

Physics 251 HW 4

You have 500 ml of water at 95 °C. A 894 g piece of very hot copper (at a temperature of 240°C) is dropped into the water. Using a simple model, predict the water level when the copper and water come to equilibrium. What is the temperature of the copper and water in equilibrium?

A) Using specific heats, masses and temperature change, set up the heat transfer equations and calculate a final temperature. Is this a reasonable answer?

B) What did you leave out of your calculation in A that should have been included?

C) What is the final temperature of the water and copper mix?

D) What happened to the remaining ~37kJ?