

# Directed Reading A

## Section: The Formation, Mining, and Use of Minerals

1. When changes in pressure, temperature, or chemical make-up alter a rock, \_\_\_\_\_ takes place.

2. Name two minerals that may be left behind when a body of salt water evaporates.

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3. Gemstones such as topaz may form in teardrop-shaped bodies called \_\_\_\_\_.

4. Name two minerals that crystallize out of ground water that has been heated by magma.

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5. Minerals such as mica, feldspar, magnetite, and quartz form from slowly cooling magma that solidifies into a(n) \_\_\_\_\_.

6. Name two examples of minerals that can form when materials dissolved in water crystallize on the bottoms of lakes and seas.

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### MINING

7. A mineral deposit large and pure enough to be mined for profit is called a(n) \_\_\_\_\_.

8. Name the two methods by which rocks and minerals are removed from the ground.

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9. Open pits and quarries are types of \_\_\_\_\_ mines.

**Directed Reading A *continued***

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**10.** If a mineral deposit is located deep within the earth,  
\_\_\_\_\_ mining methods are used to mine the deposit.

**RESPONSIBLE MINING**

**11.** Describe two problems that can result from mining.

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**12.** The process of returning land to its original state after mining is \_\_\_\_\_.

**13.** One way to reduce the effects of mining is to reduce our need for minerals.  
How can we reduce our need for minerals?

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**THE USE OF MINERALS**

**14.** Metallic minerals are good conductors of \_\_\_\_\_ and \_\_\_\_\_.

**15.** Some metallic minerals can be processed into \_\_\_\_\_ that can be pounded or pressed into various shapes.

**16.** Silica and calcite are \_\_\_\_\_ minerals that are widely used in industry.

**17.** Nonmetallic minerals that are valued for their beauty and rarity rather than their usefulness are called \_\_\_\_\_.

**18.** What are two important characteristics of gemstones?

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## Section Review

### The Formation, Mining, and Use of Minerals

#### USING KEY TERMS

Complete each of the following sentences by choosing the correct term from the word bank.

ore                      reclamation

- \_\_\_\_\_ is the process of returning land to its original condition after mining is completed.
- \_\_\_\_\_ is the term used to describe a mineral deposit that is large enough and pure enough to be mined for profit.

#### UNDERSTANDING KEY IDEAS

- \_\_\_\_\_ 3. Which of the following conditions is NOT important in the formation of minerals?
- presence of groundwater
  - evaporation
  - volcanic activity
  - wind

4. What are the two main types of mining, and how do they differ?

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5. List some uses of metallic minerals.

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6. List some uses of nonmetallic minerals.

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**Section Review** *continued*

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**MATH SKILLS**

**7.** A diamond cutter has a raw diamond that weighs 19.5 carats and from which two 5-carat diamonds will be cut. How much did the raw diamond weigh in milligrams? How much will each of the two cut diamonds weigh in milligrams? Show your work below.

**CRITICAL THINKING**

**8. Analyzing Ideas** How does reclamation protect the environment around a mine?

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**9. Applying Concepts** Suppose you find a mineral crystal that is as tall as you are. What kinds of environmental factors would cause such a crystal to form?

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