

Name: _____
Science 7

Date: 2/24/20
Thermal Energy and Heat

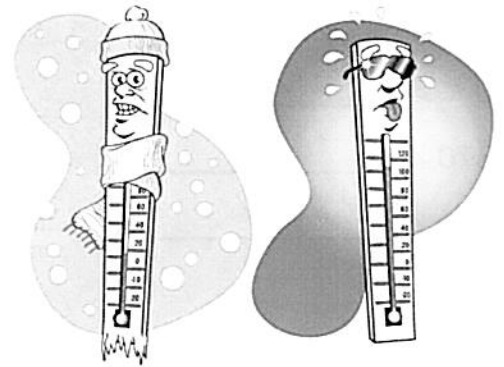
Aim: I can describe the motion of the particles in an object when the temperature is hot and cold.

Do Now:

Notes:

Temperature

- The measure of the average Kinetic energy of the particles in the sample of matter.
- Hot and cold.

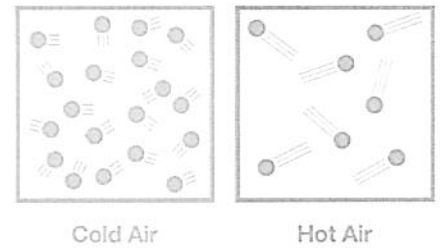


Thermal Energy

- The total particles energy of the _____ in a material (kinetic and potential).

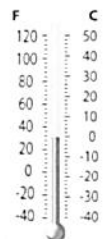
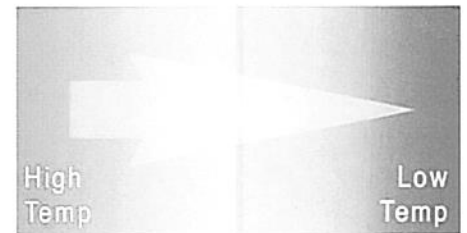
Factors that Effect Thermal Energy are:

- The temperature of the object.
 - Greater Temperature= Greater Thermal Energy
 - Lower Temperature= Lower Thermal Energy
- The number of particles in the object.



Heat

- The thermal energy that flows from something with a higher temperature to something with a lower temperature.



Thermometer

- Used for measuring temperature
- Tube filled with a fluid such as mercury or alcohol

Temperature Scales

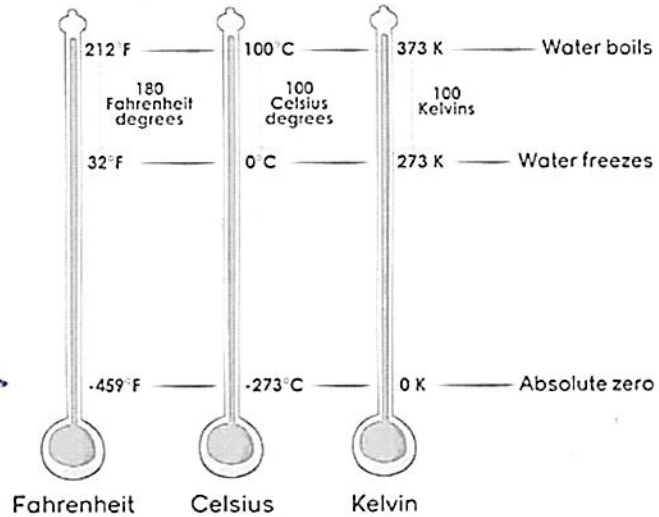
- Fahrenheit Scale: Used in the United States.
- Celcius Scale: Used in most other countries and scientists.
- Kelvin Scale: Used by scientists.

Converting from Celcius to Kelvin

$$K = ^\circ C + 273$$

$$^\circ C = K - 273$$

$$26^\circ C = \underline{299} \text{ K} \quad \begin{array}{r} 273 \\ + 26 \\ \hline \end{array}$$
$$0^\circ C = \underline{273} \text{ K} \quad \begin{array}{r} 273 \\ + 0 \\ \hline \end{array}$$
$$370 \text{ K} = \underline{97}^\circ C \quad \begin{array}{r} 370 \\ - 273 \\ \hline \end{array}$$
$$540 \text{ K} = \underline{267}^\circ C \quad \begin{array}{r} 540 \\ - 273 \\ \hline \end{array}$$



Absolute Zero

- Coldest possible temperature when all molecular motion stops.