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A showbie PRODUCT

Name _____
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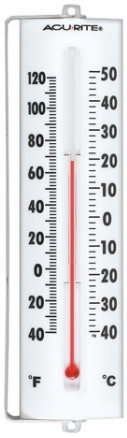
Heat & Temperature Quiz

Score _____

1. What uses expansion & contraction of ethyl alcohol with red colouring to measure temperature?

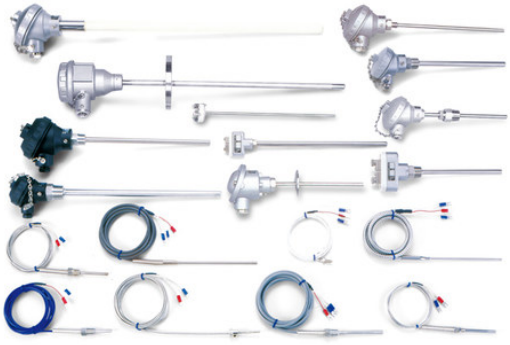


(A) Thermometer
(B) Thermostat
(C) Thermocouple
(D) Windsock

2. This thermometer must be sensitive to very small changes in temperature, within a few degrees of normal body temperature (37° C)?

(A) Outdoor Thermometer
(B) Thermocouple
(C) Thermostat
(D) Clinical Thermometer

3. This thermometer can be used to measure temperature in very hot appliances such as a furnace or an oven. It may be dangerous or difficult to measure.



(A) Thermostat
(B) Thermocouple
(C) Clinical Thermometer
(D) Outdoor Thermometer

4. Absolute Zero describes when there is absolutely no heat. Technically it's not possible. In the Kelvin scale this converts to what temperature?

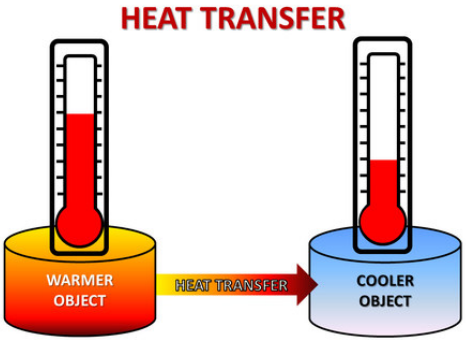
(A) Good Question!

(B) 1 K

(C) 0 K

(D) 373 K

5. What do scientists use to explain the concept of heat?



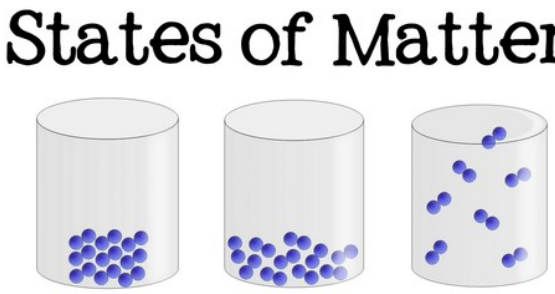
(A) The Big Bang theory

(B) The kinetic molecular theory & the particle theory

(C) Mr. Lavoisier's idea

(D) Superman's X-Ray Vision

6.



The three types of matter are?

(A) Gas, liquid, solid

(B) Temperature, heat, expansion

(C) Rainbows, puppy dogs & shiny objects

(D) Vaporization, condensation, solidification

7. Melting is...

(A) The change of state from a gas to a solid

(B) The change of state from a liquid to a solid

(C) The change of state from a solid to a liquid

(D) A scary thought for Frosty the Snowman

8. Vaporization...

(A) The change from a liquid to a gas

(B) Evaporation (slow vaporization)

(C) Boiling (fast vaporization)

(D) All of the above

9. Condensation is...

(A) The change of state from a solid to a liquid

(B) The change of state from a liquid to gas

(C) The change of state from a gas to a liquid

(D) The change of state from a liquid to a solid

10. Solidification is...

(A) The change of state from a liquid to a solid

(B) The change of state from a gas to a liquid

(C) The change of state from a solid to a liquid

(D) A tricky 12 letter word

11. Sublimation is...

(A) The change of state from a solid directly to a gas

(B) Slow evaporation

(C) Fast evaporation

(D) Freezing

12. This type of Thermal Energy source can be used to cook food, but they are hard to control, dangerous & messy.

(A) Open Fires

(B) Fireplaces

(C) Internal Combustion Engines

(D) Modern Gas Stove

13. Pressure affects the boiling point & freezing point of water. Extreme pressure under a glacier can cause the ice to melt at temperatures...

