

1/11/04 – "Prentice Hall Physical Science," Dean Hurd, Myrna Silver, Angela Bornn Bacher, Charles William McLaughlin, New Jersey, 1998

Conduction: heat is transferred through a substance by direct contact of molecules, all molecules are in motion, more energy with the warmer molecules and are moving faster

Convection: Heat transfer involves the motion of molecules in currents in liquids and gases. Heated portion of a liquid or gas speed up and become less dense causing it to rise, while the cooler air is denser and tends to sink – Earth's atmosphere

Radiation: Heat is transferred through space – infrared rays – sun, fire, hot stove, electric heater

Insulation:

Once heat is brought into a room or building it will quickly begin to escape if the area lacks proper insulation – **Insulation material reduce heat transfer because they are poor conductors (silver copper) of heat (glass, wood, plastic, and rubber – wood and plastic handles). Insulation prevents heat loss by reducing the transfer of heat that occurs by conduction and convection.**

Common insulating material is fiberglass – long thin strands of glass packed together. In between the strands are air spaces. Glass is a poor conductor of heat and the air is trapped between the fibers.

Weather Stripping – insulation between doors and windows, beneath roof and outside walls of buildings – prevents heat loss by closing up spaces through which heat is transferred by convection. Ex – double-pane window glass air is trapped between the panes of the glass which do not conduct heat well and the air space is so small that convection cannot take place either.

Hot weather – insulation keeps heat out.

1) Pizza box is dyed white.