**Energy in Chemical Reactions Name:**

<http://www.wisc-online.com/Objects/ViewObject.aspx?ID=GCH8705>

1. Access the site.

2. A Cinnabon from the mall contains 880 kilocalories. How many joules is this?

3. Is the reaction between dinitrogen tetrahydrogen and dinitrogen tetroxide endothermic or exothermic?

4. Is the reaction between nitrogen monoxide and oxygen endothermic or exothermic?

5. When hydrogen reacts with oxygen to form water is heat absorbed or released by the system?

6. Is the first law of thermodynamics stated correctly in the tutorial?

**Acid-Base Reactions- access the site**

<http://www.wisc-online.com/Objects/ViewObject.aspx?ID=GCH6204>

7. What color is the indicator, methyl orange in HCl?

8. What color is the indicator, methyl orange in NaOH?

9. Is Solution 1 acidic or basic?

10. Is Solution 2 acidic or basic?

11. HCl + NaOH 🡪

12. What gases are liberated when sodium carbonate reacts with hydrochloric acid?

13. Name the gas evolved when the following are reacted with acid

a. CaCO3

b. K2S

c. FeSO3

**Balancing Redox Equations- access the site**

<http://www.wisc-online.com/Objects/ViewObject.aspx?ID=GCH7804>

14. What are the oxidation numbers for the following:

a. Al(s) b. F2(g) c. Al in AlF3 d. F in AlF3

15. Balance the following reaction

Fe3+ + Ba 🡪Ba2+ + Fe