

## HEAT AND TEMPERATURE ACTIVITIES

1. How many joules of heat are required to raise the temperature of 550 g of water from 12.0 °C to 18.0 °C?
2. How much heat is lost when a 64 g piece of copper cools from 375 °C, to 26 °C? (The specific heat of copper is 384 J/kg °C). Place your answer in kJ.
3. The specific heat of iron is 450 J/kg °C. How much heat is transferred when a 4.7 kg piece of iron is cooled from 180 °C to 13 °C?
4. 8750 J of heat are applied to a piece of aluminum, causing a 56.0 °C increase in its temperature. The specific heat of aluminum is 902 J/kg °C. What is the mass of the aluminum?
5. Find the mass of a sample of water if its temperature dropped 24.8 °C when it lost 870 J of heat.
6. How many grams of water would require 92.048 kJ of heat to raise its temperature from 34.0 °C to 100.0 °C? (Remember to change units)
7. How many degrees would the temperature of a 450 g piece of iron increase if 7600 J of energy are applied to it? (The specific heat of iron is 450 J/kg °C)
8. A 250 g sample of water with an initial temperature of 98.8 °C loses 7500 joules of heat. What is the final temperature of the water?
9. How much change in temperature would the addition of 35 000 Joules of heat have on a 500 gram sample of copper? (Look up specific heat of copper)
10. Determine the specific heat of a certain metal if a 750 gram sample of it loses 34 500 Joules of heat as its temperature drops by 97 °C.