

Where does the energy go?

- Not all surfaces absorb the sun's energy equally.
- The **color** and **material** of the surface will determine how much of the energy is absorbed and how much is reflected.

How does heat move?

- **HEAT** is the transfer of **thermal energy** from a hotter object to a cooler one.
- Thermal energy is moving from the **air**, which is warmer, to the **snowman**, which is cooler.

How does heat move?

- Heat can be transferred in three ways: **radiation, conduction, and convection.**

RADIATION

- Radiation is the **direct transfer** of energy by electromagnetic waves.
- Radiation does not need any **material** to travel through!
- Energy from the **sun** gets to us through radiation.

CONDUCTION

- Conduction is the direct transfer of heat from one material to another that is **touching** it.
- When a **faster-moving** molecule bumps into a **slower-moving** molecule, the slower one speeds up.
- Conduction works best in **solids**.

Metal is a good conductor - the heat moves to the girl's hand.

Wood is not a good conductor.

CONVECTION

- Convection is the transfer of heat by the **movement** of particles in a **fluid** (liquid or gas).
- As fluids heat up or cool down, their **density** changes. Lower-density materials will **rise** above higher-density materials.

HEAT TRANSFER

Radiation, Conduction, or Convection?

- You feel the warmth of the sun's rays on your face outside. **RADIATION**
- You notice your macaroni moving up and down in the boiling water. **CONVECTION**
- At the beach, you step on the hot sand and it burns your feet. **CONDUCTION**