

Sample Lesson #3

Review: The Rock Cycle

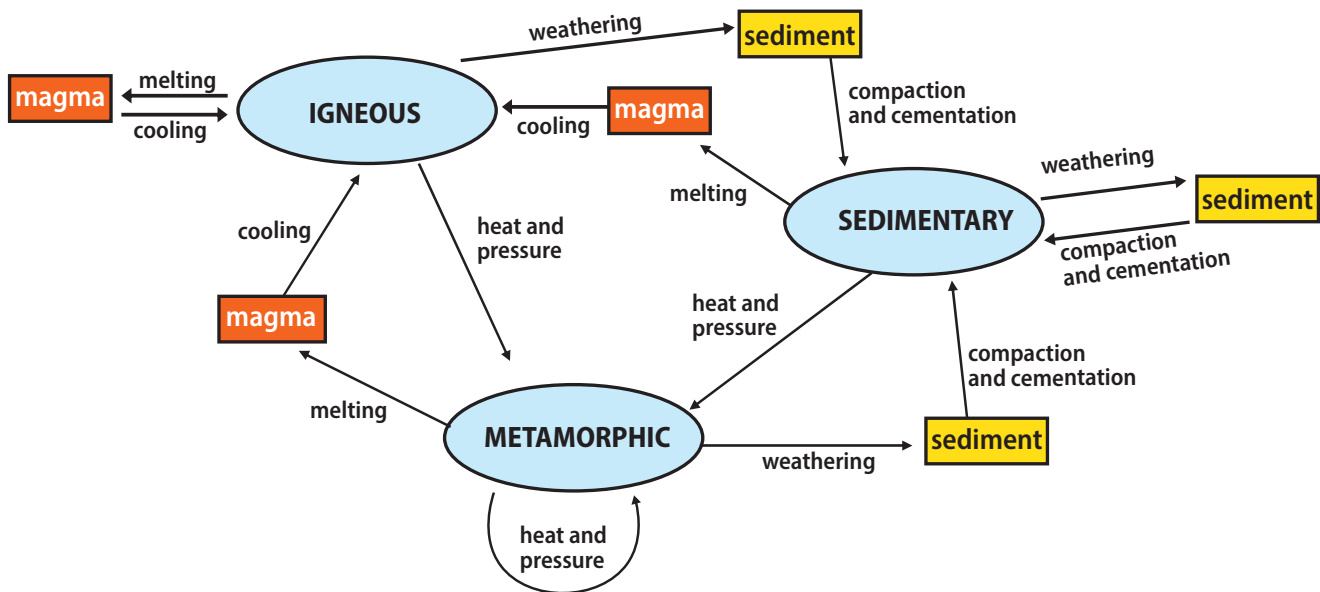
There are three classifications, or groupings, of rock: igneous, sedimentary, and metamorphic. Over time, rocks change from one form to another. The processes that change rock from one form to another make up the **rock cycle**.

Matter flows through the rock cycle. The rocks on Earth today were formed from rocks that existed millions of years ago. These same rocks will continue to change in the future.

Energy drives these changes. Energy from the sun powers weathering and erosion. Energy from Earth (heat) melts rock and moves Earth's plates.

The diagram below shows the ways rock can change. Rock on Earth's surface is weathered. Sediment forms. This becomes sedimentary rock. As layers build up, the sedimentary rock at the bottom is buried. Pressure and heat form metamorphic rock. If there is enough heat, the rock becomes magma. When magma cools, igneous rock is formed.

Plate movement can uplift rock. Erosion can wear down layers. When rock becomes exposed on Earth's surface, weathering breaks it down. This produces sediment, and the cycle continues. Over and over, Earth's material is changed.



- Match each process with its description.

_____ metamorphic

A) Rock melts, then cools and hardens.

_____ igneous

B) Heat and pressure cause changes in the rock.

_____ sedimentary

C) Weathering creates sediment; layers of sediment become rock.

- True or False?

_____ Only metamorphic rock can become sedimentary rock.

3. What energy drives surface changes in the rock cycle?

What energy drives the rock cycle beneath Earth's surface?

4. Energy drives the rock cycle. What is true about this energy? Choose all that apply.

_____ Energy transfers into and out of systems.

_____ When energy is lost, the energy of the universe decreases.

_____ When energy enters a system, the energy of the universe increases.

_____ The energy in the universe (total energy) never changes.

5. Igneous rock and metamorphic rock weather (break down). For weathering to occur, the rock must be exposed at Earth's surface. How does this happen?

A) When Earth's plates move, land can be uplifted.

B) When surface layers erode, the layers underneath are exposed.

C) either A or B

6. Write **T** for *true* or **F** for *false*. Explain your answer below.

_____ Only igneous rock can become metamorphic rock.

7. What factor(s) affects the growth of a plant or animal?

A) the organism's DNA

B) the resources available in the environment

C) both of these

8. What process moves nitrogen back into the atmosphere?

nitrogen fixation denitrification combustion respiration

What processes move carbon from living things back into the environment?

respiration photosynthesis decomposition combustion