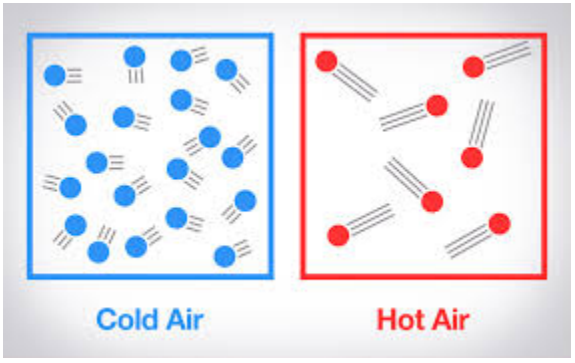
(A) Above 0° C

(B) Below 0° C

(C) Around 0° C

(D) The same as grandma's stove

14. Another important idea about temperature & the particle theory is that the motion of particles increases when temperature increases. Which statement below is also correct?



(A) As the motion of particles decreases the temperature remains the same

(B) As the temperature decreases the motion of the particles also increases

(C) As the motion of the particles decreases the temperature decreases

(D) As the temperature increases the motion of the particles decreases

15.

Energy is the measure of something's ability to do work. Which of the following has the most thermal energy?

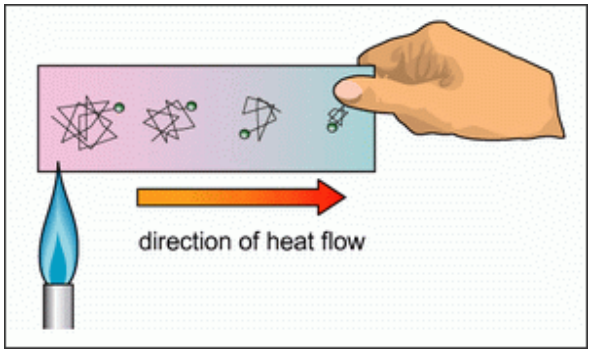
(A) A dead battery

(B) A melted root beer float

(C) A full swimming pool

(D) A cup of hot chocolate

16. Which of the following energy transfers would be correct?



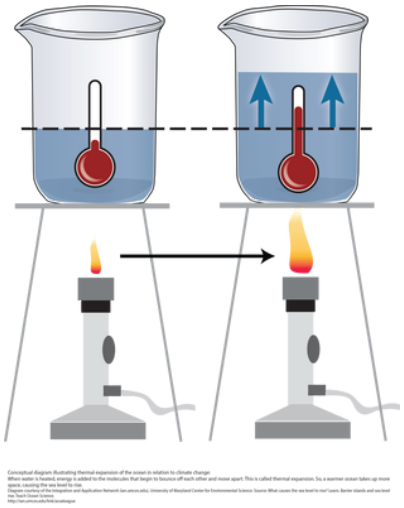
(A) Thermal energy in a hot drink is transferred to cold hands

(B) Thermal energy is transferred from a room to an electric heater, to be heated

(C) An ice cube loses thermal energy when it melts in hot lemonade

(D) Thermal energy is lost by a match when it is lit

17. When a substance is heated the particles gain energy & spread out, increasing volume (spaces between the particles). What about the mass of the substance? What happens to the mass of a substance when it is heated?



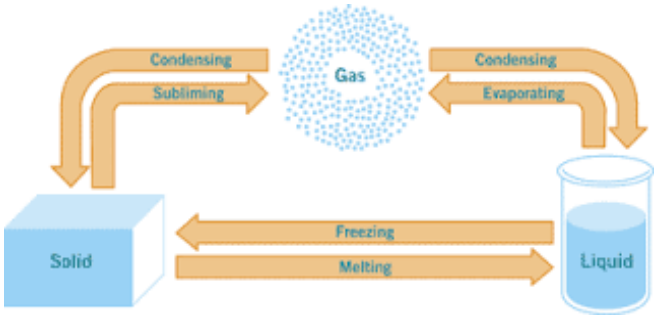
(A) Mass increases

(B) Mass decreases

(C) Mass remains the same

(D) Mass is lost

18.



When a substance undergoes a change of state, energy is involved. Which change of state involves a release of energy (heat removed)?

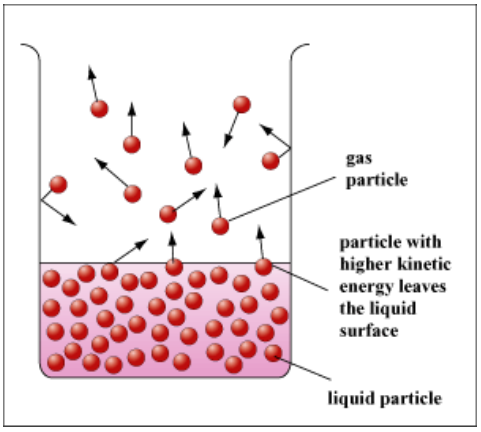
(A) Melting

(B) A microwave blowing up

(C) Sublimation

(D) Condensation

19. As high-energy particles escape from the surface of a liquid, by evaporation, the remaining liquid cools. This surface cooling phenomenon is described by scientists as...



