Atoms and the Periodic Table

Chapter 12
Pages 285-305

Atoms are small
Smaller than light waves

Periodic table
Actual arrangement doesn't fit on page very well

Periodic Table

Na
Atomic symbol

Only first letter is capital
CO is not cobalt (Co)

Atomic Structure
• Protons
• Neutrons
• Electrons
Atomic Structure--**Protons**

- Electrical charge +1
- Equal number of negative electrons
- Balance to zero charge
- Atomic number is # of protons
- Mass = 1 atomic mass unit (amu)

Atomic Structure--**Neutrons**

- Electrical charge = 0
- Mass = 1 atomic mass unit (amu)
- Number of neutrons is not set for an atom of an element

Atomic Structure--**Nucleus**

- Protons--set number, determines the element
- Neutrons—no set number, can be different for same element
- Make up the NUCLEUS
- NEW KLEE US
- Nucleons—have mass
- NEW KLEE ONS

Atomic Structure--**Electrons**

- Electrical charge -1
- Mass = almost nothing (1/1837 of a proton)

Isotope notation

\[
\begin{align*}
\text{23} & \quad \text{Na} \\
\text{11} & \quad \text{Stable Isotope of Sodium}
\end{align*}
\]

Periodic Table coding

- Metals, metalloids and nonmetals

Periods and Groups

- Periods
- Groups
Atomic size across periods

Groups (families)

Electrons shells in periodic table

Electron waves

Atomic Structure--Electrons

Periodic Table

Inner transition metals

http://www.joesentell.com/panther/panther.htm

http://web.ics.purdue.edu/~drhodes/hort410/vgsd13.htm

http://www.skynet.ie/~ceason/cormac/stuff/housefly_anim.gif