

## Movement of Heat

### Vocabulary:

**conductor**: any material through which heat passes easily

**conduction**: movement of energy from one source to another object by direct contact between them.

**insulator**: something that prevents the movement of heat

**convection**: the transfer of heat energy in liquid and gas from place to place

**convection current**: the movement of matter in the atmosphere due to the transfer of heat energy transferred in liquid or gas as it moves from one place to another.

**radiation**: the transfer of energy through space by waves that stream out from a source in all direction.

### Background:

There are three different ways in which heat travels from warmer to cooler areas. Conduction is the movement of heat by direct molecular contact. Because the molecules in solids are close together metals are good conductors of heat. Because air molecules are far apart, air is not a good conductor of heat. Insulation in our homes is made of fluffy substances that have air pockets. Insulation prevents heat from escaping from homes in the winter. Convection is the transfer of heat by the movement of gases and liquids. Some home furnaces transfer heat this way. Most furnaces have power to transfer the heat produced. Radiation is the transfer of heat in waves through space. The earth receives heat from the sun through radiation. Some homes are heated by radiation. Hot steam or water is pumped through pipes. The warm pipes radiate heat into the rooms. Our homes can be heated by the radiation from the sun. Radiant heat can go through the windows and be absorbed by the surfaces inside the home. As the surfaces warm, they begin to radiate heat that does not go through the glass but is trapped inside.

