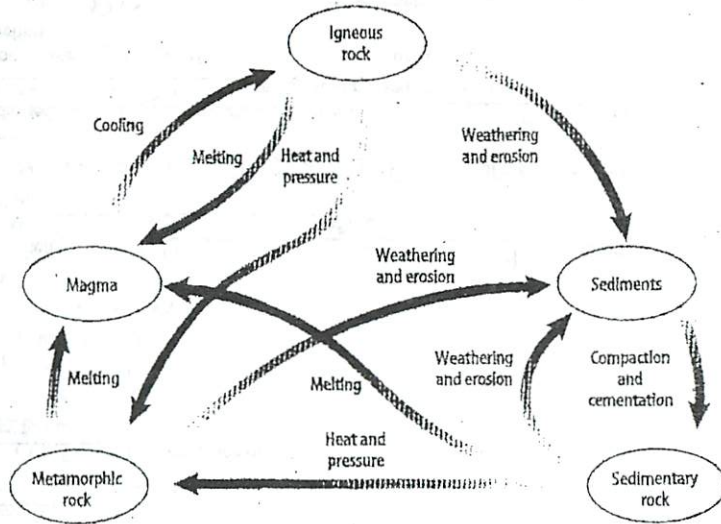


Directed Reading for
Content Mastery

Section 1 ■ The Rock Cycle
Section 2 ■ Igneous Rocks

Directions: Study the following diagram. Then answer the questions below.



- The diagram shows the three types of rock and the processes that form them. This process is called the rock cycle.
- Lava and magma can cool to become igneous rocks.
- Heat and pressure can turn sedimentary or igneous rocks into metamorphic rocks.
- Metamorphic rock can melt and then cool to become igneous rock.
- Weathering and erosion break igneous and other types of rock into smaller pieces called sediment.

Directed Reading for
Content Mastery

Section 3 ■ Metamorphic Rocks
Section 4 ■ Sedimentary Rocks

Directions: Draw a line from the description on the left to the correct term on the right.

- | | |
|--|--------------------------------|
| <u>D</u> 1. a type of metamorphic rock in which mineral grains grow and rearrange but do not form layers | <u>A</u> metamorphic rocks |
| <u>C</u> 2. a type of organic sedimentary rock formed from the pieces of dead plants | <u>B</u> foliated rock |
| <u>A</u> 3. rocks formed by changes in temperature and pressure or the presence of hot, watery fluids | <u>C</u> coal |
| <u>E</u> 4. sedimentary rocks such as halite that are formed when minerals come out of solution | <u>D</u> nonfoliated rock |
| <u>F</u> 5. sedimentary rocks such as sandstone that are formed from broken fragments of other rocks | <u>E</u> chalk |
| <u>E</u> 6. a type of organic sedimentary rock made of the mineral calcite and formed largely from the shells of ocean animals | <u>F</u> detrital rocks |
| <u>I</u> 7. rocks formed when sediments are pressed and cemented together or when minerals form from solutions | <u>G</u> chemical rocks |
| <u>B</u> 8. a type of metamorphic rock in which mineral grains flatten and line up in parallel layers | <u>H</u> stacked rocks |
| <u>H</u> 9. sedimentary rock in which the older rocks, unless disrupted, are on the bottom | <u>I</u> sedimentary rocks |
| <u>J</u> 10. an organic sedimentary rock made of microscopic shells | <u>J</u> fossil-rich limestone |

• Igneous rock that formed when magma hardened beneath Earth's surface

• Ex: Granite is the most abundant which forms the core of many mountain ranges

Magma Types:

- Basaltic
- Granitic
- Andesitic

Sedimentary Rocks

• Sedimentary rocks form when particles of other rocks or remains of plants & animals are pressed & cemented together

• They form in layers under the surface

• Wind + water carry & deposit these sediments or remains

Classified by:

- How they form
- What they are made of

How they form:

- Erosion
- Deposition
- Compaction
- Cementation

Erosion

• Occurs when running water or wind loosen & carry away fragments of rock

Deposition

• Process by which sediment settles out of the water/wind carrying it

• After the sediment has been deposited, the process of compaction or cementation change it into a sedimentary rock

• This could take millions of years!

Compaction

• Process that presses the sediments together

Cementation

• Process in which dissolved minerals crystallize & glue sediments together

What they are made of:

- Clastic

- Organic

- Chemical

Clastic

• A sedimentary rock that forms when rock fragments are squeezed together

• Ex: shale sandstone

Organic

• Sedimentary rocks made from plant + animal remains

• Ex: Coal + limestone

Chemical

• Sedimentary rocks that form when minerals that are dissolved in a solution crystallize

• Ex: limestone formed when calcite dissolves in lakes or seas

Metamorphic Rocks

• Metamorphic rocks form when existing rock is changed by

heat + pressure or chemical reactions

• Most form deep underground

• They can form from igneous, sedimentary, or other metamorphic rocks

Classified by:

- Composition

• texture

—Foliated

—Nonfoliated

Foliated

• Mineral grains are arranged in parallel layers or bands

• Ex: gneiss

Nonfoliated

• Mineral grains grow & rearrange but do not form layers

• Ex: marble

How do these rocks change over time?

• The rock cycle!

• Series of processes on & beneath the Earth's surface that slowly change rocks from one kind to another

