Heat Problems I

Standards:

- 3.1.10 B Describe the concepts of models as a way to predict and understand science and technology.
- 3.4.10 B Analyze energy sources and transfers of heat.

Specific Heat Capacities of some Common Substances

Substance	Cp (J/g°C)		Substance	Cp (J/g°C)
Water (l)	4.184		**Iron (s)**	0.45
Water (s)	2.03		**Mercury (l)**	0.14
Water (g)	2.0		**Carbon (s)**	0.71
Aluminum (s)	0.89		**Silver (s)**	0.24
			Gold (s)	0.13

1Cal = 4.184Joules 1kJ = 1000J

Problems:

1. Convert the following number of calories into joules. (Use D.A. and sig figs.)
   a. 100.0 cal = _____ J

   b. 1.00×10^3 cal = _____J

2. Convert the following numbers of joules (J) into kilojoules (kJ). (Use D.A. and sig figs.)
   a. 243,000 J = _____ kJ

   b. 0.251 J = _____ kJ