

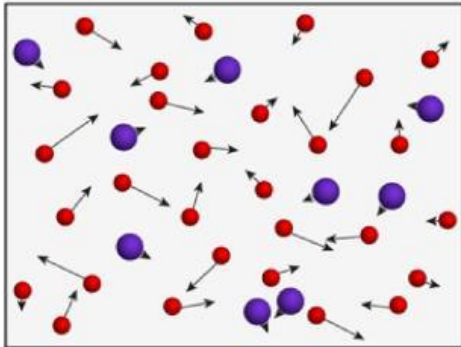
**Laws of Thermodynamics**

Total questions: 17

Worksheet time: 29mins

1. Temperature is a measure of the...

- a) total energy in a substance
- b) total kinetic energy in a substance
- c) average potential energy in a substance
- d) average kinetic energy of molecules in a substance



2.

A slower particle has a lower energy than an identical, faster particle.

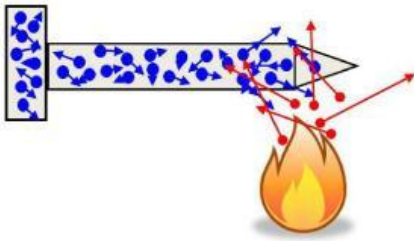
- a) True
- b) False

3. The transfer of thermal energy between objects of different temperatures is called...

- a) temperature
- b) heat
- c) internal energy
- d) none of these

4. It is possible to reach absolute zero

- a) true
- b) false



5.

When thermal energy is added to a substance, the substance's particles move:

- a) More rapidly at an increased distance from each other.
- b) More rapidly with less distance between each other.
- c) More slowly with a greater distance between each other.
- d) More slowly with a reduced distance between each other.

6. Heat travels from the sun to the earth by the process of...

- a) conduction
- b) convection
- c) radiation
- d) insulation



7.

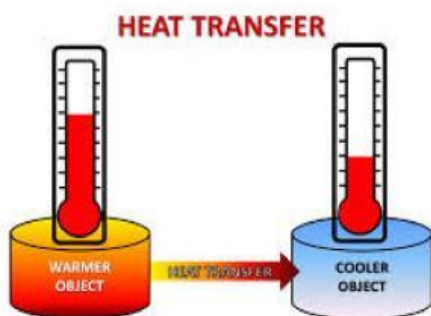
The temperature of a glass of cold water will eventually...

- a) Match the temperature of the surrounding environment.
- b) Always be colder than the surrounding environment.
- c) Become warmer than the surrounding environment.
- d) Never change temperature.

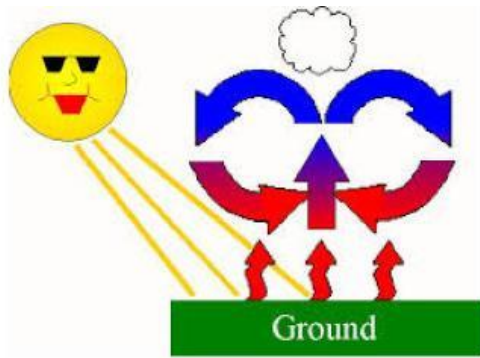
8. The first law of thermodynamics states that energy is

- a) created
- b) destroyed
- c) conserved
- d) created and destroyed

9. Which way does heat flow?
- a) hot to cold
  - b) cold to hot
  - c) it doesn't
10. Which of the following is an example of convection?
- a) A hair dryer is drying up your hair.
  - b) When the AC or heater changes the temperature.
  - c) When a car engine turns hot after being turned on.
  - d) When you are making soup and the water is rising and lowering.
11. What heat transfer happens when you burn your hand by touching a fire?
- a) Radiation
  - b) Conduction
  - c) Convection
  - d) Connection



12. Heat transfers from an area of \_\_\_\_ temperature to an area of \_\_\_\_ temperature.
- a) high to low
  - b) low to high
  - c) high to high
  - d) All
13. The first law of thermodynamics states that the change in the internal energy of a system is equal to the difference in energy transferred to or from the system as heat and
- a) mass
  - b) work done
  - c) force
  - d) pressure



14.

Warm air rises and the cool air sinks demonstrates this type of heat transfer.

- |               |               |
|---------------|---------------|
| a) conduction | b) convection |
| c) radiation  | d) Insolation |

15. Dragging an object across a rough surface makes it warm, or even hot. The temperature increase occurs because of

- |            |                       |
|------------|-----------------------|
| a) Work    | b) Heat               |
| c) Thermal | d) Both work and heat |

16. The total amount of energy in a system is ALWAYS \_\_\_\_\_.

- |               |               |
|---------------|---------------|
| a) increasing | b) decreasing |
| c) conserved  | d) changing   |

17. The energy stored in gasoline is

- |                       |                            |
|-----------------------|----------------------------|
| a) chemical energy.   | b) electromagnetic energy. |
| c) mechanical energy. | d) nuclear energy.         |