

Name _____ Date _____ Period _____

**Introduction to Thermochemistry
and Specific Heat**

Warm Up:

1. What does the prefix "thermo-" refer to? List some words that have this prefix?
2. Which warms up faster on a hot summer day, a sandbox or a pool?
3. Name 2 units for measuring energy.
4. What is kinetic energy?
5. Name 2 units for measuring temperature.

Thermochemistry

What is thermochemistry?

Tomorrow you will build a calorimeter from an aluminum can, a wooden stick, and masking tape.
What is a calorimeter used for?

Differentiate between heat and temperature.

What is the conversion factor between Joules (J) and calories (cal)?

Example: Convert 85 calories into joules.

Specific Heat

What is specific heat?

What is the specific heat of H_2O ?

Write the equation for measuring specific heat:

Which has a higher specific heat value, sand or water? Use your answer to explain why a sandbox is hotter than a swimming pool on a hot summer day.

Calculations:

Example:

An 85 g piece of copper is heated from $30^\circ C$ to $45^\circ C$. During this process, it absorbs 523 J of energy as heat. What is the specific heat of copper?

Q =

c =

m =

ΔT =

Independent Practice:

A 35 g sample of H_2O at $10^\circ C$ absorbs 420 J of energy. What will be the final temperature of the water?

Q =

c =

m =

ΔT =