

Chapter 3 Rocks

Section 3.4 Metamorphic Rocks

(pages 80–84)

This section discusses the formation and classification of metamorphic rocks.

Reading Strategy (page 80)

Outlining This outline is a continuation of the outline from Section 3.3. Complete it as you read. Include points about how each of these rocks forms, some of the characteristics of each rock type, and some examples of each. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

III. Metamorphic Rocks

A. Foliated Rocks

1. _____

2. Common example of foliated metamorphic rock is slate.

B. Nonfoliated Rocks

1. rock that does not have a banded (or “foliated”) texture

2. _____

1. Is the following sentence true or false? *Metamorphism* means “a change in form.” _____


Formation of Metamorphic Rocks (pages 80–81)

Match each description to its term. The terms will be used more than once.

Description	Term
_____ 2. takes place when magma intrudes rock	a. contact metamorphism b. regional metamorphism
_____ 3. produces high-grade metamorphism	
_____ 4. produces low-grade metamorphism	
_____ 5. changes in rock are minor	
_____ 6. results in large-scale deformation	

Chapter 3 Rocks

Agents of Metamorphism (pages 81–83)

9.  The agents of metamorphism are _____, pressure, and hydrothermal solutions.
10. Is the following sentence true or false? During metamorphism, rocks are usually subjected to one agent at a time. _____
11. Complete the table below by using the terms in the box.

heat	reactions in solutions	pressure
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Agents of Metamorphism	
Cause	Effect
	causes minerals to recrystallize; causes new minerals to form
	causes spaces between mineral grains to close; may cause minerals to recrystallize or to form new minerals; causes mineral grains to flatten and elongate
	solutions aid in recrystallization of minerals; promotes recrystallization by dissolving original minerals and depositing new ones

Classification of Metamorphic Rocks (pages 83–84)

12. Circle the letter of each sentence that is true about foliated metamorphic rocks.
 - a. It is rock with a layered or banded appearance.
 - b. Pressure can form it.
 - c. Gneiss and marble are examples of it.
13. Circle the letter of each sentence that is true about nonfoliated metamorphic rocks.
 - a. It is a metamorphic rock that does not have a banded texture.
 - b. Most of it contains several different types of minerals.
 - c. Marble is an example of it.