

EXAMPLES

$$Q = mc\Delta T$$

1. A beaker with a 10.0g sample of water is heated from 13°C to 88°C. The specific heat of water is 4.18 J/g·°C. How much heat is required to heat the water?

*Temp is ↑, so Q is + (Endothermic)

2. A 25.0g sample of mercury is heated from 25°C to 155°C and absorbs 455 J of heat in the process. Calculate the specific heat capacity of mercury.

* Remember Q over the other 2!

$$c = \frac{Q}{m\Delta T}$$

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3. What amount of heat is required to lower the temperature of a 3.00g sample of gold from 200°C to 25°C? The specific heat of gold is 0.129 J/g·°C.

*Temp is ↓, so Q is - (Exothermic)