

Specific Heat Practice Problems

1. A 15.75-g piece of iron absorbs 1086.75 joules of heat energy, and its temperature changes from 25°C to 175°C. Calculate the specific heat capacity of iron.
2. A 30.0 g block of lead at 90.0deg C is dropped into 21.2g water at 20.0deg C in an insulated calorimeter. The final temperature of the system is 22.0deg C. What is the specific heat of the lead?
3. To what temperature will a 50.0 g piece of glass raise if it absorbs 5275 joules of heat and its specific heat capacity is 0.50 J/g°C? The initial temperature of the glass is 20.0°C.
4. A piece of unknown metal with a mass of 43.5 g is heated to 102.4deg C and dropped into 75mL of water at 23.4deg C. What is the specific heat of the metal if the final temperature of the system is 29.9deg C?