

Chapter 1 Practice Questions

- 1) A good definition of chemistry is: 1) _____
- A) the science that seeks to understand what the universe does by studying interactions of molecules with atoms.
 - B) the science that seeks to understand what living organisms do by studying the molecules that make up the organism.
 - C) the science that seeks to understand what matter does by studying what atoms and molecules do.
 - D) the science that seeks to understand the interactions of molecules for the sake of advancing human control over nature.
 - E) none of the above
- 2) Which statement about the scientific method is TRUE? 2) _____
- A) The scientific method emphasizes observation and experimentation as the way to understand the world.
 - B) The scientific method emphasizes observation and reason as the way to understand the world.
 - C) The scientific method emphasizes scientific laws as the way to understand the world.
 - D) The scientific method emphasizes reason as the way to understand the world.
 - E) All of the above statements are false.
- 3) Which statement about a hypothesis is TRUE? 3) _____
- A) It is part of the scientific method.
 - B) It can be tested by experiments.
 - C) It is a tentative interpretation or explanation.
 - D) It has the potential to be proven wrong.
 - E) All of the above statements are true.
- 4) The definition of a scientific law is: 4) _____
- A) a way of learning that emphasizes observation and experimentation.
 - B) the underlying reason for a scientific theory.
 - C) the same as a hypothesis.
 - D) a number of similar observations generalized into a brief statement summarizing past observations and predicting new ones.
 - E) none of the above
- 5) What term best describes a brief statement that summarizes many past observations and predicts new ones? 5) _____
- A) experiment
 - B) scientific law
 - C) theory
 - D) hypothesis
 - E) none of the above
- 6) Who discovered the law of conservation of mass? 6) _____
- A) Antoine Lavoisier
 - B) John Dalton
 - C) John Dalton and Antoine Lavoisier
 - D) Nivaldo Tro
 - E) none of the above

- 7) Which of the following is an example of a scientific law? 7) _____
- A) When a can of soda pop is opened, a fizzing sound is heard.
 - B) Flammable objects contain phlogiston.
 - C) All matter is composed of small, indestructible particles called atoms.
 - D) In a chemical reaction, matter is neither created nor destroyed.
 - E) none of the above
- 8) What is the definition of a scientific theory? 8) _____
- A) a brief statement that summarizes past observations and predicts future ones
 - B) a method of learning that emphasizes reason as the way to understand the world
 - C) a model that explains the underlying reasons for observations and laws
 - D) the equivalent of a scientific opinion which others may disagree with
 - E) none of the above
- 9) Who formulated the atomic theory? 9) _____
- A) John Dalton and Antoine Lavoisier
 - B) Antoine Lavoisier
 - C) Nivaldo Tro
 - D) John Dalton
 - E) none of the above
- 10) Which of the following is an example of an observation? 10) _____
- A) Reactions occur due to the transfer of electrons.
 - B) Flammable objects contain phlogiston.
 - C) All matter is composed of small, indestructible particles called atoms.
 - D) When a can of soda pop is opened, a fizzing sound is heard.
 - E) none of the above
- 11) A sample of wood with a mass of 3.0 grams was burned in an open dish. The ashes weighed 0.2 grams. What happened to the rest of the wood? 11) _____
- A) The remaining mass was destroyed.
 - B) The remaining 2.8 grams was converted into gaseous compounds.
 - C) The remaining 2.8 grams was converted into heat.
 - D) Nothing, the burned wood simply has a mass of 1.2 grams.
 - E) none of the above
- 12) Which of the following is considered a hypothesis (as opposed to an observation)? 12) _____
- A) Fresh lava from a volcano is hot.
 - B) Birds can fly because they have hollow bones.
 - C) The Washington Monument is 555 feet tall.
 - D) Spiders have eight legs.
 - E) none of the above
- 13) The key to success in chemistry is: 13) _____
- A) practice.
 - B) mathematical skills.
 - C) curiosity.
 - D) commitment.
 - E) all of the above

14) Which statement would NOT be an example of "quantification"?

14) _____

- A) The newest model of that car gets five more miles per gallon than last year's model.
- B) The water in the swimming pool feels colder than it was yesterday.
- C) The average high temperature this July was two degrees higher than last year's average high temperature.
- D) The price of milk went up ten cents per gallon.
- E) none of the above

Answer Key

Testname: PRACTICEQ_CH01

- 1) C
- 2) A
- 3) E
- 4) D
- 5) B
- 6) A
- 7) D
- 8) C
- 9) D
- 10) D
- 11) B
- 12) B
- 13) E
- 14) B