

Unit 2

NAME

Class Work

10/10/13

2.6 Heat and Temperature

SPARK - Answers to 2.5 HW from Textbook!
Check your answers to last night's homework
assignment to review for your quiz after the
fire drill!

Agenda:

SPARK

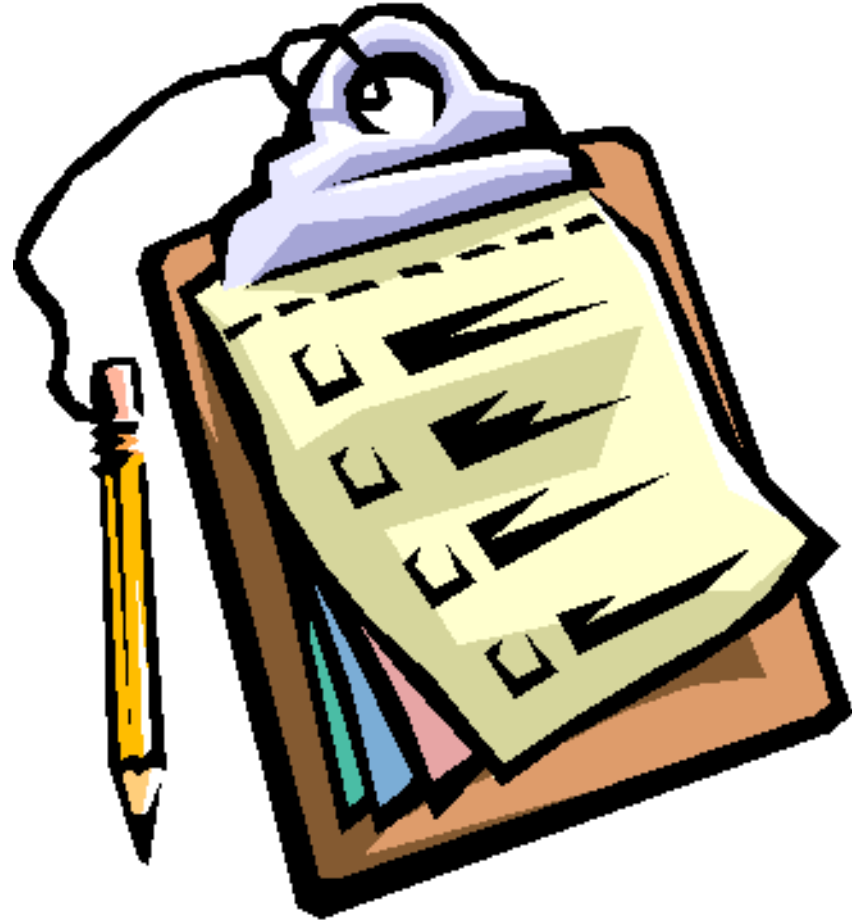
Quiz

Objective

Heat and Temperature

Activity

Homework



Unit 2 Quiz 1

Objective

SWBAT explain the relationship between temperature and heat and describe the direction of heat transfer.

Energy

Energy comes in many forms

- moving an object – mechanical energy
- forming a new compound – chemical energy
- generating light – electrical energy
- heat – thermal energy



Energy

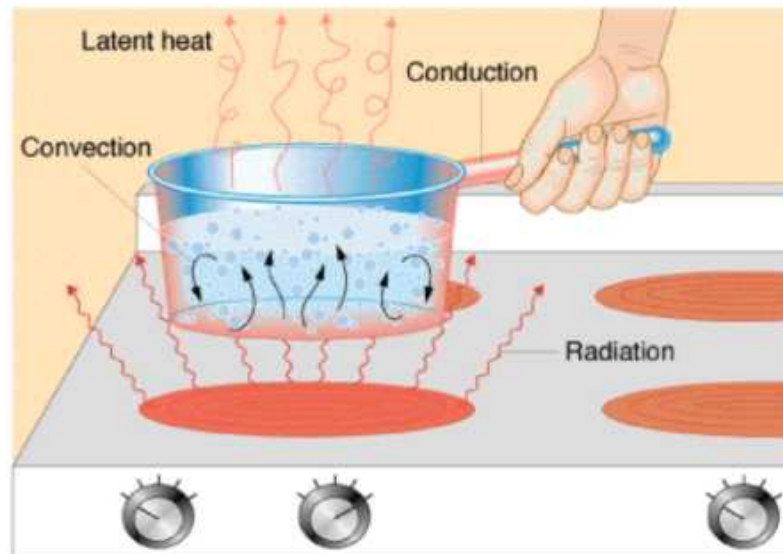
The Joule (J) is the SI unit for energy.

There are **two types** of energy:

- 1. Kinetic energy:** the energy of motion
- 2. Potential energy:** the energy of potential

Heat

Heat is the transfer of energy (represented by “ q ”) between two objects at different temperatures.



Temperature

Temperature is the average kinetic energy of the particles in an object

- Objects at a higher temperature have more kinetic energy and particles move faster
- Object at a lower temperature have less kinetic energy and particles move slower.

Temperature

- 0 degrees Kelvin is defined as the temperature at which the average kinetic energy is ZERO

This is the idea of freezing people

Heat vs. Temperature

An Exploration!!

Rules!

1. 1 post-it equals 1 Joule.
2. Each student represents a particle.
3. You may only pass a post-it to another student with less post-its than you.
4. Some of you will start with TEN post-its.
5. Others will start with ONE post-it.

Heat vs. Temperature

Debrief

Answer these questions with your group:

1. What did you notice about the number of post its or kinetic energy that students had at the beginning versus after 3 minutes?
2. How does this relate to a hot cup of coffee that you leave out for a while?
3. Why did we have the rule that you can only pass a post-it to someone with less post-its than you? How does this represent the direction of heat transfer?

Application

STOP AND JOT (alone)

- How does this relate to placing an ice cube in cold water?

KEY IDEA

Heat always moves from a higher temperature to a lower temperature.

HOMEWORK

2.6 HW sheet