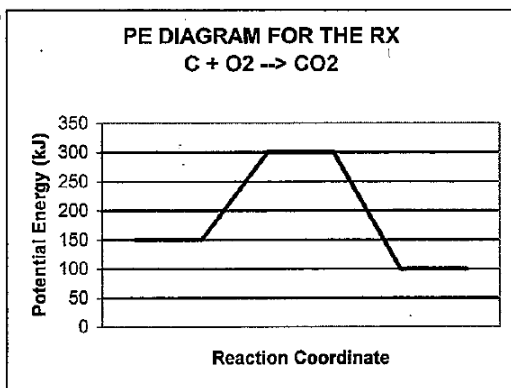


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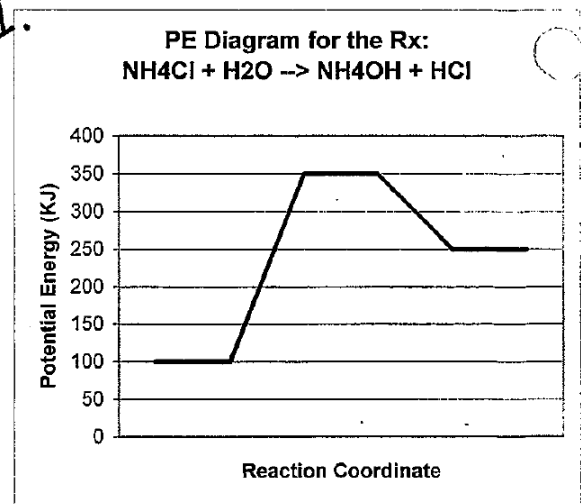
## SPECIFIC HEAT FUNDSHEETS

### POTENTIAL ENERGY DIAGRAM WORKSHEET

I.



II.



- How much energy did this reaction start with?
- How much energy did this reaction finish with?
- Did this reaction gain or lose energy? How much?
- Is the Q value positive or negative?
- Is this an endothermic or exothermic reaction?

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4. Use the specific heat values for lead, gold, mercury, and silver, which of these would require the smallest amount of heat to increase its temperature by  $10\text{ }^{\circ}\text{C}$ . Assume all samples have a mass of  $15\text{ g}$ .
  
  
  
  
  
  
  
  
  
  
5. A  $35.2\text{ g}$  sample of an unknown metal required  $1251\text{ J}$  of energy to heat the sample by  $25.0\text{ }^{\circ}\text{C}$ . The substance was initially  $0.00\text{ }^{\circ}\text{C}$ . Calculate the specific heat capacity of this metal.
  
  
  
  
  
  
  
  
  
  
6. If  $7.24\text{ kJ}$  is applied to a  $952\text{ g}$  block of metal, the temperature increases by  $10.7\text{ }^{\circ}\text{C}$ . Calculate the specific heat capacity of the metal.
  
  
  
  
  
  
  
  
  
  
7. How many joules of heat are given off when  $5\text{ g}$  of water cools from  $75\text{ }^{\circ}\text{C}$  to  $25\text{ }^{\circ}\text{C}$ ?
  
  
  
  
  
  
  
  
  
  
8. How much heat is necessary to raise the temperature of  $25.0\text{ g}$  of water from  $10.0\text{ }^{\circ}\text{C}$  to  $60.0\text{ }^{\circ}\text{C}$ ?
  
  
  
  
  
  
  
  
  
  
9. What is the specific heat of a substance if  $25\text{ g}$  of it absorbs  $5000.0\text{ J}$  of heat when it warms from  $40.0\text{ }^{\circ}\text{C}$  to  $50.0\text{ }^{\circ}\text{C}$ ?

10. How much heat is required to warm 350 g of water from 20.0 °C to 80.0 °C?
11. What is the specific heat of iron if 300.0 g of iron required 54300 J to increase its temperature from 22.4 °C to 62.6 °C? How does your answer compare to the chart?
12. The temperature of 250.0 g of water dropped from 90.0 °C to 30.0 °C. How much energy did the water lose?