

1. Chemistry that is essential to the understanding of the human body is found within the field of:
 - A) physics.
 - B) biology/medicine.
 - C) materials.
 - D) geology.

2. Chemistry that is essential to the understanding of energy and motion is found within the field of:
 - A) physics.
 - B) biology/medicine.
 - C) materials.
 - D) geology.

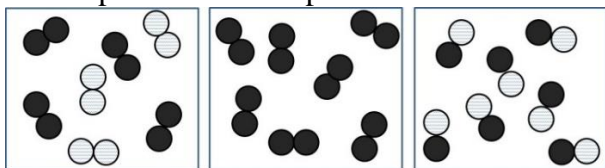
3. Chemistry that is essential to the understanding of plastics and steel is found within the field of:
 - A) physics.
 - B) biology/medicine.
 - C) materials.
 - D) geology.

4. _____ is often referred to as the “central science” because it connects with every other field of science.
 - A) Chemistry
 - B) Biology/medicine
 - C) Physics
 - D) Geology

5. Which task is NOT impacted by chemistry?
 - A) painting a picture on a canvas
 - B) playing a violin
 - C) fertilizing a field
 - D) All of these tasks are impacted by chemistry.
 - E) None of these tasks is impacted by chemistry.

6. Which task is NOT impacted by chemistry?
- A) improving water quality
 - B) harvesting solar energy
 - C) synthesizing new medicines
 - D) All of these tasks are impacted by chemistry.
 - E) None of these tasks is impacted by chemistry.

7. Which picture BEST represents a mixture?



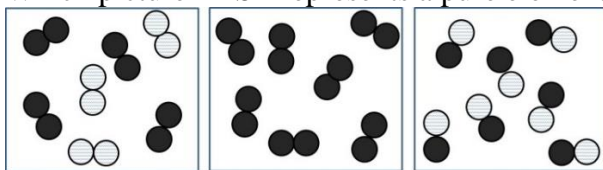
a.

b.

c.

- A) a.
 - B) b.
 - C) c.
 - D) All of these pictures represent a mixture.
8. By definition, which substance can be broken down into simpler substances?
- A) gas
 - B) element
 - C) compound
 - D) liquid
9. By definition, which substance CANNOT be broken down into simpler substances?
- A) gas
 - B) element
 - C) compound
 - D) liquid
10. Which phase of matter has a definite volume but no definite shape?
- A) plasma
 - B) solid
 - C) liquid
 - D) gas

11. Which phase of matter has a definite volume and shape?
- A) plasma
 - B) solid
 - C) liquid
 - D) gas
12. A chemical change always involves a change in the _____ of matter.
- A) state
 - B) composition
 - C) volume
 - D) temperature
13. A mixture of iron, salt, and sand can be separated using a magnet, water, a filter, and a hot plate. This separation:
- A) involves both chemical and physical changes.
 - B) involves only chemical changes or processes.
 - C) involves only physical changes or processes.
 - D) cannot be done with the materials listed.
14. Mineral deposits (known as soap scum) can be removed from your bathtub by reacting with vinegar. This changes the soap scum to a new compound that more easily washes away. This process does not change the soap scum's state of matter. The removal of soap scum by the addition of vinegar:
- A) involves both chemical and physical changes.
 - B) involves only chemical changes or processes.
 - C) involves only physical changes or processes.
 - D) cannot be done with the materials listed.
15. Which picture BEST represents a pure element?



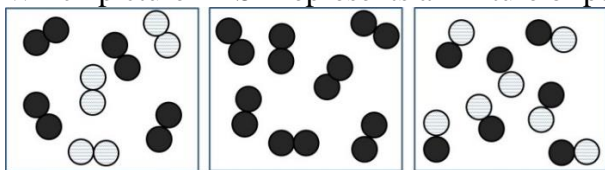
a.

b.

c.

- A) a.
- B) b.
- C) c.
- D) All of these pictures represent a pure element.

