\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_’s Unit 3 Lesson 2 Notes The Rock Cycle

1. What is rock?
	1. Rock is a naturally occurring solid mixture of one or more minerals that may also include organic matter.
	2. Most rock is made of minerals, but some rock is made of nonmineral material that is not organic, such as glass.
	3. Rocks are always changing through time.
2. What processes change rock?
	1. Natural processes make and destroy rock. They change each type of rock into other types of rock and shape Earth’s features.
	2. Different natural processes influence the type of rock that is found in each area of Earth’s surface.
	3. Water, wind, ice, and changes in temperature can change rock in a number of ways.
	4. **Weathering** is the process by which rock is broken down by water, wind, ice, and changes in temperature.
	5. Weathering breaks down rock into fragments called *sediment.*
	6. **Erosion** is the process by which sediment is moved from one place to another.
	7. Water, wind, ice, and gravity can erode sediments, which are eventually deposited in bodies of water and other low-lying areas.
	8. Sediment comes to rest by a process called **deposition**.
	9. Rock that is buried can be squeezed by the weight of rock or layers of sediment above it.
	10. At high enough temperature and pressure, buried rock can change into metamorphic rock.
	11. In some cases, the rock gets hot enough to melt and form *magma*, or molten rock.
	12. If the magma reaches Earth’s surface, it is called *lava*.
	13. The magma and lava eventually cool to form new rock.
3. What are the classes of rocks?
	1. **Igneous rock** forms when magma cools and hardens. It forms on or beneath Earth’s surface.
	2. **Sedimentary rock** forms when sediment from older rocks or minerals that form from solutions get pressed and cemented together.
	3. **Metamorphic rock** forms when pressure, temperature, or chemical processes change existing rock.
	4. Each rock class can be divided further, based on differences in the way the rocks form.
	5. Sedimentary rock is composed of minerals formed from solutions or sediments from older rock.
	6. Sedimentary rocks are named according to the size and type of the fragments they contain.
	7. Igneous rock forms from molten rock that cools.
	8. As molten rock cools, crystals form. The longer the cooling takes, the more time the crystals have to grow.
	9. Igneous rocks that form when magma cools beneath Earth’s surface are called intrusive igneous rock.
	10. Igneous rocks that form when lava cools on Earth’s surface are called extrusive igneous rock.
	11. Metamorphic rock forms when high temperature and pressure change the texture and mineral content of rock.
	12. Metamorphic rocks are changed by temperature, pressure, temperature and pressure combined, or fluids or other chemicals.
4. What is the rock cycle?
	1. Over millions of years, any of the three rock types can be changed into another of the three types.
	2. The series of processes by which rock changes from one type to another is called the **rock cycle**.
	3. A rock’s identity can be changed by factors such as temperature, pressure, weathering, and erosion.
	4. Igneous rock that is exposed can break down into sediment. Beneath Earth’s surface, it can change into metamorphic rock.
	5. With temperature and pressure changes, sedimentary rock can become metamorphic rock, or it may melt and become igneous rock.
	6. Under certain temperature and pressure conditions, metamorphic rock can melt and form magma, or form a different metamorphic rock.
	7. 
5. How do tectonic plate motions affect the rock cycle?
	1. Tectonic plate motions can move rock around, leading to changes in the rock. These plate motions can move rock up or down.
	2. **Uplift** is the rising of regions of the crust to higher elevations, increasing the rate of erosion.
	3. **Subsidence** is the sinking of regions of the crust to lower elevations, producing basins where sediment is deposited.
	4. A **rift zone** is a set of deep cracks that form between two tectonic plates that are pulling apart.
	5. Blocks of crust in the center of the rift zone subside, and rock below Earth’s surface rises up.
	6. The rocks in the middle of a rift zone subside, leaving scarps that can be eroded.
	7. Sometimes the decrease in pressure at a rift zone causes magma to form and solidify.