

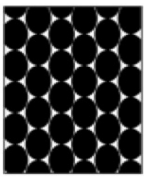
Chapter 16 Notes

Heat

Transfer of _____ from one object to another because of the difference in _____.

Heat energy is measure in _____

Review of Types of Matter



Substance A



Substance B



Substance C

Substance A: _____

Substance B: _____

Substance C: _____

Which substance will conduct heat the best?

Why?

Heat Conduction

What type solids conduct heat well? Circle one

Wood

Ice

Iron

Temperature

-Temperature = Average _____ of the particles

faster moving = _____

slower moving = _____

Thermal Contraction/Expansion

As molecules get hotter, they move faster and _____ (thermal expansion).

As molecules get colder, they move slower and _____ (thermal contraction).

Expect for when water goes from a liquid to solid

example:

Specific Heat

-Amount of heat needed to raise the temp. of one _____ of a material by one _____.

- Measured in _____

-Lower Specific Heats --> take _____ energy to heat up.

ex. _____

-Higher Specific Heats --> take _____ energy to heat up.

ex. _____

Heat Formula

Q =

Q = _____ (Joules)

m = _____ (grams)

c = _____ (J/g°C)

Δt = _____ (°C)

m =

c =

Δt =

Example 1:

How much heat does a 6 gram piece of aluminum lose if it goes from 16°C to -32°C?

The specific heat of aluminum is .89 4.18 J/g°C

Example 2:

What is the change in temperature that must have taken place if 10 grams of water lost

376.2 Joules? The specific heat of water is 4.18 J/g°C

Calorimeter

- Measures changes in _____

Heat lost by one thing = heat gained by another (_____)

Heat Transfer

_____ - heat transfer through direct contact (matter is needed to transfer the heat)

_____ - heat transfer through the movement of fluids (liquids or gasses)
(matter is need to transfer the heat)

_____ - heat transfer through electromagnetic waves of radiation
(matter is not needed for heat transfer in this case)