



3055 BA SANGAM COLLEGE

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WORKSHEET 7

School: Ba Sangam College

Subject: Basic Science

Year: 9

Name: _____

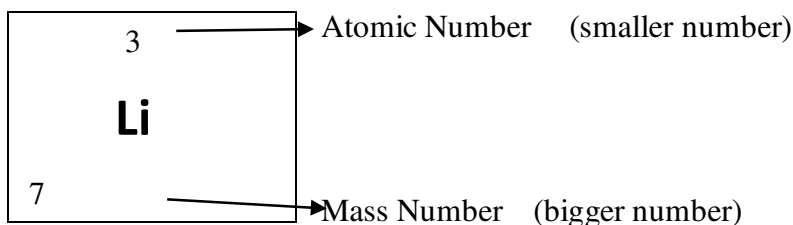
Strand	Matter
Sub Strand	Investigating Matter
Content Learning Outcome	Describe the structure and properties of matter using particle model of atoms and molecules and account for the behavior of matter when heat is added or removed.

Lesson Notes

Atomic number (Z)-gives the **number of protons** in the atom and determines which element the atom is.

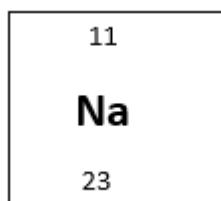
Mass number of an element is the ***number of protons plus the number of neutrons*** in an atom of that element.

$$\text{Mass Number} = \text{Number of protons} + \text{Number of neutrons}$$



Example

Use the information below to answer the questions that follow for the element Sodium (Na)



- i. State the atomic number and the mass number for the above element
- Atomic Number - 11
- Mass Number - 23

ii. Calculate the number of neutrons in the element above

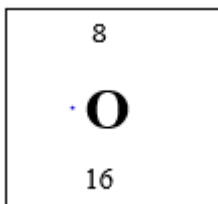
No. of neutrons = Mass no. – No. of protons (Atomic no)

$$= 23 - 11$$

$$= \underline{12}$$

Exercise

1. Use the chemical symbol of an element given below to answer the questions that follow.



i. State the atomic number and mass number.

Atomic number - _____

Mass number - _____

(1 mark)

ii. Calculate the:

• Number of protons = _____ (1 mark)

• Number of electrons = _____ (1 mark)

• Number of neutrons = _____ (1 mark)

2. An atom Aluminium has 13 protons and 14 neutrons in the nucleus of its atoms. Using this information answer the questions that follow:

a. What is the atom's atomic number? _____ (1 mark)

b. What is the mass number? _____ (1 mark)

c. How many electrons does this atom have? _____ (1 mark)

3. An atom is represented as ${}^{14}_7\text{N}$

i. How many electrons are present in this atom?

_____ (1 mark)

ii. How many protons are present in this atom?

_____ (1 mark)

iii. How many neutrons are present in this atom?

_____ (1 mark)