

Introductory Chemistry: Atoms First, 5e (Russo/Silver)
Chapter 1 What Is Chemistry?

1.1 Multiple-Choice Questions

1) Which of the following can be classified as matter?

- A) ice
- B) sugar
- C) graphite
- D) All of the above are matter.

Answer: D

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

2) Which of the following **cannot** be classified as matter?

- A) air
- B) temperature
- C) fog
- D) oxygen molecule

Answer: B

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

3) Which of the following may **not** be classified as matter?

- A) tooth filling
- B) sand
- C) heat
- D) seawater

Answer: C

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

4) Which of the following is a pure, elemental substance?

- A) $\text{Br}_2(l)$
- B) $\text{SO}_2(g)$
- C) $\text{H}_2\text{O}(l)$
- D) air

Answer: A

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

5) Which of the following is a pure substance?

- A) blood
- B) block of aluminum
- C) air
- D) orange juice

Answer: B

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

6) Which of the following is an example of a homogeneous mixture?

- A) sand
- B) copper
- C) air
- D) sugar

Answer: C

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

7) What is another name for a homogeneous mixture?

- A) pure substance
- B) compound
- C) solution
- D) element

Answer: C

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

8) Dirt is an example of a(n) _____.

- A) homogeneous mixture
- B) heterogeneous mixture
- C) compound
- D) element

Answer: B

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

9) Which of the following is an example of a heterogeneous mixture?

- A) seawater
- B) steel
- C) milk
- D) chicken noodle soup

Answer: D

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

10) What is the name given to the element with the symbol "P"?

- A) polonium
- B) protactinium
- C) phosphorus
- D) palladium

Answer: C

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

11) What is the name of the element whose symbol is "Co"?

- A) carbon
- B) chromium
- C) coal
- D) cobalt

Answer: D

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

12) What is the name given to the element with the symbol "K"?

- A) kallium
- B) potassium
- C) phosphorus
- D) krypton

Answer: B

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

13) What is the name given to the element with the symbol "As"?

- A) silver
- B) argon
- C) antimony
- D) arsenic
- E) astatine

Answer: D

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

14) By what chemical symbol do we know the element chromium?

- A) Cr
- B) Co
- C) C
- D) Cs

Answer: A

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

15) What chemical symbol has been given to the element sodium?

- A) S
- B) K
- C) Na
- D) Sr

Answer: C

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

16) By what chemical symbol do we know the element magnesium?

- A) Mn
- B) Ma
- C) M
- D) Mg

Answer: D

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

17) Which element pair is **incorrect**?

- A) Au - gold
- B) Pb - iron
- C) Ag - silver
- D) Hg - mercury
- E) Mg - magnesium

Answer: B

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

18) What is the correct statement about an atom?

- A) It is always pure.
- B) It is the smallest particle of an element.
- C) It is the smallest particle of a molecule.
- D) All atoms have protons, electrons, and neutrons.

Answer: B

Section: Section 1.2

Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.

19) Which of the following is a compound?

- A) $\text{F}_2(g)$
- B) $\text{O}_2(g)$
- C) $\text{Na}(s)$
- D) $\text{H}_2\text{O}_2(l)$

Answer: D

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

20) Which of the following represents a physical property?

- A) Sodium metal is extremely reactive with chlorine gas.
- B) Mercury is a shiny liquid at room temperature.
- C) The tendency of aluminum to "oxidize"
- D) The flammability of butane fuel.
- E) The unreactive nature of argon gas

Answer: B

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

21) Which of the following represents a physical change only?

- A) steel turning to rust in salt air
- B) liquid water freezing into ice cubes
- C) milk turning "sour"
- D) wood burning to form ashes

Answer: B

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

22) Which of the following represents a physical change only?

- A) barbecuing a steak
- B) adding electricity to water to produce hydrogen and oxygen gas
- C) condensing of steam
- D) burning a propane camping stove

Answer: C

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

23) The "disappearance" of mothballs is an example of _____.

- A) melting
- B) vaporization
- C) condensation
- D) sublimation

Answer: D

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

24) The term used to describe the conversion from a gaseous state to a liquid state is _____.

