

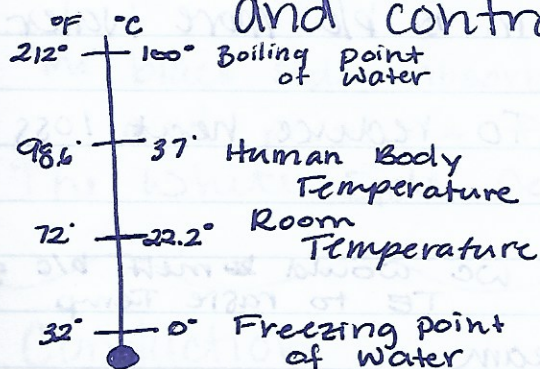
Save the Penguins

How can I use science and engineering to design, build, and test a device to control the flow of thermal energy?

Temperature - a measure of the average kinetic energy of the particles of a substance

degrees Celsius ($^{\circ}\text{C}$) - measure of temperature

Thermometer - a clear tube filled with a liquid that expands when heated and contracts when cooled.



Thermal Energy - the total amount of kinetic energy contained in all the particles of a substance

Heat - the transfer of thermal energy between substances that are at different temperatures

Kinetic Energy - the energy an object or substance has due to its motion.

Equalization of Temperature

- When 2 objects come in contact with each other, there is heat transfer

Heat Energy Transfer \rightarrow from hotter to cooler till each object has the same temperature.



heat energy goes from the water (hotter) to the ice (cooler)

#1 Hotter Water \rightarrow Colder Ice more Thermal Energy in B b/c more Water.

#2 Hotter Baby \rightarrow Colder Snow To reduce heat loss

#3 Hotter Coffee \rightarrow Colder Whipped Cream we would melt b/c gaining TE to raise Temp

#4 Hotter Soda \rightarrow Colder Ice Soda will lose energy temp \downarrow Ice will gain energy temp \uparrow

#5 Hotter room \rightarrow Colder Fridge to reduce heat transfer

#6 Hotter Hands \rightarrow Colder Ice hands lose Thermal Energy Temp \downarrow

Yes Average Temp \neq Total TE