



TEXAS TECH UNIVERSITY

## Division of Outreach & Distance Education

Box 42191, Lubbock, TX 79409

(806) 742-7200

FAX (806) 742-7222

[www.ode.ttu.edu](http://www.ode.ttu.edu)

**SCI 8A**  
**Science 8, First Semester**  
(v.2.0)

### **To the Student:**

After your registration is complete and your proctor has been approved, you may take the Credit by Examination for Science 8A.

### **ABOUT THE EXAM**

The exam will consist of 53 questions. You must make a score of 70 to pass the CBE. You should check with your school district to find out the district requirements for your particular needs. You will have three hours to complete the exam.

The examination will cover the science concepts and processes required of eighth-grade students and is based on the National Science Standards and Texas Essential Knowledge and Skills for this subject. Since questions are not taken from any one source, you can prepare by reviewing any of the state-adopted textbooks that are used at your school. If you do not have a textbook or any other study material available locally, you may contact the Outreach & Distance Education Bookstore. The bookstore carries the textbook used with our Science 8A Distance Education course. The textbook is *Texas Science, Grade 8*, by Glencoe/McGraw-Hill. (2002).

There is also a sample examination included with this letter. The sample exam will give you a model of the types of questions that will be asked on your examination. It is not a duplicate of the actual examination. It is provided to illustrate the format of the exam, not to serve as a review sheet.

For more information about CBE policies, visit <http://www.ode.ttu.edu/takeacbe/> or see your course Policies & Forms Guide.

Good luck on your examination!

## Sample Exam Questions

The following questions, although they are not the exact questions on the CBE, will give you an idea of what the questions on the exam will look like. Answer the questions on your own paper, then check your answers with the answer key provided.

**True/False.** Indicate whether each statement is *true* or *false*.

1. Many scientists hypothesize that the first people came to North America from Asia about 12,000,000 years ago.
2. Forming a hypothesis, conducting an experiment, and drawing conclusions are all part of a common scientific method.
3. A chemical reaction in which more energy is absorbed than is released is called endothermic.

**Multiple Choice.** Circle the letter of the choice that best completes the statement or answers the question.

4. Another term for *technology* is
  - A. applied science.
  - B. experiment.
  - C. control.
  - D. inference.
5. Which one of the following determines the color of a light wave?
  - A. amplitude only
  - B. wavelength and amplitude
  - C. wavelength and frequency
  - D. interference patterns
6. Earthquake waves are called
  - A. seismic waves.
  - B. convergent waves.
  - C. divergent waves.
  - D. wave amplitudes.

*continued* →

**Matching.** Match each item with the correct description below.

- |   |                       |
|---|-----------------------|
| 7. do not occur naturally                                   | A. synthetic elements |
| 8. silvery solids with low densities and low melting points | B. alkali metals      |
| 9. chemist who arranged elements by atomic mass             | C. Mendeleev          |

**Short Answer**

10. One isotope of helium is called helium-4. Knowing that helium has an atomic number of 2, explain why an alpha particle is sometimes referred to as a helium nucleus.
11. What is the name given to a row of elements in the periodic table whose densities and melting points change gradually and predictably?
12. Describe how ear protectors help protect against hearing damage.

**Modified True/False.** Indicate whether each statement is *true* or *false*. If false, change the underlined word to make the statement true.

13. The mass number of an element can be used to determine the number of electrons in an atom.
14. Sliding friction keeps you in the seat when a car goes around a corner.
15. In an earthquake, the point where the first movement of rock occurs and energy is released is the epicenter.

**Completion.** Write the word that best completes each statement.

16. When two waves interact and their amplitudes cancel out, \_\_\_\_\_ interference has occurred.

*continued* →

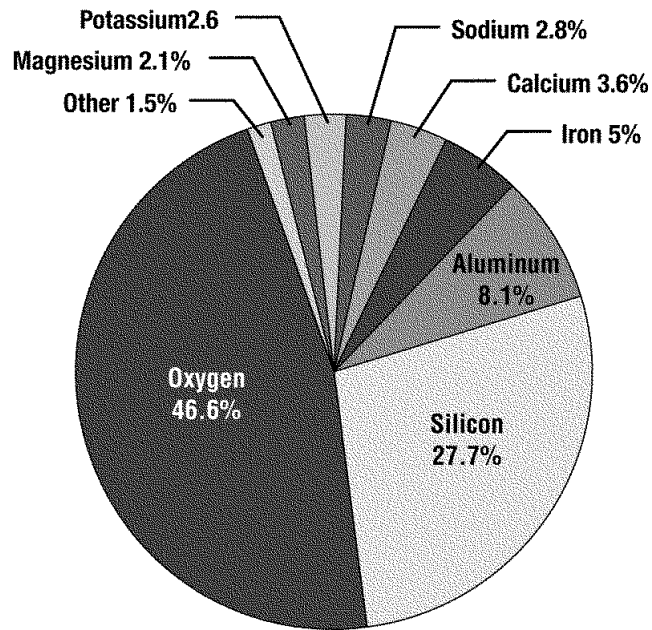


Figure 8-2

17. According to Figure 8-2, \_\_\_\_\_ is the most common element in Earth's crust.
18. The lithosphere is broken into about 13 large sections called \_\_\_\_\_.

## Answers to Sample Exam Questions

### True/False

1. F

2. T

3. T

### Multiple Choice

4. A

5. C

6. A

### Matching

7. A

8. F

9. I

### Short Answer

10. An alpha particle consists of two protons and two neutrons, the same four particles as in a helium-4 nucleus (mass number 4, atomic number 2).
11. a period
12. Ear protectors help absorb some of the energy of the sound wave, so that the amplitude of the sound waves reaching the ear is less.

### Modified True/False

13. F, atomic number
14. F, Static
15. F, focus

### Completion

16. destructive
17. oxygen
18. tectonic plates