



## INTRODUCTION TO CHEMISTRY (CHEM 101)

### Assessment on Chapter 01 - Topic 01

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**1. Which of the following is a false statement?**

- a. Molecules are formed by two or more atoms bonded together.
- b. Atoms of different elements have different properties.
- c. The smallest particle of a compound is an atom.
- d. Matter occupies a certain amount of space and also has a definite mass.
- e. Matter can exist as both atoms and molecules.

**2. Which of the following can be classified as matter?**

- a. Lead
- b. Salt
- c. Car
- d. Chair
- e. All of them

**3. What is the state of matter that has a definite volume and is incompressible?**

- a. solid
- b. liquid
- c. gas
- d. All of the above
- e. Both solid and liquid

**4. Which of the following can NOT be considered as matter?**

- a. Water
- b. Sugar
- c. Light
- d. Gasoline
- e. Sun

**5. Which of the following has a fixed volume and a definite shape?**

- a. Liquid mercury
- b. H<sub>2</sub>O as ice
- c. H<sub>2</sub>O as water
- d. Oxygen gas
- e. A compressible gas

**6. Which of the following is an example of an amorphous solid?**

- a. Diamond
- b. Table Salt
- c. Mercury
- d. Water
- e. Plastic

**7. Which of the following is an example of a crystalline solid?**

- a. Table Salt
- b. Glass
- c. Carbon
- d. Plastic
- e. None of them

**8. Which of the following is a mixture?**

- a. Seawater
- b. Iron ores
- c. Air
- d. Milk
- e. All of them

**9. Which of the following is an element?**

- a. Sugar
- b. Salt
- c. Helium
- d. Air
- e. All of them

**10. Which of the following is a compound?**

- a. Water
- b. Sodium
- c. Hydrogen
- d. Air
- e. All of them



## INTRODUCTION TO CHEMISTRY (CHEM 101)

### Assessment on Chapter 01 - Topic 02

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#### 1. Which of the following is a physical change?

- a. A piece of paper burns.
- b. An apple ripens.
- c. Gasoline is changed into carbon dioxide and water.
- d. Heat causes ice to change into water vapor.
- e. Sugar is digested.

#### 2. Which of the following is NOT a chemical property?

- a. The density of a liquid
- b. The ability of iron to rust
- c. Flammability of gasoline
- d. Reactivity of acids with metals
- e. All of these are chemical properties.

#### 3. Which is the opposite of evaporation?

- a. Sublimation
- b. Deposition
- c. Melting
- d. Freezing
- e. Condensation

#### 4. Which of the following is true for chemical changes?

- a. They are changes in state.
- b. They form new substances.
- c. They can usually be reversed.
- d. All of the above.

#### 5. Which one of the following choices includes only chemical changes?

- a. Decay, digestion, and burning
- b. Rusting, evaporation, and decay
- c. Melting, freezing, and digestion
- d. Corrosion, sublimation, burning
- e. Melting, evaporation, and sublimation

#### 6. Which of the following is a physical property?

- a. A metal can react with acids.
- b. Paper can be burned.
- c. Salt crystals have a cube shape.
- d. A metal can corrode by combining with oxygen.
- e. Sugar can be digested

**7. Physical properties are usually determined by observing how a substance reacts with another one.**

- a. True  b. False

**8. Which of the following is a physical change?**

- a. Burning butane  b. Barbequing a steak  
 c. Decomposing water into hydrogen and oxygen gases  d. Breaking a piece of glass  
 e. Baking a cake

**9. Which of the following statements is FALSE?**

- a. The freezing of water is a physical change.  
 b. The conversion of compounds into elements is a physical change.  
 c. Combining sodium metal and chlorine gas to form sodium chloride is a chemical change.  
 d. Photosynthesis is an example of a chemical change.

**10. Boiling point is an example of a .....**

- a. physical change.  b. chemical change.  c. quantitative property.  
 d. physical property.  e. chemical property.



## INTRODUCTION TO CHEMISTRY (CHEM 101)

### Assessment on Chapter 01 - Topic 03

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1. The “SI” unit for mass is the .....

- a. pound                       b. kg                               c. cubic cm                       d. inch

2. The “SI” unit for length is the .....

- a. Kg                               b. cm                               c. m                               d. km

3. Convert 64 kg into lbs. (1 kg = 2.2 lbs)

- a. 0.034 lbs                       b. 29.1 lbs                       c. 140.8 lbs                       d. 128.5 lbs                       e. 101.7 lbs

4. A length of 7.2 cm equals ..... meters.

- a. 0.072                       b. 0.0072                       c. 720                               d. 7200                               e. None of them

5. Density is the ratio of .....

- a. volume to mass                       b. length to mass                       c. mass to volume                       d. mass to area

6. Which of these units is the same in both the English and the metric system?

- a. Second                       b. °C                               c. Kilogram                       d. Meter                               e. Litre

7. What are the fundamental SI units of length, mass, time, and temperature, respectively?

- a. km, kg, s, K                       b. m, g, s, °C                       c. m, g, s, K                       d. m, kg, s, °C                       e. m, kg, s, K

8. Convert 42 °C to °F.

- a. 42 °F                               b. 107 °F                               c. 107.6 °F                               d. 108 °F                               e. 315 °F

9. Convert 97 °C to K.

- a. 369 K                       b. 370 K                               c. 397 K                               d. -176 K                               e. None of them

10. What is the density (g/mL) of an object that has a mass of 14.28 grams and, when placed into a graduated cylinder, causes the water level to rise from 25.2 mL to 33.6 mL?

- a. 0.60                               b. 1.7                               c. 1.8                               d. 2.4                               e. None of them