

# Energy from the Sun

- The Sun's energy gives us heat through conduction, convection, radiation
- The Sun's energy also gives us light through electromagnetic radiation



# Heat

- Thermal energy is created by the movement of atoms or molecules
- What is heat? Heat is the result of thermal energy being transferred between atoms or molecules
- Where does heat come from? Heat is generated because of differences in the energy of atoms or molecules
- The faster these particles move, the more heat is generated

# Heat=Energy Transfer

- Heat is created when energy is transferred.
- There are 3 methods of energy transfer:
  - 1. Conduction-** energy is transferred when molecules from one object **collide** with molecules of another object
  - 2. Convection-** energy is transferred by **circulation** with in fluids and air
  - 3. Radiation-** energy is transferred by **waves** of electromagnetic energy
    - Unlike conduction, waves of radiation can travel through space
    - Heat travels from high energy to low energy

# Radiant Energy= Radiation

- All objects, regardless of temperature, emit radiant energy
- If an object is hot, it will emit more total energy than a colder object
- Hotter objects produce short wavelengths 
- Colder objects produce long wavelengths 

# Temperature

- Temperature is a measurement of energy

# What happens after radiation is emitted from an object?

- An object will:
  1. Absorb radiation
  2. Transmit radiation
  3. Scatter radiation
  4. Reflect radiation

If an object is good at absorbing radiation, it is also good at emitting radiation