

REVIEW

Chapter 4 : Lesson 4C (Extra Help Session)

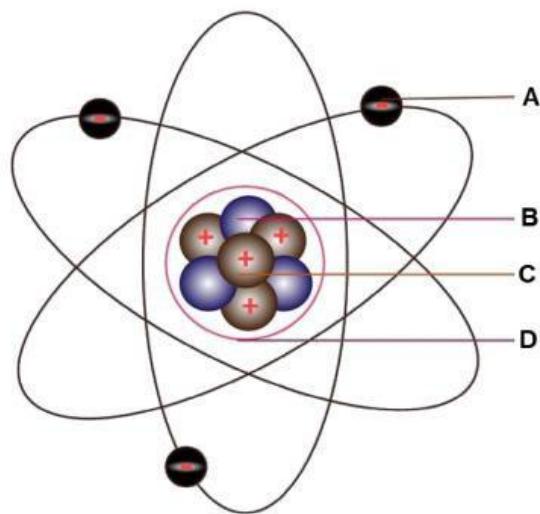
1. Look at the Model below :

Identify the Electron :

Identify the Proton :

Identify the Neutron :

Identify the Nucleus :



2. Match up the term on the left with its correct definition on the right :

Atomic Number

The **Decimal Number** that is usually located at the bottom of an Element on the Periodic Table. It is the weighted average mass of all the Isotopes of an Element. The unit is “amu”.

Atomic Mass

The **Whole Number** that is usually located at the upper left of an Element on the Periodic Table. It represents the number of Protons that an element has in its Nucleus.

Mass Number

The **Sum (whole number)** of the Protons and Neutrons found in the Nucleus of an Element. It can be used to calculate the number of Neutrons that an Element has.

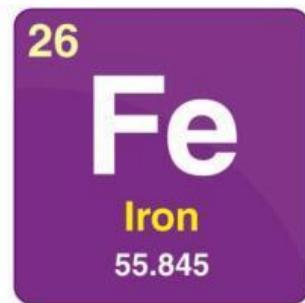
$$\text{Mass Number} = \# \text{Protons} + \# \text{Neutrons}$$

3. The element Iron (Fe) is shown as follows on a Periodic Table :

What is the Atomic Number of Fe : _____

What is the Atomic Mass of Fe : _____

What is the Mass Number of Fe : _____



4. The element Potassium (K) is shown as follows on a Periodic Table :

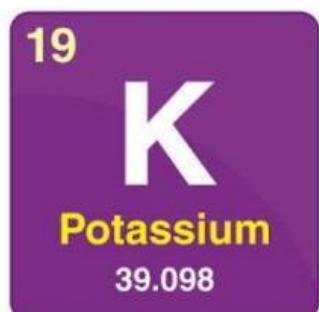
What is the Atomic Number of K : _____

How many Protons does K have : _____

What is the Atomic Mass of K : _____

What is the Mass Number of K : _____

How many Neutrons does K have ? _____



5. The element Silver is shown as follows on a Periodic Table :

What is the Chemical Symbol for Silver ? _____



What is the Atomic Number of Silver : _____

How many Protons does Silver have ? _____

How many Electrons does Silver have ? _____

What is the Atomic Mass of Silver: _____

What is the Mass Number for a typical (most abundant) Silver atom : _____

How many Neutrons does Silver have ? _____

6. Use a Periodic Table and complete the following Data Table :

Chemical Symbol	Atomic Number	# Protons	# Electrons	Mass Number	# Neutrons
K					
Na					
	17				
	3				
		12			
		26			
Ne					
		2			

7. Which Element has an Atomic Number of 8 ? _____

Which Element has 6 Protons in its Nucleus ? _____

8. Look at the Bohr Diagram below :

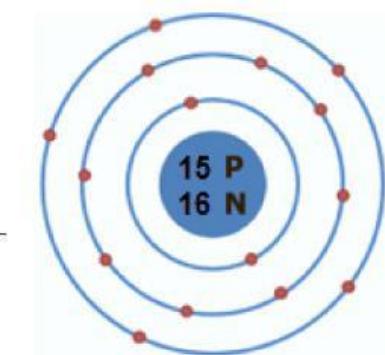
Which Element on the Periodic Table does this diagram represent : _____

What is the Element's Chemical Symbol : _____

How many Electron Shells does it have ? _____

How many Electrons does it have in its Outer Shell ? _____

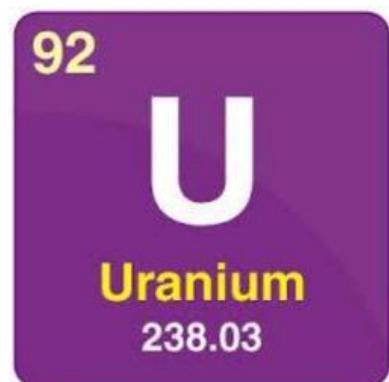
How many Electrons does it have in its Inner Shell ? _____



9. The element Uranium is shown as follows on the Periodic Table :

How many Protons does Uranium have ? _____

How many Neutrons does a typical (most abundant) Uranium atom have ? _____



The name of one of the **Isotopes** for Carbon could be written as follows :

U-235

How many Protons does this specific Isotope have ? _____

How many Neutrons does this specific Isotope have ? _____

The Isotope Notation for this specific Isotope would be :

U

or

U

10. The element Li (Lithium) has 2 stable Isotopes :

- Li-6 with an abundance of 7.59%
- Li-7 with an abundance of 92.41%

Li-6 has an Isotopic Mass of 6.015 amu. Li-7 has an Isotopic Mass of 7.016 amu. Complete the calculations below to determine the (weighted) Atomic Mass for the element Lithium.

Step 1 - Convert % to decimals : 7.59% = _____

92.41% = _____

Step 2 - Calculate weighted Isotopic Mass for each Isotope :

For Li-6 : (Round off to **4 decimals** in your product below) :

x amu = _____ amu

For Li-7 : (Round off to **4 decimals** in your product below) :

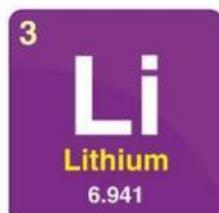
x amu = _____ amu

Step 3 - Calculate the weighted Average :

_____ amu + _____ amu = _____ amu

Step 4 – Ensure correct Precision in final answer :

Weighted Atomic Mass For the element Lithium = _____ amu



CHECK : Does this Atomic Mass correspond with what you see on the Periodic Table for Lithium ?