



CHEMISTRY

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Education

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Chapter 01 Chemistry: The Study of Change

Multiple Choice Questions

1.

A tentative explanation for a set of observations that can be tested by further experimentation is referred to as

- A.** a hypothesis.
- B. a law.
- C. a theory.
- D. none of the above.

Bloom's Level: 2. Understand
Difficulty: Easy
Gradable: automatic
Section: 01.03
Subtopic: Scientific Method
Topic: Study of Chemistry

2.

A concise verbal or mathematical statement of a relationship between phenomena that is always the same under the same conditions is referred to as

- A. a hypothesis.
- B.** a law.
- C. a theory.
- D. none of the above.

Bloom's Level: 2. Understand
Difficulty: Easy
Gradable: automatic
Section: 01.03
Subtopic: Scientific Method
Topic: Study of Chemistry

3. A unifying principle that explains a body of facts and relations is referred to as
- A. a hypothesis.
 - B. a law.
 - C. a theory.**
 - D. none of the above.

Bloom's Level: 2. Understand
Difficulty: Easy
Gradable: automatic
Section: 01.03
Subtopic: Scientific Method
Topic: Study of Chemistry

4. Complete the following sentence. A *hypothesis* is
- A. a tentative explanation for a set of observations that can be tested by further experimentation.**
 - B.

a statement describing a relationship between phenomena that is always the same under the same conditions.

- C. a unifying principle that explains a body of facts and relations.
- D. a model used to visualize the invisible.

Bloom's Level: 2. Understand
Difficulty: Easy
Gradable: automatic
Section: 01.03
Subtopic: Scientific Method
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5. Complete the following sentence. A *scientific law* is

A. a tentative explanation for a set of observations that can be tested by further experimentation.

B.

a statement describing a relationship between phenomena that is always the same under the same conditions.

C. a unifying principle that explains a body of facts and relations.

D. a model used to visualize the invisible.

Bloom's Level: 2. Understand

Difficulty: Easy

Gradable: automatic

Section: 01.03

Subtopic: Scientific Method

Topic: Study of Chemistry

6. Complete the following sentence. A *theory* is

A. a tentative explanation for a set of observations that can be tested by further experimentation.

B.

a statement describing a relationship between phenomena that is always the same under the same conditions.

C. a unifying principle that explains a body of facts and relations.

D. a model used to visualize the invisible.

Bloom's Level: 2. Understand

Difficulty: Easy

Gradable: automatic

Section: 01.03

Subtopic: Scientific Method

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Chapter 01 - Chemistry: The Study of Change

7. Choose the response that includes all the items listed below that are pure substances.

- i. orange juice
- ii. steam
- iii. ocean water
- iv. oxygen
- v. vegetable soup

A. i, iii, v

B. ii, iv

C. i, iii, iv

D. iv only

E. all of them are pure

Bloom's Level: 3. Apply

Difficulty: Easy

Gradable: automatic

Section: 01.04

Subtopic: Classification and States of Matter

Topic: Study of Chemistry

8. Which of the following is an example of a *physical* property?

A. corrosiveness of sulfuric acid

B. toxicity of cyanide

C. flammability of gasoline

D. neutralization of stomach acid with an antacid

E. lead becomes a liquid when heated to 601°C

Bloom's Level: 4. Analyze

Difficulty: Easy

Gradable: automatic

Section: 01.06

Subtopic: Properties of Matter

Topic: Study of Chemistry

9. Which one of the following is an example of a *physical* property?

- A. dynamite explodes
- B. meat rots if it is not refrigerated
- C. gasoline burns
- D. ice floats on top of liquid water**
- E. a silver platter tarnishes

Bloom's Level: 4. Analyze

Difficulty: Easy

Gradable: automatic

Section: 01.06

Subtopic: Properties of Matter

Topic: Study of Chemistry

10. Which one of the following represents a *physical* change?

- A. water, when heated to 100°C, forms steam**
- B. bleach turns hair yellow
- C. sugar, when heated, becomes brown
- D. milk turns sour
- E. apples, when exposed to air, turn brown

Bloom's Level: 4. Analyze

Difficulty: Easy

Gradable: automatic

Section: 01.06

Subtopic: Properties of Matter

Topic: Study of Chemistry

11. All of the following are properties of sodium. Which one is a *physical* property of sodium?

- A. Its surface turns black when first exposed to air.
- B.** It is a solid at 25°C and changes to a liquid when heated to 98°C.
- C. When placed in water it sizzles and a gas is formed.
- D. When placed in contact with chlorine it forms a compound that melts at 801°C.
- E. Sodium is never found as the pure metal in nature.

Bloom's Level: 4. Analyze

Difficulty: Easy

Gradable: automatic

Section: 01.06

Subtopic: Properties of Matter

Topic: Study of Chemistry

12. All of the following are properties of tin. Which one is a *chemical* property of tin?

- A. Tin can be hammered into a thin sheet.
- B. At -40°C a sheet of tin crumbles to a gray powder.
- C. Tin melts at 231.9°C .
- D. When a bar of tin is bent, it emits an audible "cry".
- E.** Tin erodes when added to hydrochloric acid, and a clear gas forms.

Bloom's Level: 4. Analyze

Difficulty: Medium

Gradable: automatic

Section: 01.06

Subtopic: Properties of Matter

Topic: Study of Chemistry

13. Which one of the following represents a *chemical* change?

- A. boiling water to form steam
- B.** burning a piece of coal
- C. heating lead until it melts
- D. mixing iron filings and sand at room temperature
- E. breaking glass

Bloom's Level: 4. Analyze

Difficulty: Medium

Gradable: automatic

Section: 01.06

Subtopic: Properties of Matter

Topic: Study of Chemistry

14. Which of the following does *not* represent a *chemical* change?

- A. a freshly cut apple turns brown
- B. milk turns sour on standing at room temperature
- C.** when cooled to 0°C , liquid water becomes ice
- D. frying an egg
- E. fermentation of sugar to alcohol

Bloom's Level: 4. Analyze

Difficulty: Easy

Gradable: automatic

Section: 01.06

Subtopic: Properties of Matter

Topic: Study of Chemistry