

Directed Reading A

Section: Igneous Rock

_____ 1. What kind of rock forms when hot, liquid rock, or magma, cools and solidifies?

- a. sedimentary
- b. igneous
- c. metamorphic
- d. mineral

_____ 2. Which kind of rock has a name that comes from a Latin word that means "fire"?

- a. igneous
- b. metamorphic
- c. metasedimentary
- d. sedimentary

3. What two factors affect the type of igneous rock that is formed?

ORIGINS OF IGNEOUS ROCK

4. Igneous rock begins as _____.

5. What are the three ways that magma can form?

6. What three factors affect the formation of magma?

7. How does the composition of the magma affect the temperature at which it solidifies?

COMPOSITION AND TEXTURE OF IGNEOUS ROCK

8. Light-colored igneous rocks are less _____ than dark-colored igneous rocks are.

Directed Reading A *continued*

9. Light-colored igneous rocks that are rich in aluminum, potassium, silicon, and sodium are called _____ rocks.
10. Dark-colored igneous rocks that are rich in calcium, iron, and magnesium are called _____ rocks.
11. The longer it takes for a rock to cool and solidify, the more time _____ have to grow, giving the rock a(n) _____ grain.
12. The more quickly an igneous rock cools and solidifies, the _____ the grain.

IGNEOUS ROCK FORMATIONS

Match the correct description with the correct term. Write the letter in the space provided.

- | | |
|---|----------------------|
| _____ 13. a large, irregular-shaped intrusive body | a. pluton |
| _____ 14. the largest intrusive bodies | b. dikes |
| _____ 15. sheetlike intrusions that lie parallel to previous rock units | c. batholiths |
| _____ 16. sheetlike intrusions that cut across previous rock units | d. sills |
17. Magma _____, or pushes, into surrounding rock below the Earth's surface to create such formations as batholiths and sills.
18. Intrusive igneous rock usually has a(n) _____ texture.
19. Igneous rock that forms from lava, or magma that erupts onto the Earth's surface, is called _____.
20. Lava can either erupt or flow from long cracks in the Earth's crust called _____.
21. When lava flows from fissures on the ocean floor at places where tension is causing the ocean floor to be pulled apart, new _____ is formed.
22. When a large amount of lava flows out of fissures onto land, the lava can cover a large area and form a plain called a(n) _____.

Section Review

Igneous Rock

USING KEY TERMS

1. In your own words, write a definition for each of the following terms:

intrusive igneous rock and *extrusive igneous rock*.

UNDERSTANDING KEY IDEAS

2. _____ is an example of a coarse-grained, felsic, igneous rock.

- a. Basalt
- b. Gabbro
- c. Granite
- d. Rhyolite

3. Explain three ways in which magma can form.

4. What determines the texture of igneous rocks?

Section Review *continued*

MATH SKILLS

5. The summit of a granite batholith has an elevation of 1,825 ft. What is the height of the batholith in meters? Show your work below.

CRITICAL THINKING

6. **Making Comparisons** Dikes and sills are both types of igneous intrusive bodies. What is the difference between a dike and a sill?

7. **Predicting Consequences** An igneous rock forms from slow-cooling magma deep beneath the surface of the Earth. What type of texture is this rock most likely to have? Explain.