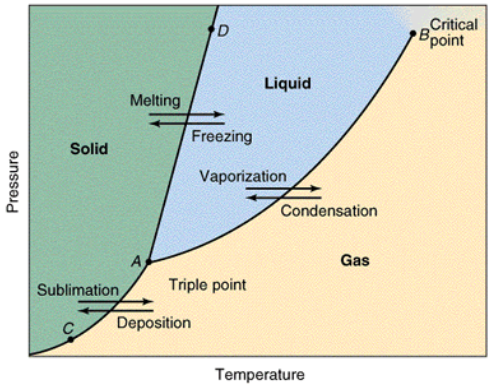
(A) Evaporative cooling

(B) Subliminal cooling

(C) Fusion

(D) Condensive evaporation

20. During a phase change, the temperature remains the same, so the particles have...



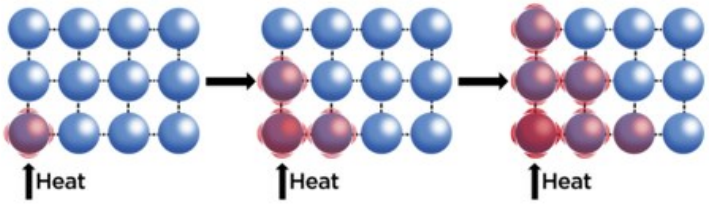
(A) Less average energy

(B) More average energy

(C) The same average energy

(D) A faster speed

21.



A certain type of thermal energy transfer moves the energy by direct collisions, particle-to-particle. This type of thermal energy transfer is called...

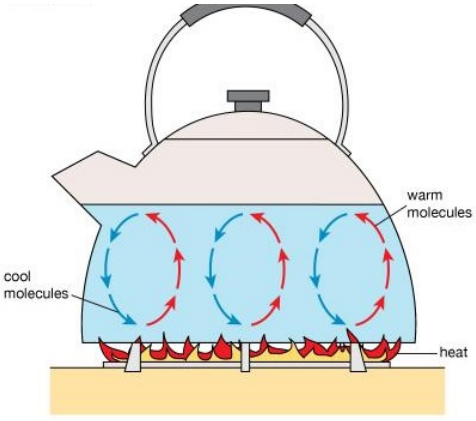
(A) Concurrent

(B) Conductive

(C) Conduit

(D) Convective

22. The transfer of energy in a fluid is very different. The heated particles become less dense and so they rise, with the colder denser particles rushing in to take their place. This type of thermal energy transfer creates a...



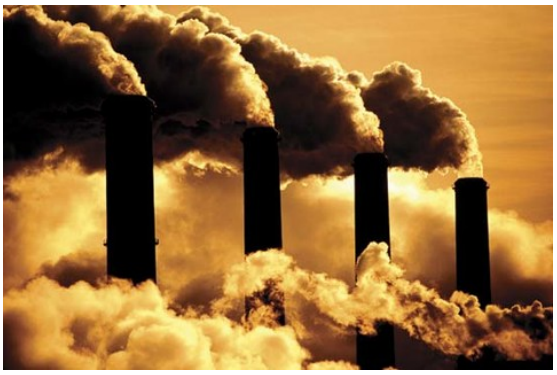
(A) Conduction current

(B) Concurrent current

(C) Radiative pathway

(D) Convection current

23. Much of the energy used in Alberta is found in the vast resources of fossil fuels. This type of energy source is useful and stored until we need it. Fossil fuels are considered to be sources of...



(A) Chemical energy

(B) Industrial energy

(C) Biological energy

(D) Geothermal energy

24. Electrical energy can be generated at a Hydro-Dam. It is also generated at thermo-electric generating stations which burn coal. A thermo-generating stations is used because...

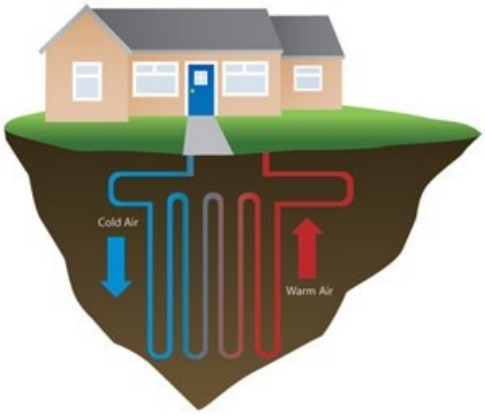
(A) Coal is relatively abundant (plentiful)

(B) It is cleaner and cheaper

(C) A large waterfall may not be available

(D) Heated water is more efficient

25. Thermal energy from inside the Earth's crust can be harnessed as a useful thermal energy source. Volcanoes, hot springs and geysers are example of this type of thermal energy source. This type of energy is...



