

**ELEMENTS - INTEGRATED LESSON PLAN- CLASS 9<sup>th</sup> SCIENCE NCERT**

<b>NAME OF THE SCHOOL-</b>		
<b>CLASS-</b> IX	<b>SUBJECT-</b> Physical Science	<b>PERIOD-</b>
<b>DATE-</b>	<b>TOPIC-</b> 'ELEMENTS'	<b>DURATION-</b> 30 min
<b>NAME OF THE SUPERVISOR-</b>		
<b>GENERAL AIMS</b>	<ol style="list-style-type: none"> <li>To develop interest of students in physical science.</li> <li>To develop an inquiry spirit in the students.</li> <li>To help students to see the physical science in relation to the rest of the culture.</li> <li>To develop interest in questioning.</li> <li>To develop critical thinking and scientific attitude.</li> <li>To develop supervisory ability in students.</li> <li>To develop problem solving skills in students.</li> <li>To make the students aware about inventions in the field of physical science and acquaint them with the knowledge of different streams of physical science.</li> </ol>	
<b>SPECIFIC OBJECTIVES</b>	<ol style="list-style-type: none"> <li>Students will be able to define element.</li> <li>Students will be able to classify elements.</li> <li>Students will be able to use metals and non-metals in their daily life.</li> </ol>	
<b>TEACHING AIDS</b>	Chart, Roller board, pointer and other useful classroom equipments.	
<b>PREVIOUS KNOWLEDGE</b>	Students are already aware about matter	
<b>INTRODUCTION</b>	<b>PUPIL-TEACHER ACTIVITY</b>	<b>STUDENT'S RESPONSE</b>
	<b>Q1.</b> Which wire is commonly used for wiring? <b>Q2.</b> Name the metal used in copper wire? <b>Q3.</b> What kind of substance is copper?	-copper wire -copper metal -It is an Element
<b>STATEMENT OF AIM</b>	So, today we are going to study the topic 'Element'.	
<b>PRESENTATION</b>		
<b>TEACHING POINTS</b>	<b>PUPIL-TEACHER ACTIVITY</b>	<b>STUDENT'S RESPONSE</b>

<p><b>1. DEFINITION OF ELEMENTS</b></p>	<p>Boyle was the first scientist to use the term 'element'.</p> <ul style="list-style-type: none"> <li>• Lavoisier defined element as a basic form of matter that cannot be broken down into simpler substances by chemical reactions.</li> <li>• More than 100 elements are known at present.</li> <li>• Majority of the elements are solid, eleven elements are in gaseous state at room temperature.</li> <li>• Mercury and Bromine are in liquid state at room temperature.</li> <li>• Elements can be divided into <b>metals</b>, <b>non-metals</b> and <b>metalloids</b> on the basis of their properties.</li> </ul>	<p>Student will be listening carefully.</p>
<p><b>2. PROPERTIES OF METALS</b></p>	<p>Metals usually have following properties:</p> <ul style="list-style-type: none"> <li>• Metals are lustrous (shiny).</li> <li>• They are good conductors of heat and electricity.</li> <li>• Metals are ductile that is, they can be drawn into wires.</li> <li>• They are malleable i.e. they can be hammered into thin sheets.</li> <li>• Metals are sonorous i.e. they make a ringing sound when hit.</li> </ul> <p><b>Examples:</b> Gold, silver, copper, aluminium, iron, sodium, potassium, etc.</p> <ul style="list-style-type: none"> <li>• <b>Mercury</b> is the only metal which is liquid at room temperature.</li> </ul>	<p>Student will be listening carefully.</p>
<p><b>3. PROPERTIES OF NON-METALS</b></p>	<p>Non-metals usually have following properties:</p> <ul style="list-style-type: none"> <li>• Non-metals display variety of colours.</li> <li>• They are poor conductors of heat and electricity.</li> <li>• They are not lustrous, sonorous or malleable.</li> </ul> <p><b>Examples:</b> Hydrogen, oxygen, carbon, bromine, chlorine, etc.</p> <ul style="list-style-type: none"> <li>• <b>Bromine</b> is liquid at room temperature.</li> </ul> <p><b>METALLOIDS</b></p> <p>Elements those have intermediate</p>	<p>Student will be listening carefully.</p>

	<p>properties between metals and non-metals are called <b>metalloids</b>.</p> <p><b>Examples of metalloids:</b> Boron, Silicon, Germanium, etc.</p>	
<b>BLACKBOARD SUMMARY</b>	<ul style="list-style-type: none"> <li>• Elements cannot be broken down into simpler substances by chemical reaction.</li> <li>• Robert Boyle used the term 'element' for the first time.</li> <li>• Elements are classified into three types : metals, non-metals and metalloids.</li> <li>• Metals are sonorous, lustrous, malleable, ductile.</li> <li>• Mercury and bromine are liquid at room temperature.</li> <li>• Metalloids show intermediate properties of both metals and non-metals.</li> </ul>	
<b>CLASSROOM SUPERVISION</b>	Pupil-teacher will supervise the problem of the students and solve it.	
<b>EVALUATION QUESTIONS</b>	<p><b>Q1.</b> _____ metal is liquid at room temperature.</p> <p><b>Q2.</b> Property of malleability is present in _____.</p> <p><b>Q3.</b> Which of the following is a non-metal:</p> <ol style="list-style-type: none"> <li>Iron</li> <li>Gold</li> <li>Bromine</li> <li>Mercury</li> </ol> <p><b>Q4.</b> Non-metals are ductile. <b>(True/False)</b></p> <p><b>Q5.</b> Metalloids have properties of both metal and non-metals. <b>(True/False)</b></p>	
<b>HOME-WORK</b>	<b>Q.</b> Write down the properties of metals and give some examples of metals.	

## Important links

- [CELLS- INTEGRATED LESSON PLAN- CLASS 9th SCIENCE NCERT](#)
- [States of Matter lesson plan- Class IX NCERT with pdf](#)
- [Mixture- INTEGRATED LESSON PLAN- CLASS 9th SCIENCE NCERT](#)
- [Complete Lesson Plan of Thomson's atomic model Class IX](#)
- [Complete Lesson Plan of Solution NCERT Class IX](#)

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