

Convection = heat transfer through a fluid (liquid or gas).

Radiation = heat transfer through space by waves.

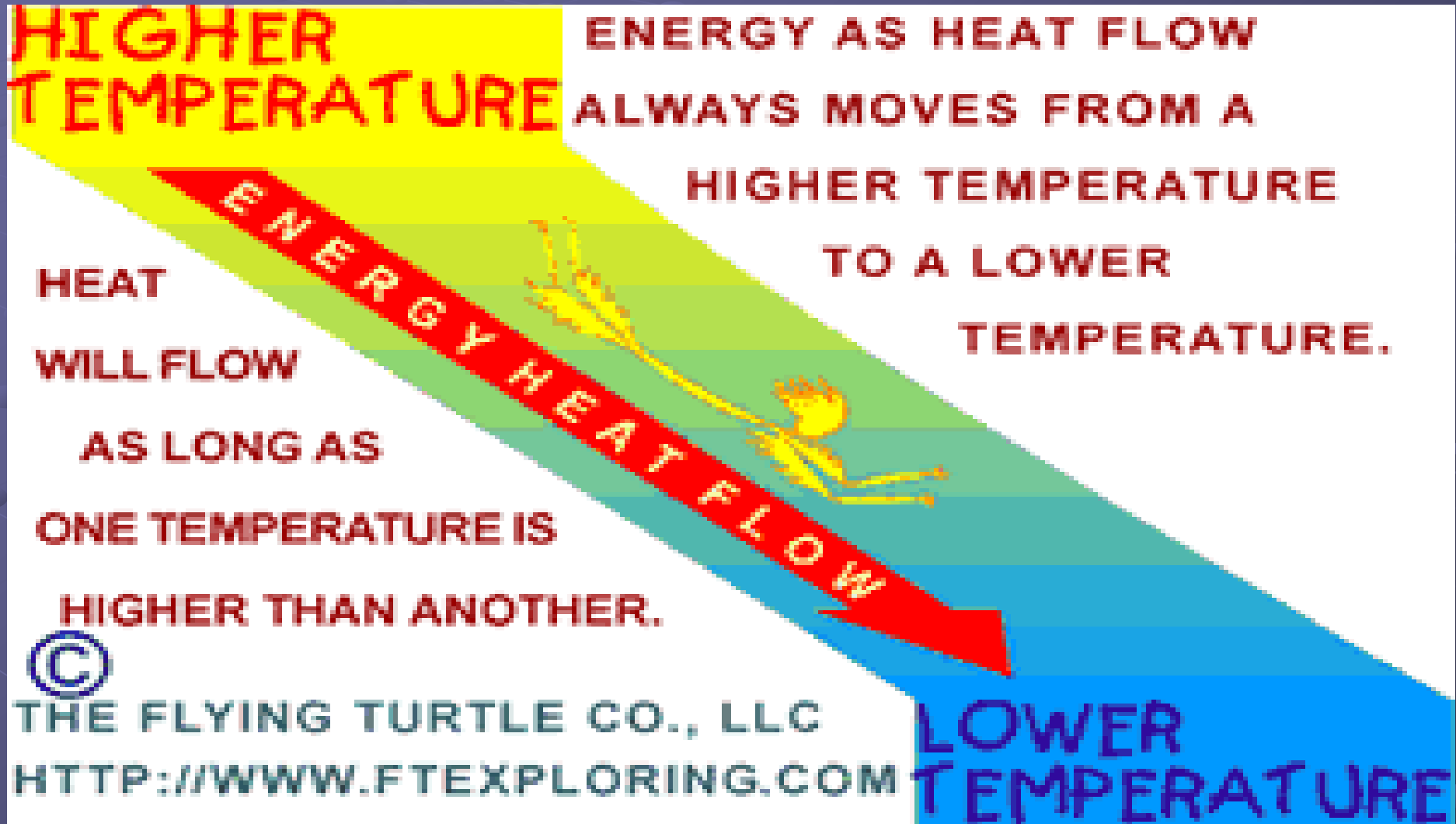
Conduction = heat transfer from one substance to another by  
contact.

Conductor = material that transfers heat or electricity easily.

# Heat Transfer



# Systems (heat, pressure, etc) ALWAYS move from Higher to Lower



# ● Types of Energy Transfer

1) Convection

2) Radiation

3) Conduction

● Convection - transfer of heat by circulation of a fluid (liquid or gas)

■ Example:

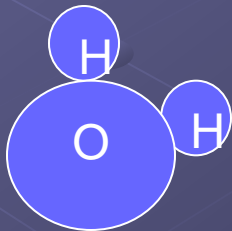
● Convection ovens circulate heated air with a fan. Thin layer of air insulating the food is blown off so food cooks faster. 30% faster with 20% lower temp.

● Radiation - emitting energy from one source, transmitting through medium (or space), and absorbed by another body

■ Examples:

- visible light
- radio waves
- Microwaves

Microwave ovens use electromagnetic radiation (waves) to excite & spin the water molecules throughout the food, heating it everywhere.



# ● Conduction - transfer of energy through contact

- Most metals are excellent conductors of heat and electricity.

Example: Pots & pans cook by conduction. The stove heats the metal pot; the pot heats the food touching the sides & bottom of the pot.