- A) melting
- B) vaporization
- C) condensation
- D) sublimation

Answer: C

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.

25) The term used to describe the conversion from a liquid state to a gaseous state is _____.

- A) melting
- B) vaporization
- C) condensation
- D) sublimation

Answer: B

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.

26) Which of the following represents a chemical change?

- A) sugar dissolving into hot coffee
- B) ice melting to form liquid water
- C) water boiling to form steam
- D) steel turning to rust in salt air

Answer: D

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

27) Which of the following represents a chemical change?

- A) sublimation of dry ice
- B) molding solid silver
- C) frying an egg
- D) breaking a piece of glass

Answer: C

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

28) Which of the following represents a chemical property of a specific metal?

- A) It has magnetic properties.
- B) It melts at 800 °C.
- C) Its density is higher than that of water.
- D) When in contact with air it corrodes.

Answer: D

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

29) Which of the following is **not** a chemical property of carbon dioxide?

- A) It is a critical component in photosynthesis.
- B) It is used in fire extinguishers because it does not support combustion.
- C) It is used to pump up bicycle tires.
- D) It reacts with water to form carbonic acid.

Answer: C

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

30) The only way one can change an element to another is via _____.

- A) a chemical change
- B) a physical reaction
- C) a nuclear transformation
- D) applying heat

Answer: C

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.

31) Which term best completes this definition?

An attempt to explain why a law exists is a(n) _____.

- A) experiment
- B) law
- C) theory
- D) model

Answer: C

Section: Section 1.5

Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.

Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.

1.2 True/False Questions

1) Iced tea, with sugar completely dissolved in it, is an example of a homogeneous mixture.

Answer: TRUE

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

2) Air is a homogeneous mixture of nitrogen, oxygen and hydrogen.

Answer: FALSE

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

3) Tap water is a homogeneous mixture, while freshly distilled water is a compound.

Answer: TRUE

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

4) The earth, taken together as a unit, may be considered one very large piece of heterogeneous matter.

Answer: TRUE

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

5) Water is heterogeneous matter because it is made from twice as much hydrogen as oxygen (H₂O).

Answer: FALSE

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

6) A compound is a pure substance made from atoms of two or more different elements.

Answer: TRUE

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.

7) The smallest possible piece of gold which still retains all the properties of gold is a cube shape containing eight gold atoms.

Answer: FALSE

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

8) The chemical compounds CO and CO₂ have exactly the same properties, because both are made from carbon and oxygen.

Answer: FALSE

Section: Section 1.2

Learning Outcome: 1.4 Explain what a chemical formula is (what it tells you).

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

9) If 1 gram of ice needs a certain amount of heat to melt, the same amount of energy must be removed to convert it back to ice at its melting point.

Answer: TRUE

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

10) Evaporated ethanol can be isolated by cooling, without changing its disinfectant properties.

Answer: TRUE

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

11) When milk goes "sour," only a physical change has occurred.

Answer: FALSE

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

12) Cooking vegetables with steam is a chemical process.

Answer: TRUE

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

13) It is scientifically proper to construct a theory without then doing any experiments to test it.

Answer: FALSE

Section: Section 1.5

Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

14) A theory summarizes facts.

Answer: FALSE

Section: Section 1.5

Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

15) A physical picture used to illustrate a theory is a model.

Answer: TRUE

Section: Section 1.5

Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

1.3 Matching Questions

Match the substances in the left column with their classification in the right column.

- A) heterogeneous mixture
- B) element
- C) homogeneous mixture
- D) compound

1) Lemonade (without pulp)

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

2) Oil-vinegar salad dressing

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

3) Diamond

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

4) Distilled water

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

5) Table salt

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

6) Intravenous liquid

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

7) Breakfast cereal with milk

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

8) Chlorine gas

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

9) Brass

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

10) Golden nugget

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

11) sugar

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

12) sand and salt

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

13) Gasoline

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

14) chocolate chip cookies

Section: Section 1.2

Learning Outcome: 1.2 Define the types of mixtures in terms of the types of matter.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

15) mercury

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

16) Vitamin C

Section: Section 1.2

Learning Outcome: 1.3 Describe how an elemental substance differs from a compound.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

Answers: 1) C 2) A 3) B 4) D 5) D 6) C 7) A 8) B 9) C 10) B 11) D 12) A 13) C 14) A 15) B
16) D

Match the element in the first column with the symbol on the right.

