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Specific Heat Quiz

1. Determine the amount of energy required for a 5 pound iron skillet to increase 75 °C.
2. An unknown metal having a mass of 13 g increases 25 °C when 292 J of energy is added. Identify the metal.
3. Gold, silver and iron samples, each with a mass of 50 g, have an initial temperature of 20 °C. Determine the temperature of each metal when 1.2 kJ of energy is applied to each sample.
4. A 42.1 g sample of silver has a final temperature of 83.9 °C when 300 J of energy is applied. Determine the initial temperature of the silver.
5. A metal sample requires 5 kJ of energy for a temperature increase of 10 °C. Determine the amount of energy required to raise the metal sample 30 °C.
6. Determine the energy required to raise the temperature of 800 mL of water from 24.2 °C to 28.1 °C. The density of water over this temperature range is approximately 0.997 g/mL.
7. Determine the mass of zinc at 293 K that requires 5.2×10^3 J of energy to raise the temperature to 312 K.