

CHE 101 - Homework - Ch 4b - Extra Practice 1
Heat and Specific Heat

5. The initial temperature of a 25.0 gram block of lead is 25. °C. A Bunsen burner supplies 230 J of energy to the block. What is the final temperature of the block?

5. _____

6. You are cooking dinner for a friend and want to know how long before they arrive you should start boiling water. You fill a cast iron pot (sp. ht = 0.473 J/g·°C) weighing 500.0 grams with 2.0 L of water at 24°C. How long will it take to boil (in minutes) if your stove provides 1250 J/s of heat?

6. _____

7. The specific heat of brass is 0.300 J/g·°C. Would a brass pot or a cast iron pot heat up the water in the preceding problem faster.

7. _____

8. 250.0 grams of an unknown metal was heated to 200.0 °C and placed in a Styrofoam calorimeter containing 100.0 grams of water. The initial temperature of the water was 20.0 °C, and the final temperature was 75.0 °C.
What is the specific heat of the metal?

8. _____