Exp. Number	Experiment Title/ Subject	04
	Specific Heat	

Name	Lab Partner	Course	Section
Kevin Zhang	Jonah	1215	

Weight of copper: 25.606 g
water in coffee cup: 49.7 mL temperature of water (boiling): 99.4°C
temperature of water in coffee cup (before): 19.0°C
temperature of water in coffe cup (after): 22.1°C

$q = mc\Delta T \rightarrow q_{water} = (49.7\,g)\left(4.184\ \frac{kJ}{kg\cdot °C}\right)(22.1°C - 19.0°C)$

$q_{water} = 0.644\ kJ$

$q_{copper} = (25.606\,g)(c)(99.4°C - 22.1°C) = 0.644\ kJ$

$c_{copper} = \frac{(0.644\ kJ)}{(25.606\,g)(99.4°C - 22.1°C)} \cdot \frac{1000\,g}{kg} = 0.325\ \frac{kJ}{kg\cdot °C}$

$= 0.325\ J/g°C$

Weight of glass beads: 25.592 g
water in coffee cup: 49.7 mL
temperature of cup (before): 19.6°C
temperature of cup (after): 25.8°C
temperature of water (boiling): 101.3°C

$q_{water} = (49.7\,g)\left(4.184\ \frac{kJ}{kg\cdot °C}\right)\cdot\left(\frac{1\,kg}{1000\,g}\right)\cdot(25.8°C - 19.6°C)$

$= 1.289\ kJ$

$q_{glass} = m_{glass}\cdot c_{glass}\cdot\Delta T \rightarrow c_{glass} = \frac{q_{glass}}{m_{glass}\cdot\Delta T} = \frac{(1.289\ kJ)}{(25.592\,g)(101.3° - 25.8°)}$

$c_{glass} = \frac{(1.289\ kJ)}{(25.592\,g)(101.3°C - 25.8°C)}\cdot\frac{(1000\,g)}{(1\,kg)} = 0.667\ \frac{kJ}{kg\cdot °C}$

$= 0.667\ J/g°C$

Student's Signature	Date	Instructor/TA Signature	Date

Note: Insert Foldover Back flap under each copy set before writing

Exp. Number	Experiment Title/ Subject	05
	Specific Heat (cont)	

Name	Lab Partner	Course	Section
Kevin Zhang	Johan	1215	

Copied Data from Neighbors (Copper):

weight of copper:	25.488 g	25.047 g
weight of water	50.0 g	50.0 g
heated copper temp	105°C	102.8°C
cool water temp	22.5°C	14.1°C
final temp reached	28°C	17.8°C
heat gained by water	1150.6 J	773.3 J
heat lost by copper	*1150.6 J	773.3 J
copper specific heat	0.585 J/g°C	0.363 J/g°C

Copied Data from Neighbors (Glass):

weight of glass	25.206 g	25.109 g
weight of water	50.0 g	50.0 g
temp of heated glass	101.9°C	104.2°C
cool water temp	14.3°C	22.2°C
final temp reached	21.1°C	28.2°C
heat gained by water	1421.2 J	1254.0 J
heat lost by glass	1421.2 J	1254.0 J
specific heat of glass	0.698 J/g°C	0.658 J/g°C

Average specific heats.

$$\text{Copper} = \frac{(0.325) + (0.585) + (0.363)}{3} = 0.424 \text{ J/g°C}$$

$$\text{glass} = \frac{(0.667) + (0.698) + (0.658)}{3} = 0.674 \text{ J/g°C}$$

Student's Signature	Date	Instructor/TA Signature	Date

Note: Insert Foldover Back flap under each copy set before writing