

## Skills Worksheet

**Active Reading****Section: Mineral Exploration and Mining**

Read the passage below and answer the questions that follow.

Through mineral exploration, mining companies can identify areas where there is a high likelihood of finding valuable mineral resources in quantities that are worth mining. Usually, a mineral deposit has 100 to 1,000 times the concentration of the mineral than ordinary rocks do and enough material to justify opening a mine.

Exploring rock for mineralization is the first step in finding an ore deposit. Planes that carry instruments for identifying patterns in gravity, magnetism, or radioactivity fly over and collect these data as well as images and photographs of an area. When used with satellite images, these data and aerial photographs can be used to create an accurate geological map of the surface. Rock samples are then taken from the exploration area. The samples are analyzed to determine ore grade—the metal content of an ore. If the ore grade is high enough, the companies will drill test holes that help them estimate the three-dimensional extent of the ore. If the ore grade is high enough and the deposit extensive enough, the cost to open a mine may be warranted.

**IDENTIFYING MAIN IDEAS**

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about the main idea.

**In the space provided, write the letter of the term or phrase that best completes each statement or best answers each question.**

- \_\_\_\_\_ 1. Mining companies conduct mineral exploration to
- a. find mineral deposits.
  - b. identify new types of minerals.
  - c. create geological maps.
  - d. collect rock samples.
- \_\_\_\_\_ 2. Airplanes used in mineral exploration carry instruments that detect
- a. gravity.
  - b. radioactivity.
  - c. magnetism.
  - d. All of the above
- \_\_\_\_\_ 3. What is ore grade?
- a. the three-dimensional extent of an ore
  - b. the radioactivity of an ore
  - c. the metal content of an ore
  - d. the magnetism of an ore

**Active Reading *continued***

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**SEQUENCING INFORMATION**

One reading skill is the ability to sequence information, or to logically place items or events in the order in which they occur.

**Beginning with step 1, write the five steps involved in finding an ore deposit in the order in which they occur. Write the steps in the space provided.**

- 4. Step 1: \_\_\_\_\_
- 5. Step 2: \_\_\_\_\_
- 6. Step 3: \_\_\_\_\_
- 7. Step 4: \_\_\_\_\_
- 8. Step 5: \_\_\_\_\_

**RECOGNIZING SIMILARITIES AND DIFFERENCES**

One reading skill is the ability to recognize similarities and differences between two phrases, ideas, or things. This is sometimes known as comparing and contrasting.

**Read each question and write your answer in the space provided.**

- 9. How is a mineral deposit different from ordinary rocks?

\_\_\_\_\_

\_\_\_\_\_

- 10. How do both satellites and airplanes aid mining companies in finding ore deposits?

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\_\_\_\_\_

**RECOGNIZING CAUSE AND EFFECT**

One reading skill is the ability to recognize cause and effect.

**Read each question and write the answer in the space provided.**

- 11. What do mining companies learn from rock samples taken from an exploration area?

\_\_\_\_\_

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- 12. How does drilling test holes help mining companies determine whether to open a mine in a specific area?

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