

## CHAPTER 1 REVIEW

### *Matter and Change*

#### SECTION 1

**SHORT ANSWER** Answer the following questions in the space provided.

1. \_\_\_\_\_ Technological development of a chemical product often

- (a) lags behind basic research on the same substance.
- (b) does not involve chance discoveries.
- (c) is driven by curiosity.
- (d) is done for the sake of learning something new.

2. \_\_\_\_\_ The primary motivation behind basic research is to

- (a) develop new products.
- (b) make money.
- (c) understand an environmental problem.
- (d) gain knowledge.

3. \_\_\_\_\_ Applied research is designed to

- (a) solve a particular problem.
- (b) satisfy curiosity.
- (c) gain knowledge.
- (d) learn for the sake of learning.

4. \_\_\_\_\_ Chemistry is usually classified as

- (a) a biological science.
- (b) a physical science.
- (c) a social science.
- (d) a computer science.

5. Define the six major branches of chemistry.

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**SECTION 1** continued

**6.** For each of the following types of chemical investigations, determine whether the investigation is *basic research*, *applied research*, or *technological development*. More than one choice may apply.

- \_\_\_\_\_ **a.** A laboratory in a major university surveys all the reactions involving bromine.
- \_\_\_\_\_ **b.** A pharmaceutical company explores a disease in order to produce a better medicine.
- \_\_\_\_\_ **c.** A scientist investigates the cause of the ozone hole to find a way to stop the loss of the ozone layer.
- \_\_\_\_\_ **d.** A pharmaceutical company discovers a more efficient method of producing a drug.
- \_\_\_\_\_ **e.** A chemical company develops a new biodegradable plastic.
- \_\_\_\_\_ **f.** A laboratory explores the use of ozone to inactivate bacteria in a drinking-water system.

**7.** Give examples of two different instruments routinely used in chemistry.

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**8.** What are microstructures?

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**9.** What is a chemical?

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**10.** What is chemistry?

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