

# Rocks

## What are Rocks?

A **rock** is a naturally formed, non-living Earth material. Rocks are made of collections of mineral grains that are held together in a firm, solid mass.

- Rocks are made of minerals
- Identified primarily by the minerals they contain and by their texture
  - Texture is a description of the size, shape, and arrangement of mineral grains

### Study Tip

Remember that although nearly all rocks are made of minerals, a few are made of materials which do not fit the definition of minerals.



sample 1



sample 2

As seen in Table below, these two rocks have the same chemical composition and contain mostly the same minerals, but they do not have the same texture. Sample 1 has visible mineral grains, but Sample 2 has some visible grains in a fine matrix. The two different textures indicate different histories. Sample 1 is a diorite, a rock that cooled slowly from magma (molten rock) underground. Sample 2 is an andesite, a rock that cooled rapidly from a very similar magma that erupted onto Earth's surface.

Sample	Minerals	Textures	Formation	Rock Type
Sample 1	plagioclase, hornblende, pyroxene	Crystals, visible to naked eye	Magma cooled slowly	Diorite
Sample 2	plagioclase, hornblende, pyroxene	One type of crystal visible, rest microscopic	Magma erupted and cooled quickly	Andesite

## Concept Check

- Name a rock type that is not made of minerals and state how a rock could not be made of minerals.
- Can a rock be made of only one type of mineral, or do rocks need to be made of at least two minerals?
- Why is texture so important in classifying rock types?