

Specific heat worksheet. **You must show set-up and include units for full credit!**

1. What is the formula for specific heat?
2. How many Joules of heat are required to raise the temperature of 550 g of water from 12.0 °C to 18.0 °C? (the specific heat of water is 4.18 J/g x °C)
3. How much heat is lost when a 640 g piece of copper cools from 375 °C, to 26 °C?
(The specific heat of copper is 0.38 J/g x °C)
4. The specific heat of iron is 0.45 J/g x °C. How much heat is transferred when a 24.7 g piece of iron is cooled from 880 °C to 550 °C?
5. How many grams of water would require 2.20×10^2 J of heat to raise its temperature from 34.0 °C to 100.0 °C? (Remember the specific heat of water is 4.18 J/g x °C)
6. How many grams of copper are present if a piece of copper absorbs 1000J of heat while its temperature raises from 20 °C to 50 °C. The specific heat of copper is 0.38 J/g x °C.
7. 8750 J of heat is applied to a piece of aluminum, causing a the temp to increase from 25 to 80 °C increase in its temperature. The specific heat of aluminum is 0.9025 J/g x °C. What is the mass of the aluminum?

8. Find the mass of a sample of water if its temperature dropped from 50 to 24.8 °C when it lost 870 J of heat. Specific heat of water is 4.18 J/g x °C.

9. Determine the specific heat of a certain metal if a 450 gram sample of it loses 500 Joules of heat as its temperature drops by 97 °C.

10. 4786 Joules of heat are transferred to a 89.0 gram sample of an unknown material, with an initial temperature of 23.0 °C. What is the specific heat of the material if the final temperature is 89.5 °C?