Atoms by the Numbers
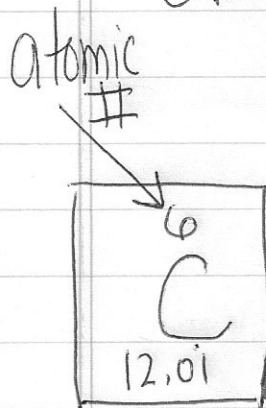
Ess. Question-
How are the atoms of one element different from atoms of another element?

atomic #

6
C
12.01

Simple Atomic Model

electrons (—)
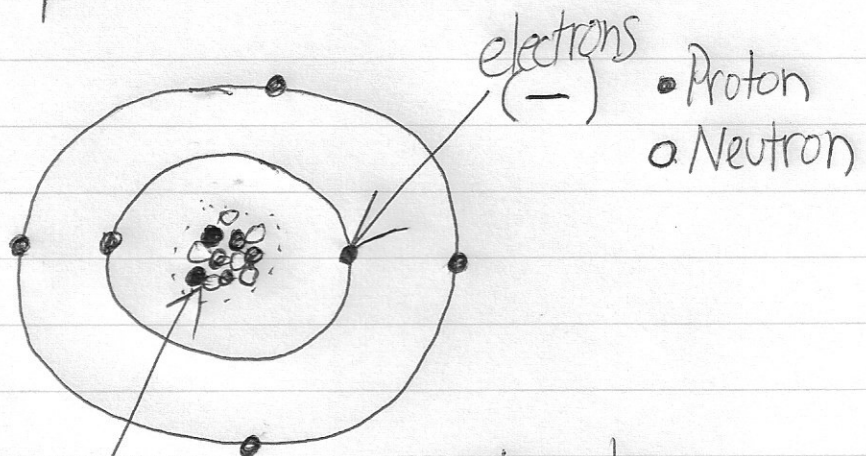
• Proton
o Neutron

nucleus
protons (+)
neutrons (0)

most of the mass is the nucleus

proton has a mass of 1 atomic mass unit
A.M.U.

a neutron has a mass of 1 A.M.U.

Atomic Mass of the Carbon atom (6 protons)(1 AMU) + 6 n. (1 AMU)
= 6 + 6 = 12 AMU

Atoms by the numbers (cont.)

$$\text{Atomic mass} = \#\text{protons} + \#\text{electrons}$$

To find the # neutrons for <u>Carbon</u>-

Find Avg atomic mass   = 12.01
on Periodic Table

The decimal number !!

Round 12.01 to nearest whole #

12

plug into equation-

$$12 = \#N + 6 \text{ protons}$$

$$\#N = 12 - 6 = \underline{\underline{6}} \text{ neutrons.}$$

Fill in the Table on L12 handout.

Take 10 minutes.

Finish questions front & back.