary Rocks	Rocks formed by the accumulation of sediments. The 4 basic types are clastic (such as sandstone), chemical (such as rock salt), organic (such as coal), and some limestones.
The Rock Cycle	Rocks are recycled over millions of years by three processes: erosion, melting, and metamorphism. Igneous rocks are formed when molten lava solidifies either above or below the earth's surface. The exposure of rocks to weathering and erosion breaks down these rocks and creates sediments. Those sediments are transported by wind, water and gravity before being deposited in layers and compacting over time to form sedimentary rocks. Both igneous and sedimentary rocks can be metamorphosed as a result of changes in temperature, pressure, or chemical exposure. Any kind of rock will melt when exposed to high enough temperature and become molten rock, or lava which starts the process over again with igneous rocks.