

Class 1.4 Date: _____

Warm Up:

1. The nucleus of an atom of Gold-198 has _____ protons and _____ neutrons.
2. What is the mass number of an atom with 7 protons, 8 neutrons, and 7 electrons? _____

Isotopes and Atomic Mass

Example: Isotopes of Carbon

# p ⁺	# p ⁺	# p ⁺
# n ⁰	# n ⁰	# n ⁰

Isotopic Notation

There are several ways to indicate what isotope you are dealing with. Below are the four most common isotopic notations. You need to know how to read, write, and interpret all of them.

Isotope of Carbon with a Mass Number equal to 14

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Atomic Mass

As the size of the nucleus increases and/or the ratio of protons to neutrons changes, the atom becomes _____ which could lead it to become _____. These types of atoms with naturally decay, so they aren't found in nature that often.

Definition - Atomic Mass

Identifying the Most Common Isotope:

What is the most common Isotope of Carbon? Atomic Mass _____ Most Common Isotope _____

What is the most common Isotope of Oxygen? Atomic Mass _____ Most Common Isotope _____

If the Average Atomic Mass of an element with 5 protons is 10.81amu, what is the most common isotope of this element? Write your answer in all four isotopic notations.

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Practice - Homework

i. Complete the following chart about the three SUBATOMIC PARTICLES

	PROTON	NEUTRON	ELECTRON
Location			
Mass			
Charge			

ii. How would you calculate the mass of an atom? What is this value called?

iii. Please complete the following chart

	Element	Atomic Symbol	Atomic Number	Number of Protons	Number of Neutrons	Mass Number	Nuclear Symbol
1	Beryllium					9	
2		Si			16		
3				4		8	
5		F				10	

i. Which of the two atoms in the chart above are Isotopes of one another? How do you know?

ii. Define ISOTOPE - you really, really, really need to know this one :D

iii. What are the most common isotopes for EACH of the following elements?

Use one of the Isotopic notations to write your answer.

i. Hydrogen

b. Sodium

c. Sulfur