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Section: \_\_\_\_\_ HR: \_\_\_\_\_

## Chapter 5 Section 1 Study Guide: Classifying Rocks

### How Geologists Classify Rocks

Rock forms what 5 features of Earth's surface?

1. Mountains
2. Hills
3. Valleys
4. Beaches
5. Ocean Floor

Rock-

- Rocks are made of mixtures of minerals and other materials.
- Some rocks only contain a single mineral

What must a geologist observe when examining a rock sample?

1. Color
2. Texture
3. Mineral Composition

### Texture

texture -

- Extremely useful way to identify a rock
- The look and feel of the rock's surface

Examples of rock textures

1. Smooth
2. Glassy
3. Rough
4. Chalky

grains -

- A rock's grain give the rock its texture
- Grains are caused by:
  1. Particles of minerals
  2. Other rocks

4 terms geologists use to describe a rock's texture

### Grain Size

Describe a rock that is coarsely - grained.

A rock that has grains that can only be seen under a microscope are said to be?

### Grain Shape

The two ways that rocks get their grain shape

### Grain Pattern

The grain patterns that a rock can form

### No Visible Grain

Why may some rocks have no grain pattern?

1. Grain size
2. Grain shape
3. Grain pattern
4. No visible grain

- The grains on the rock are large
- The grains can easily be seen
- Fine-grained
- Shapes of the crystals that form the rock
  - Example: Granite
- Fragments from other rocks
  - Smooth and rounded
    - Conglomerate
  - Jagged
    - Breccia
- 1. flat layered patterns
- 2. Wavy - Swirling patterns
- 3. Rows of multi-colored beads
- Some rocks have grains that are random throughout the rock
- The rock cooled extremely quickly not allowing crystals to form
  - Smooth, shiny texture like a thick piece of glass
- Small particles of quartz has been pressed in layers on top of one another
  - Glassy texture

## Mineral Composition

What methods do geologists use to determine?

- Identify the minerals the rock contains by:
  - Putting a small sliver of rock underneath a microscope
- Use tests to identify minerals such as:
  - Scratch test
  - Mohs hardness test
  - Acid test for carbon compounds
  - Magnetism test

## Origin

The three major groups of rocks:

Igneous rock-

Sedimentary rock-

Metamorphic rock-

1. Igneous rock
  2. Sedimentary rock
  3. Metamorphic rock
- Rock that forms from the cooling of molten rock - either magma below the surface or lava at the surface
  - Rock that forms when particles of other rocks or the remains of plants and animals are pressed and cemented together
  - Sedimentary rock forms in layers below the surface
  - Rock that is formed when an existing rock is changed by heat, pressure, or chemical reactions
  - Most metamorphic rock forms deep underground