

Basic Atomic Structure Worksheet

1. The 3 particles of the atom are:

a. _____

b. _____

c. _____

Their respective charges are:

a. _____

b. _____

c. _____

2. The number of protons in one atom of an element determines the atom's _____, and the number of electrons determines the _____ of the element.

3. The atomic number tells you the number of _____ in one atom of an element. It also tells you the number of _____ in a neutral atom of that element. The atomic number gives the "identity" of an element as well as its location on the periodic table. No two different elements will have the _____ atomic number.

4. The _____ of an element is the average mass of an element's naturally occurring atom, or isotopes, taking into account the _____ of each isotope.

5. The _____ of an element is the total number of protons and neutrons in the _____ of the atom.

6. The mass number is used to calculate the number of _____ in one atom of an element. In order to calculate the number of neutrons you must subtract the _____ from the _____.

7. Give the symbol of and the number of protons in one atom of:

Lithium _____

Bromine _____

Iron _____

Copper _____

Oxygen _____

Mercury _____

Krypton _____

Helium _____

8. Give the symbol of and the number of electrons in a neutral atom of:

Uranium _____

Iodine _____

Boron _____

Xenon _____

Chlorine _____

9. Give the symbol of and the number of neutrons in one atom of:

(Mass numbers are ALWAYS whole numbers...show your calculations)

Barium _____

Bismuth _____

Carbon _____

Hydrogen _____

Fluorine _____

Magnesium _____

Europium _____

Mercury _____

Honors Chemistry Summer Assignment Atomic Structure Worksheet

Name: _____

10. Name the element which has the following numbers of particles:

- a. 26 electrons, 29 neutrons, 26 protons _____
- b. 53 protons, 74 neutrons _____
- c. 2 electrons (neutral atoms) _____
- d. 20 protons _____
- e. 86 electrons, 125 neutrons, 82 protons _____
- f. 0 neutrons _____

11. If you know ONLY the following information can you ALWAYS determine what the element is? (Yes/No)

- a. Number of protons _____
- b. Number of neutrons _____
- c. Number of electrons in a neutral atom _____
- d. Number of electrons _____

12. Fill in the missing items in the table below.

NAME	SYMBOL	Z	A	# PROTONS	# ELECTRONS	# NEUTRONS	ISOTOPIC SYMBOL
a.	Na						
b.		17			18		
c. Potassium							
d.	P						
e. Iron					24		
f.				53			
g. Silver							
h.		36					
i.	W						
j.		29					
k.				49			
l.				79	78		
m.		16			18		

Honors Chemistry

Name: _____

Summer Work

Due on the first day of school!

Metric System Measurement Conversions

1) 8 kg = _____ g

2) 120 mm = _____ cm

3) 1200 cL = _____ L

4) 2000 mL = _____ L

5) 5 kg = _____ g

6) 10 cL = _____ mL

7) 12000 m = _____ km

8) 8 g = _____ cg

9) 4000 mL = _____ L

10) 6 km = _____ m

11) 11 cg = _____ mg

12) 30 mg = _____ cg

13) 5 μ g = _____ mg

14) .050 cg = _____ μ g

15) 755,000 nm = _____ mm

16) .000225 m = _____ nm

Atomic Structure

Complete the separate worksheet on atomic structure. Use old materials from CPE or biology and/or Internet resources. It is essential that you are familiar with these concepts before beginning Honors Chemistry.

Reading Assignment

Obtain your textbook prior to the first day of school. Read chapters one and two. As you read, take notes. Good reading notes include definitions, formulas, key concepts, solutions to practice exercises, and questions that you have. Be sure to include your solutions to the 'Self-Check' exercises in each chapter.

If you are unable to access the book before the first day of school you can start the assignment online. Go to <http://www.cengagebrain.com/shop/isbn/1439049408?cid=OWL> and select [Preview the 1st chapter FREE](#) to read chapter one online.

These reading notes and self-check exercises will be collected at the end of the first week of school so that those who cannot obtain the book early still have an opportunity to complete the assignment for the second chapter. All other components of this summer assignment are due on the first day of school.

Essential Math Skills

Part I: Conversions Using Dimensional Analysis

(Show all units and use dimensional analysis. You may also know this method as the unit-factor method or the cross-cancel method.)

1. How many seconds are there in 1 day?

2. How many hours are there in 1 week?

Part II: Basic Algebra

(Solve for x . Each answer should be expressed as a whole number.)

3. $6/x = 3$

6. $4x = 16/x$

4. $x^2/2 = 8$

7. $3x + 5 = 14$

5. $5x/20 = 10$

8. $x^2 = 4x$