

Name: _____

Date: _____

Energy Transfer

Thermal energy - The sum of kinetic and potential energy of the particles that make up a material

- Thermal energy causes a phase change.
- Thermal energy describes the energy of the particles that make up a solid, liquid, or gas.

Thermal Energy - Kinetic

- Every solid, liquid, gas contains trillions of tiny particles that are in motion
- Because these particles are in motion they all have kinetic energy.
- The faster the particles move, the more kinetic energy they have.

- Solids - particles vibrate in place
- Liquids - particles move a little more freely
- Gases - particles move most freely and quickly

Thermal Energy - Potential

- Particles that make up solids, liquids, and gases also have potential energy which is the distance between particles.
- The greater the distance between particles the greater the potential energy of the particles.
 - o Solids - Particles are held close together by attractive forces
 - o Liquids - Particles are slightly farther apart
 - o Gases - Particles are much more spread out than in those in a solid

Heat - The movement of thermal energy from a warmer object to a cooler object Why do your hands get warm when you hold a cup of coffee? The thermal energy from the warm cup is moving to and heating up your cool hands.