- A) Po
- B) Pd
- C) Pt
- D) K
- E) Pu
- F) Pa
- G) P

17) Potassium

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

18) Polonium

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

19) Phosphorus

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

20) Plutonium

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

21) Platinum

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

22) Palladium

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

23) Protactinium

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

Answers: 17) D 18) A 19) G 20) E 21) C 22) B 23) F

Match the element in the first column with the symbol on the right.

- A) N
- B) Ne
- C) Nd
- D) Ni
- E) No

24) Nitrogen

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

25) Neodymium

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

26) Nobelium

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

27) Neon

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

28) Nickel

Section: Section 1.2

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills.

Answers: 24) A 25) C 26) E 27) B 28) D

Match the event in the left column with the name of the process in the right column.

- A) vaporization
- B) melting
- C) condensation
- D) freezing
- E) sublimation

29) The pond ices in winter.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

30) Mothballs disappear when placed between clothes.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

31) Water droplets form on the mirror of the medicine cabinet while taking a shower.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

32) While heating water in a tea kettle, part of it disappears.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

33) Ice cream liquefies on a hot day.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

34) The block of dry ice in an ice cream parlor starts smoking once the store attendant opens the ice cream freezer.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

35) Margarine is transformed into a liquid while frying an egg.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

36) Water is collected in the gas tank of a car in a humid day.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

37) Water changes to ice in the freezer.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

38) Liquid nitrogen is transformed into a colorless gas.

Section: Section 1.3

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and
G5 Demonstrate an understanding of the impact of science on society.

Answers: 29) D 30) E 31) C 32) A 33) B 34) E 35) B 36) C 37) D 38) A

Match the definition in the first column with the term in the second column.

- A) model
- B) law
- C) hypothesis
- D) experiment
- E) chemical change
- F) bias
- G) scientific method
- H) physical change
- I) theory

39) Baking bread

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

40) Iron rusting

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

41) Paper burning

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

42) Mixing ammonia and bleach

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

43) Mothballs subliming

Section: Section 1.4

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

44) Cooking of an egg

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

45) Molding iron

Section: Section 1.4

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

46) Digesting a sandwich

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

47) Water boiling

Section: Section 1.4

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

48) Gasoline combusting in an engine.

Section: Section 1.4

Learning Outcome: 1.6 Explain what happens to a substance or substances after they undergo a chemical change.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

49) Formation of snow

Section: Section 1.4

Learning Outcome: 1.5 Name the states of matter and the types of physical transformation.

Global Obj: G2 Demonstrate the ability to think critically and employ critical thinking skills and G5 Demonstrate an understanding of the impact of science on society.

50) A procedure that scientists carry out to study phenomenon

Section: Section 1.5

Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.

Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.

- 51) A generalization that concisely summarizes the outcome of a series of experiments
Section: Section 1.5
Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.
Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.
- 52) A strong preference or inclination that inhibits impartial judgement
Section: Section 1.5
Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.
Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.
- 53) An attempt to explain why a law exists
Section: Section 1.5
Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.
Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.
- 54) The first time a theory is postulated
Section: Section 1.5
Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.
Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.
- 55) Some kind of physical picture or mathematical expression of a theory.
Section: Section 1.5
Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.
Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.
- 56) A cyclical process in which scientists continuously uncover new information, postulate new laws, and either modify or discard old ones.
Section: Section 1.5
Learning Outcome: 1.7 Describe the parts of the Scientific Method and how they are related to each other.
Global Obj: G1 Demonstrate an understanding of the principles of scientific inquiry.
- Answers: 39) E 40) E 41) E 42) E 43) H 44) E 45) H 46) E 47) H 48) E 49) H 50) D 51) B 52) F 53) I 54) C 55) A 56) G