Section 2:

Preview

Key Ideas

Summarize
Describe

Classify

Describe

The Formation of Magma

igneous rock

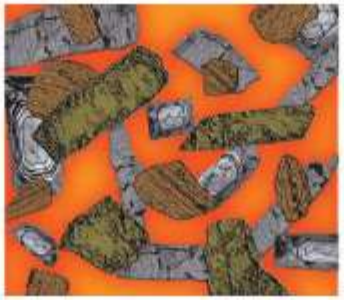
The Formation of Magma, *continued*

Partial Melting

The Formation of Magma, *continued*

Partial Melting

This solid rock contains the minerals quartz (yellow), feldspar (gray), biotite (brown), and hornblende (green).



The first minerals that melt are quartz and some types of feldspars. The orange background represents magma.

Minerals such as biotite and hornblende generally melt last, which changes the composition of the magma.

The Formation of Magma, *continued*

Fractional Crystallization

The Formation of Magma, *continued*

Figure 2 As the temperature decreases, the first minerals to crystallize from magma are minerals that have the highest freezing points. As the magma changes composition and cools, minerals that have lower freezing points form.

Textures of Igneous Rocks

intrusive igneous rock

extrusive igneous rock

Textures of Igneous Rocks, *continued*

Coarse-Grained Igneous Rock

Fine-Grained Igneous Rock

Textures of Igneous Rocks, *continued*

Other Igneous Rock Textures

Textures of Igneous Rocks, *continued*

Reading Check

Fine-grained igneous rock forms mainly from magma that cools rapidly; coarse-grained igneous rock forms mainly from magma that cools more slowly.

Composition of Igneous Rock

Felsic Rock

felsic

Composition of Igneous Rock, *continued*

Mafic Rock

mafic

Intermediate Rocks

Intrusive Igneous Rock

Batholiths and Stocks

Laccoliths

Intrusive Igneous Rock, *continued*

Reading Check

A batholith is an intrusive structure that covers an area of at least 100 km^2. A stock covers an area of less than 100 km^2.

Intrusive Igneous Rock, *continued*

Sills and Dikes

Extrusive Igneous Rock

Comparing Intrusive and Extrusive Igneous Rock

Visual Concepts