16. Which picture BEST represents a mixture of pure elements?



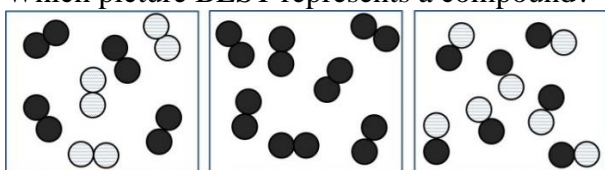
a.

b.

c.

- A) a.
- B) b.
- C) c.
- D) All of these pictures represent a mixture of pure elements.

17. Which picture BEST represents a compound?



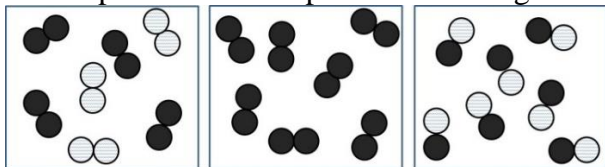
a.

b.

c.

- A) a.
- B) b.
- C) c.
- D) All of these pictures represent a compound.

18. Which picture BEST represents a homogeneous mixture?



a.

b.

c.

- A) a.
- B) b.
- C) c.
- D) All of these pictures represent a homogeneous mixture.

19. Which mixture is heterogeneous?

- A) water from a creek or small river
- B) purified water
- C) fresh milk recently purchased from the grocery store
- D) a cup of black coffee

20. Which weight has the GREATEST potential energy?
- A) a 2-pound weight resting on the floor
 - B) a 2-pound weight on a shelf 3 feet above the ground
 - C) a 2-pound weight on the roof of a house
 - D) a 2-pound weight at the top of a building
21. Which example BEST describes something moving to a higher energy state?
- A) a ball rolling off a table
 - B) a carbonated 2-liter bottle of soda erupting after opening it for the first time
 - C) organizing your room
 - D) riding a bicycle down a hill
22. Which example has the MOST kinetic energy?
- A) a car driving at 80 mph
 - B) a snail moving across the ground
 - C) an airplane flying over Texas
 - D) a 2-pound weight resting on the floor
23. Energy harvested by plants from sunlight allows for the storage of glucose in their cells. When plants do this, their _____ increases.
- A) potential energy
 - B) kinetic energy
 - C) heat energy
 - D) force
24. Which process is endothermic?
- A) burning wood in a fireplace
 - B) heating water to convert it to steam
 - C) burning gasoline in a combustion engine
 - D) digesting food
25. Liquid gasoline is heated and becomes gasoline vapor. The gasoline vapor is then ignited by a spark, causing a fire. The entire process is:
- A) first an exothermic change followed by an endothermic process.
 - B) first an endothermic change followed by an exothermic process.
 - C) only exothermic changes.
 - D) only endothermic changes.

26. A highly reactive chemical compound reacts with another compound and produces products that are more stable than the initial reactants. During this chemical reaction, heat was released. According to this information, this reaction was:
- A) exothermic.
 - B) endothermic.
 - C) both exothermic and endothermic.
 - D) unable to be determined as either exothermic or endothermic.
27. After testing and refining ideas, scientists often develop a model that explains why things behave as they do and predicts what will happen in the future. This type of model is BEST referred to as a:
- A) theory.
 - B) scientific law.
 - C) hypothesis.
 - D) postulate.
28. A patient arrives at a doctor's office complaining of head congestion and lethargy. The nurse thinks the patient may have a sinus infection. The nurse is making a _____ concerning her patient's condition.
- A) theory
 - B) scientific law
 - C) hypothesis
 - D) postulate
29. Which statement is NOT accurate?
- A) Scientific laws describe observations that are true in widely varying circumstances.
 - B) Theories describe how or why something happens.
 - C) Theories one day become scientific laws.
 - D) Theories are supported by scientific evidence.
30. Which example undergoes continued testing and refinement so that we know more about how something happens in nature?
- A) theory
 - B) scientific law
 - C) hypothesis
 - D) experiment

Answer Key

1. B
2. A
3. C
4. A
5. D
6. D
7. A
8. C
9. B
10. C
11. B
12. B
13. C
14. B
15. B
16. A
17. C
18. A
19. A
20. D
21. C
22. C
23. A
24. B
25. B
26. A
27. A
28. C
29. C
30. A