(A) An environmental pollutant

(B) Only available during the daytime

(C) Called geothermal energy

(D) Used to generate fossil fuel resources

26. Programmable thermostats can be used while the occupant of the home is asleep or away. These devices...

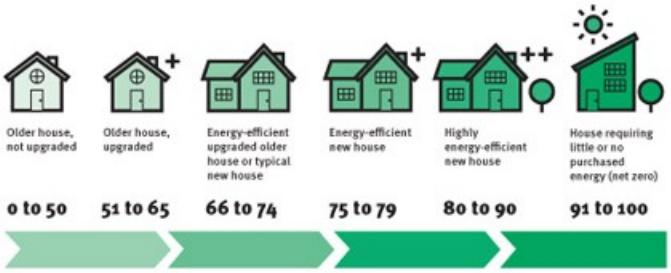
(A) Adjust the temperature

(B) Increase the temperature

(C) Decrease the temperature

(D) Reduce the humidity

27.



An ENER GUIDE label is found on most household electrical appliances & tells the consumer how much electricity is...

(A) Needed to run the appliance half the time

(B) Used running the appliance

(C) Wasted by the appliance

(D) Generated while running the appliance

28. Thermal energy has the power to hurt us & destroy our possessions. All of the following practices are dangerous & harmful EXCEPT...

(A) Land Reclamation programs

(B) Dumping of toxic chemicals

(C) Forest fires

(D) Volcanic eruptions

29. A dangerous by-product, from the use of fossil fuels enters the atmosphere when it is burned. This by-product causes irritations to the eyes, nose & throat and greatly affects asthma sufferers. It is...

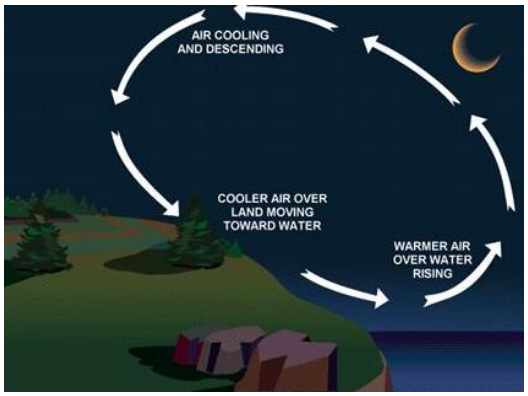
(A) Carbon dioxide

(B) Unobtainium

(C) Sulfur dioxide

(D) Sulfur monoxide

30. When warm air expands and rises, cooler air rushes in to take up the empty space. The warm air cools as it rises away from the heat source. An example of this is...



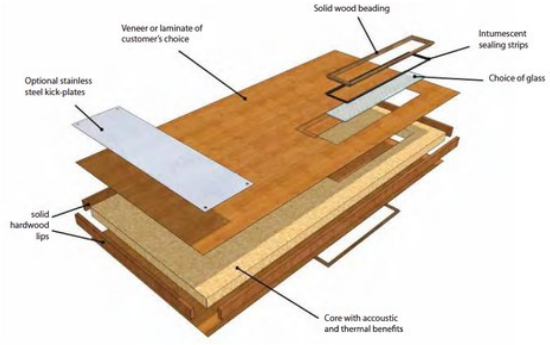
(A) An expansion joint on a bridge

(B) Farmer Brown's haircut

(C) A thermal, used by birds to soar

(D) The convection currents in the earth's inner core

31. The two outer metal sections of a door are usually separated by a layer of solid wood. This layer of wood is a poor conductor of thermal energy, so it prevents heat loss from the inside of the house. The layer of wood is called a...



(A) Heat Stopper

(B) Thermal break

(C) Mr. Fitch's sense of humour

(D) Vapour barrier

32. Liquids that evaporate easily at low temperatures are used in refrigerators. They are called...

(A) Vapour coolants

(B) Refrigerants

(C) Uber fridgey widgey good stuff

(D) Evaporative liquids

33. Which of the following explanations would account for the increase in temperature inside a beehive?

(A) It's a SECRET!

(B) Honey is a fuel that provides the heat source

(C) Honeycombs are able to generate heat

(D) The activity of the bees makes the hive warmer