**Unit 6 Test**

1. A metal spoon is used to stir a pot of boiling water. The person holding the metal spoon feels the spoon get hot. Which best describes the transfer of heat in the spoon?

A Radiation

B Electrical

C Conduction

D Convection

1. Which situation provides the **best** evidence that a chemical reaction is taking place?

A A metal strip bends when heated.

B A solution freezes in the freezer.

C Two solutions mixed in a beaker produce a solid.

D A chemical completely dissolves in water and the temperature of the solution remains constant

1. How is this reaction classified? CaO + H2O → Ca(OH)2 + heat

A Endothermic

B Exothermic

C Decomposition

D Double replacement

1. Why does a student’s hand feel cold when holding an ice cube?

A Heat flows from the ice cube to the hand

B Heat flows from the hand to the ice cube

C Cold flows from the hand to the ice cube

D Cold flows from the ice cube to the hand

1. As heat is added to a substance

A Speed increases and the substance contracts

B Speed decreases and the substance expands

C Speed decreases and the substance contracts

D Speed increase and the substance expands

1. What happens to the molecules in a pot of water as it is heated?

A They move faster.

B They move slower.

C They lose thermal energy.

D They gain potential energy.

1. What do the elements sulfur (S), nitrogen (N), phosphorus (P), and bromine (Br) have in common?

A They are noble (inert) gases.

B They are nonmetals.

C They have the same thermal conductivity.

D They have the same number of protons.

1. Which of the following forms of energy is an indicator that a chemical reaction has occurred?

A mechanical energy

B electrical energy

C sound energy

D heat energy

1. Which chemical equation represents a decomposition reaction?

A 2Na + Cl2 → 2NaCl

B 2KClO2 → KCl + 3O2

C Zn + 2HCl → ZnCl2 H2

D NaOH + HCl → NaCl + H2O

1. A metal spoon was left in a pot of boiling soup. The cook burned a finger by touching the spoon. Why did the finger get burned?

A Conduction

B Convection

C Radiation

D The metal spoon insulated the cook’s hand.

1. The picture below shows a place where air currents will form due to the uneven heating of Earth. In which direction will air currents most likely move?



A Straight down over the land

B From the land toward the sea

C Straight up above the sea

D From the sea toward the land

1. What do we call the driving factor of these breezes?

A Density Currents

B Sea Breezes

C Convection currents

D Specific Heat

1. Which is an SI metric unit of measurement that is used to record the heat transfer of a solution in a classroom investigation?

A Liter
B Newton
C Volt
D Degree Celsius

1. What phase has a definite volume, but not a definite shape

A Solid

B Liquid

C Gas

D Plasma

1. What is not a benefit of water having a high specific heat?

A It makes for a habitable marine environment

B It conducts electricity

C It regulates environmental temperature

D It helps regulate large area weather patterns

1. What is the only form of heat transfer that travels in a straight line, at the speed of light, and can travel in a vacuum?

A Radiation

B Convection

C Conduction

D Temperature

1. What type of chemical reaction is represented by this equation?

2Li(s) + 2H2O(l) →2LiOH(aq) + H2(g)

A Decomposition

B Double replacement

C Single replacement

D Synthesis

1. The ability to cause change and do work is known as

A Thermal heat

B Temperature

C Latent heat

D Energy

1. Which is not a property of matter

A All substances are moving, except solids
B All substances are made of particles too small to see

C Particles are always in motion, including solids

D Particles have space between them

1. True or False: Thermal energy measures all the kinentic and potential energy in a substance. It also includes temperature AND heat

A True

B False

1. The amount of thermal energy that warms or cools one gram of a substance by one degree Celsius is known as…

A Heat of Vaporization

B Specific Heat Capacity

C Heat of Fusion

D Melting Point

1. A substance that is made from two or more substances, that cannot be broken down easily, is known as a ...

A Element

B Mixture

C Compound

1. In sweet tea, water is the –

A Solution

B Solvent

C Solute

D Compound

1. What would you call a solution that is dissolved in water

A Mixture

B Solute

C Aqueous

D Compound

1. What type of reaction is the following: 2HCl(aq) + Zn(s) 🡪 H2(g) + ZnCl2(aq)

A Synthesis

B Decomposition

C Single Replacement

D Double Replacement

1. A substance that is poor at conducting thermal energy is known as a …

A Insulator

B Conductor

C Emitter

D Absorber

1. Which equation is the correctly balanced form of: Fe2O3 + CO 🡪 Fe + CO2

A Fe2O3 + 2CO 🡪 2Fe + 2CO2

B Fe2O3 + 3CO 🡪 3Fe + 2CO2

C Fe2O3 + 3CO 🡪 3Fe + 3CO2

D Fe2O3 + 3CO 🡪 2Fe + 2CO2

1. The black asphalt in the summer feels way hotter than light colored concrete because …

A It is a good conductor

B Darker colors emits more heat than the concrete

C Lighter colors absorb more heat than asphalt

D Lighter colors are poor conductors

1. True or False: Radiation requires particles to travel

A True

B False

1. Which of the following IS a diatomic element

A Al

B Cl

C Ne

D Fr

1. What number goes in the gap to balance this equation: CH4 + 2O2 🡪 CO2 + \_\_\_\_ H20

A 1

B 4

C 2
D 3

Match the skeleton equations in problems 32-36 to their correct reaction type (A-E)

1. AB + C 🡪 AC + B
2. A + B 🡪 AB
3. AB + CD 🡪 AC + BD
4. AB 🡪 A + B

A Synthesis

B Double Replacement

C Single Replacement

D Combustion

E Decomposition

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