

Content Practice A

Chapter 4.4 Review

LESSON 4

Metamorphic Rocks

Directions: Complete this chart by choosing characteristics from the list and writing them next to the type of metamorphic rock they describe.

- contact metamorphism
- covers large area
- creates mountain ranges
- layers of elongated minerals
- flat layers
- foliation direction provides information
- new minerals form
- parallel layers
- random texture

| Metamorphic Rock | |
|------------------------------|----|
| Foliated rock | 1. |
| | 2. |
| | 3. |
| Nonfoliated rock | 4. |
| | 5. |
| | 6. |
| Regional metamorphism | 7. |
| | 8. |
| | 9. |

Key Concept Builder **LESSON 4****Metamorphic Rocks****Key Concept** How do metamorphic rocks form?**Directions:** On the line before each statement, write T if the statement is true or F if the statement is false.

- _____ 1. Rock can bend without melting.
- _____ 2. The term *plastic formation* describes the ability of rock to bend and fold.
- _____ 3. Pressure increases with depth in Earth's crust and mantle.
- _____ 4. The density of rock at a particular depth also affects pressure.
- _____ 5. Texture does not change when rock becomes metamorphic rock.
- _____ 6. Most metamorphic rock forms on the surface of Earth.
- _____ 7. High temperatures and pressure affect the formation of metamorphic rock.
- _____ 8. Metamorphic rock crystallizes from magma.
- _____ 9. Studying the gases in metamorphic rock gives an indication of how intense the changes were.
- _____ 10. Rock texture is another indication of intensity of change.
- _____ 11. The composition of a parent rock determines the temperature required to metamorphose rock.
- _____ 12. Indications that a rock has experienced metamorphism include changes in composition and structure.

Key Concept Builder **LESSON 4****Metamorphic Rocks****Key Concept** How do types of metamorphic rock differ?**Directions:** Complete this chart by choosing characteristics from the list and writing them in the correct spaces.

able to create an entire mountain range

Changes in pressure cause minerals to align in many cases.

classified by texture and rock composition

elongated layers of minerals

extends hundreds of square kilometers

flat layers of minerals

have chemical elements from the magma and parent rock

Extreme temperature and pressure act on large volumes of rock.

Minerals give an indication that distinguishes them from sedimentary rock.

no obvious alignment of any type of mineral crystals

parallel layers of minerals

random, interlocking texture of mineral grains

| Metamorphic Rock | | |
|------------------|------------------|-----------------------|
| 1. | | |
| 2. | | |
| 3. | | |
| Foliated Rock | Nonfoliated Rock | Regional Metamorphism |
| 4. | 7. | 10. |
| 5. | 8. | 11. |
| 6. | 9. | 12. |

Lesson Quiz A

LESSON 4

Metamorphic Rocks

Matching

Directions: On the line before each definition, write the letter of the term that matches it correctly. Each term is used only once.

- | | |
|---|--|
| <p>_____ 1. metamorphism associated with mountain building</p> <p>_____ 2. permanent bending and folding of rocks without melting</p> <p>_____ 3. happens when magma causes existing rocks to change</p> <p>_____ 4. metamorphic rocks that contain parallel layers of minerals</p> <p>_____ 5. metamorphic rocks that have interlocking mineral grains</p> | <p>A. contact metamorphism</p> <p>B. foliated rocks</p> <p>C. nonfoliated rocks</p> <p>D. plastic deformation</p> <p>E. regional metamorphism</p> |
|---|--|

True or False

Directions: On the line before each statement, write T if the statement is true or F if the statement is false.

- _____ 6. The texture of a metamorphic rock gives indications as to the temperatures and pressure involved in metamorphism.
- _____ 7. Like igneous rocks, many metamorphic rocks form from melted material.
- _____ 8. Pressure usually causes long minerals to align.
- _____ 9. Schist is a nonfoliated metamorphic rock.
- _____ 10. The existing rock that changes during metamorphism is the parent rock.