Heat Values for Several Compounds							
Substance	**Specific Heat (s)**	**Melting Point**	**H_{Fus} (J/g)**	**Specific Heat (l)**	**Boiling Point**	**H_{Vap} (J/g)**	**Specific Heat (g)**
Water	2.030 J/g °C	0.0 °C	334	4.184 J/g °C	100.0 °C	2260	2.008 J/g °C
Benzene	0.432 J/g °C	5.50 °C	127.4	1.67 J/g °C	80.1 °C	543.9	0.692 J/g °C
Ethanol	1.63 J/g °C	-117.3 °C	109.0	2.46 J/g °C	78.5 °C	878.6	1.70 J/g °C
Acetic Acid	1.03 J/g °C	16.6 °C	192.1	2.05 J/g °C	117.9 °C	2504	1.01 J/g °C

1. Calculate the amount of heat released when 75.5 g of steam at 100.0°C cools to 36.8°C.

2. Calculate the amount of heat absorbed when 20.6 g of ice at -20.1°C is heated to 85.1°C.

3. Calculate the amount of heat released when 15.4 g of water at 20.1°C cools to -33.2°C.

4. Calculate the amount of heat absorbed when 20.6 g of ethanol at 20.1°C is heated to 94.5°C.

5. Calculate the amount of heat released when 22.3 g of benzene at 92.4°C cools to 18.4°C.

6. Calculate the amount of heat absorbed when 13.4g of solid acetic acid at 16.6°C is heated to 94.5°C.