

Name: _____

Date: _____

Thermal Energy

Calculating The Thermal Energy

1. A block of aluminum weighing 140 g is cooled from 98.4°C to 62.2°C with the release of 1080 joules of heat. From this data, calculate the specific heat of aluminum.

2. What is the specific heat of a substance that absorbs 2500 joules of heat when a sample of 1200 g of the substance increases in temperature from 10.0°C to 70.0°C?

3. How many grams of water would require 2250 joules of heat to raise its temperature from 34.0°C to 100.0°C?

4. Granite has a specific heat of 800 J/g °C. What mass of granite is needed to store 150,200 J of heat if the temperature of the granite is to be increased by 15.5°C?

5. A cube of gold weighing 192.4g is heated from 30.0°C to some higher temperature, with the absorption of 226 joules of heat. The specific heat of gold is 0.030 J/g