SECOND TERM
WEEKLY LESSON NOTES
WEEK 1

Week Ending: 06-04-2023	**DAY:**	**Subject:** Science	
Duration: 100mins		**Strand:** Diversity Of Matter	
Class: B8	**Class Size:**	**Sub Strand:** Atomic Structure	
Content Standard: B8.1.1.2 Demonstrate understanding of atoms and the atomic structure of elements in the periodic table	**Indicator:** B8.1.1.2.1 Describe atoms as composed of sub-atomic particles		**Lesson:** 1 of 2
Performance Indicator: Learners can describe atoms as composed of sub-atomic particles		**Core Competencies:** DL 5.3: CI 6.8: DL 5.1: CI 6.6:	
References: Science Curriculum Pg. 54			

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Share learning indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Guide learners to explain an atom and its structure of an element using/linking it to the periodic table. Have learners list the sub-atomic particles found in the atom and indicate their location in the atom (e.g. proton, electron, neutron). Brainstorm learners to state the electrical charges on the sub-atomic particles. Learners in groups describe the differences between the atomic number and the mass number of elements. Engage learners to determine the number of protons, neutrons and electrons in an atom. Example: The atomic number of an element is 19 and its mass number is 39. Calculate the following α). proton number β). electron number γ). neutron number solution α). proton number The proton number is another name for atomic number Hence; proton number = atomic number proton number = 19 β). electron number Electrically, the atom is neutral because the electron number=the proton number electron number = 19 γ). neutron number [N]	Pictures and charts

	Given mass number [A] = 39, atomic number [Z] = 19 Mathematically, A = Z + N also; Z + N = A N = A – Z N = 39 – 19 N = 20. neutron number = 20 <u>Assessment</u> 1. State two differences between a proton and an electron 2. An atom has three protons and three neutrons. i. How many electrons are there in this atom? ii. Draw a labeled diagram to show the arrangement of all particles in the atom	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

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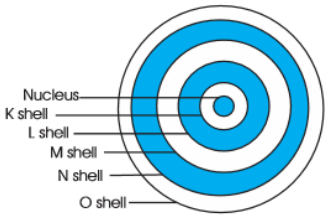
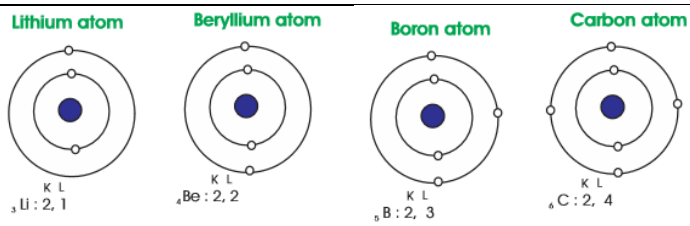
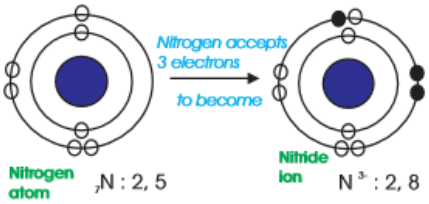
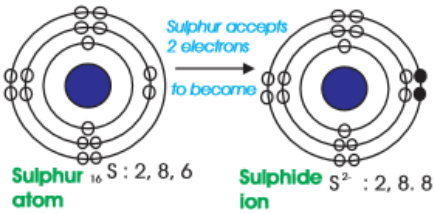
Content Standard: B8.1.1.2 Demonstrate understanding of atoms and the atomic structure of elements in the periodic table	**Indicator:** B8.1.1.2.2 Explain the arrangement of elements in terms of the number of protons in the nuclei of atoms of each element	**Lesson:** 1 of 2

Performance Indicator: Learners can explain the arrangement of elements in terms of the number of protons in the nuclei of atoms of each element	**Core Competencies:** DL 5.3: CI 6.8: DL 5.1: CI 6.6:

References: Science Curriculum Pg. 55

Phase/Duration	Learners Activities	Resources
PHASE 1: **STARTER**	Revise with learners on the previous lesson. Share learning indicators and introduce the lesson.	
PHASE 2: **NEW LEARNING**	Brainstorm learners for the meaning of electronic configuration. *Electronic configuration refers to the arrangement of electrons on the shells of an atom.* *Electrons in the atom are arranged on the shells in increasing energy levels from the nucleus.* Explain how elements are arranged in order of the number of protons using the periodic table.  • *In filling the shells of an atom with electrons, shells that have lower energy levels are filled first before moving to the shells with higher energy levels.* • *Also the atoms of some elements must either loss or gain an electron or some electrons in order to form their respective compounds.* Guide learners to draw the distribution of electrons (electron configuration) in the atoms.	Pictures and charts

Energy level [n]	*Name of shell*
N = 1, first energy level	K shell
N = 2, second energy level	L shell
N = 3, third energy level	M shell
N = 4, fourth energy level	N shell
N = 5, fifth energy level	O shell

	 Brainstorm learners to define ion. An ion is a charged atom. Ions are formed when the atom of an element either gains or loses an electron or some electrons. Learners discuss the types of ions. a. cations - positively charged ions b. anions - negatively charged ions Brainstorm learners to explain the formation of ions.   Guide learners to describe a molecule as a combination of atoms. <u>Assessment</u> 1. What is an ion? ii. Give two examples of ions 2. Describe how ions are formed from atoms. 3. Explain how; i. lithium atom becomes positively charged ii. oxygen atom becomes negatively charged Draw a potassium atom and show the distribution of electrons in its shells	
PHASE 3: **REFLECTION**	Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	