PHYCICS

SPECIFIC HEAT

1. How much heat is given out when 85g of lead cools from 200°C to 10°C?

If 10.0g of water at 0.0°C is mixed with 20.0g of water at 30.0°C. what is the final temperature of the mixture?

3. What is the final temperature of a mixture of 135g of water at 21.0°C in a 45.0g brass calorimeter and 200g of silver at 100.0°C?

4. A piece of tin weighting 225g and having a temperature of 100.0°C is dropped into 100g of water at a temperature of 10.0°C. If the final temperature of the mixture is 20.0°C, what is the specific heat of the sample of tin?

5. A block of metal has a mass of 1000g. It is heated to 300.0°C and then put in 100.0g of water at 0.0°C in a calorimeter. The calorimeter's mass is 50.0g and its specific heat is 0.200cal/g°C. If the final temperature is 70.0°C, calculate the specific heat of the metal.

6. A block of brass, mass 500.0g, temperature 100.0°C, is put in 300.0g of water, temperature 20.0°C, in an aluminum calorimeter, mass 75.0g. If the final temperature is 30.0°C, what is the specific heat of the brass?

7. A cylinder of copper has a mass of 95.3g and a specific heat of 0.092cal/g°C. It is heated to 90.5°C and then put in 75.2g of turpentine, temperature 20.5°C. The temperature of the mixture after stirring is 35.5°C. State the specific heat of turpentine.

8. A glass beaker with a mass of 350g contains 500g of water. The beaker and the water are at a temperature of 20.0°C. If 400g of ethyl alcohol at a temperature of 50.0°C is poured into the beaker and thoroughly mixed with the water, what is the final temperature of the beaker and mixture? (The specific heats for glass and alcohol are given on the hand out table)