

LESSON PLAN

CLASS: 09 SUBJECT: PS Name of the Teacher: M.Srinivasa Rao Name of the School: SPSMH School, Gudivada

Name of the	Торіс	No.of Periods	Timeline for teaching		Any specific
Lesson/Unit		Required	From	То	information
	Introduction – Charged particles in matter	2			
	The Structure of an Atom- Thomson's model of an atom	1			
	Rutherford's model of an atom	2			
	BYJU's Content Review				
	Bohr's model of an atom	2			
Structure of	Neutrons and How are electrons distributed in different orbits	2			
The Atom	(Shell)?				
(Chapter-4)	Valency	3			
	BYJU's Content Review	1			
	Atomic Number and Mass Number	1			
	Isotopes	1			
	Isobars	1			
	BYJU's Content Review	1			

1. What are atom made of?

2. What is shape of the atom?3. What is the mass of an atom?

Learning Outcomes:	No. of Periods
1. Draws flow charts of properties of sub-atomic particles.	1
2. Describes scientific discoveries and inventions of discovery of various atomic models.	2
3. Plans and conducts investigations of atomic models.	1
4. To seek answers to queries on their own as 'Why Bohr could successfully explain the properties of a hydrogen atom'?	1
5. Explain the processes of distribution of electrons in different shells.	1
6. Draws labelled diagrams of the distribution of electrons in different orbits in an atom.	1
7. Calculates using the data given the number of neutrons in an atom from the atomic number and mass number.	1
8. Uses scientific symbols and equations to represent various quantities, atoms and isotopes.	1
9. Applies scientific concepts in the daily life of symbols of atoms and molecules.	1
10. Differentiates isobars and isotopes based on their properties.	1

11. Applies the interdependency and interrelationship in the biotic and abiotic factors of the environment to promote co of usage	1
of isotopes	
12. Applies scientific concepts in the daily life of some isotopes used for solving chemical and medical mysteries.	1
13. Applies the interdependency and interrelationship in the biotic and abiotic factors of the environment to promote co of usage	1
of isobars	



Experience and Reflection:

- 1. Students appreciate the hard work done by the scientists who made the atomic models.
- 2. Students can easily understand which atoms form which bonds based on valency.
- 3. Students will learn about situations where isotopes are used in everyday life.

Explicit Teaching/Teacher Modelling	Group Work	Independent Work	Notes for:
(I Do)	(We Do)	(You Do)	
1. Discussion and explain nature of	1. Students observe the nature of an	1. Students express the names of	1. Why an atom is
Atoms.	atom in a neutral state.	some elements.	considered electrically neutral?
2. Discussion and explain the sub-atomic particles in an atom.	2. Students read the biographies of J.J. Thomson and James Chadwick	2. Students express the charges of sub-atomic particles.	2. Which atom doesn't contain neutron in its nuclear?

3. Explain the properties of sub-atomic particles.	tomic 3. Students draw flow charts of the properties of sub-atomic particles. 3. Students complete the homework		3. What is the most stable subatomic particle?
4. Discussion and demonstrate Thomson's model of the atom.	 4. Students collect information on J.J.Thomson's model of the atom. 	4. Students give a reasons, Why Thomson's model of the atom called as Plum pudding model.	4. Why JJ Thomson model of atom was failed?
5. Explain and demonstrate Rutherford's alpha particles scattering experiment, its limitations.	 Students describe Rutherford's model of the atom. 	5. Students draw diagrams of Rutherford's atomic model.	5. What are the limitations of Rutherford's atomic model?
6. Review of Byju's tab content	6. Viewing the content in Byju's Tab	6. Viewing the content in Byju's Tab	
7. Discussion and explain Bohr's model of an atom.	7. Group discussion on the main postulates of Bohr's model of an atom	roup discussion on the main ostulates of Bohr's model of an 7. Students draw a neat diagram of energy levels of an atom.	
8. Discussion and demonstrate of distribution of electrons in different orbits or shells by Bohr and Bury rules.	8. Students draw the arrangement of electrons for the first 18 elements.	8. Students identify the shells around the nucleus.	7. What is maximum number of electrons present in M-shell?
9. Explain valency of an atom and importance of valency.	9. Students collect information on the valencies of elements.	9. Students complete the homework.	8. What is valency?
10. Review of Byju's tab content	10. Viewing the content in Byju's Tab	10.Viewing the content in Byju's Tab	
11. Discussion and explain the concepts of Atomic number and atomic mass number.	11. Group discussion on the difference between atomic mass and atomic mass number?	11. Students find the number of neutrons in an atom	9. Find the neutrons in ¹⁶ ₈ O?
12. Explain writing symbols of atoms and finding number of neutrons.	writing symbols of atoms ng number of neutrons. 12. Students write the symbols of atoms 12. Students com homework.		10. Why is it useful to have symbols for atoms?
13. Explain Isotopes, its examples and applications of isotopes.	Explain Isotopes, its examples and pplications of isotopes. 13. Students give examples of a		11. What are isotopes?
14. Explain Isobars and its examples		14. Students identify the Isobars from given data	12. What are isobars?
15. Review of Byju's tab content	14. Viewing the content in Byju's Tab	15.Viewing the content in Byju's Tab	

Check For Understanding Ouestions				TLM's		
1. Factual:				(Digital + Print)		
1. H	1. How can an atom achieve octet?					
2. V	Why valency is always	s a whole number?				1. Used prepared
3. H	Iow can you distingui	sh between the atom	ms of one element from th	he atoms of another elem	ent?	Ouiz paper.
	, ,					2. Utilized digital
2. () pen Ended/Critical	Thinking:				classroom.
1. V	Vhy some elements st	now multiple Valen	cv ⁹			3. Provide video
2. If	f alpha particle scatte	ring experiment car	ried out using a foil of me	etal other than gold?		links
3. V	What causes isotopes t	to form?				OR codes.
						DIKSHA App
3. 8	tudent Practice Oue	estions & Activitie	5:			4. YouTube video
1 0	ompare the propertie	s of electrons prote	ons and neutrons			links
2 V	What are the limitation	is of Rutherford's r	nodel of the atom?			5 Byiu's Tab
3 N	Ja ⁺ has completely fil	led K and L shells	Explain			6 IFP
4. What are the applications of isotones in our daily life?				0		
	4. What are the applications of isotopes in our daily me					
Ass	essment:					
1. E	Describe Bohr's mode	l of the atom.				
2. It	f Z = 3, what would b	e the valency of the	e element? Also, name the	e element.		
3. S	how that diagram of	a few energy levels	in an atom.			
4. C	4 Complete the following table					
	Atomic Number	Mass Number	Number of Neutrons	Number of Protons	Number of Electrons	Name of the Atomic
						Species
	9	-	10	-	-	-
	16	32	-	-	-	Sulphur
	-	24	-	12	-	-
	-	2	-	1	-	-
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SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER