

## COLLOIDAL SOLUTION - 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 recall solution.</li> <li>Students will be able to explain tyndall effect.</li> <li>Students will be able to prepare a colloidal solution.</li> </ol>	
<b>TEACHING AIDS</b>	Chart, Roller board, pointer and other useful classroom equipments.	
<b>PREVIOUS KNOWLEDGE</b>	Students are already aware about solution.	
<b>INTRODUCTION</b>	<b>PUPIL-TEACHER ACTIVITY</b>	<b>STUDENT'S RESPONSE</b>
	<b>Q1.</b> What is a solution?  <b>Q2.</b> Give few examples of solution.  <b>Q3.</b> What type of solution is a milk?	-it is a homogeneous mixture  -soda water, lemonade,etc.  -colloidal solution
<b>STATEMENT OF AIM</b>	So, today we are going to study the topic 'Colloidal Solution'.	
<b>PRESENTATION</b>		
<b>TEACHING POINTS</b>	<b>PUPIL-TEACHER ACTIVITY</b>	<b>STUDENT'S RESPONSE</b>

<p><b>1. DEFINITION &amp; COMPONENTS OF COLLOIDAL SOLUTION</b></p>	<p>Colloidal solution is a heterogeneous mixture in which particles remain suspended in the solution uniformly.</p> <p>Components of colloidal solution are:</p> <p>i) <b>Dispersed phase:</b> Solute like components or dispersed particles form the dispersed phase.</p> <p>ii) <b>Dispersion medium:</b> The components in which dispersed phase is suspended is called the dispersing medium.</p> <p><b>Examples of Colloids:</b> Fog, clouds, mist, smoke, milk, butter, blood, etc.</p>	<p>Student will be listening carefully.</p>
<p><b>2. TYNDALL EFFECT</b></p>	<ul style="list-style-type: none"> <li>• Particles of colloidal solution are so small that it cannot be seen with naked eyes.</li> <li>• These particles scatter a beam of visible light passing through it.</li> <li>• This scattering of a beam of light is called <b>Tyndall effect</b>.</li> </ul> <p><b>Some examples of Tyndall effect:</b></p> <ul style="list-style-type: none"> <li>• A fine beam of light entering room through small hole.</li> <li>• Sunlight passing through canopy of a dense forest.</li> </ul>	<p>Student will be listening carefully.</p>
<p><b>3. PROPERTIES OF A COLLOID</b></p>	<ul style="list-style-type: none"> <li>• A colloid is a heterogeneous mixture.</li> <li>• The size of particles of a colloid is too small to be seen individually by naked eyes.</li> <li>• Colloids are big enough to scatter a beam of light passing through it and make its path visible.</li> <li>• They do not settle down when left undisturbed which means a colloid is quite stable.</li> <li>• They cannot be separated by the process of <b>filtration</b>.</li> <li>• But they can be separated by a special technique called <b>centrifugation</b>.</li> </ul>	<p>Student will be listening carefully.</p>

<b>BLACKBOARD SUMMARY</b>	<ul style="list-style-type: none"> <li>• Colloidal solution is a heterogeneous mixture.</li> <li>• Particles of colloidal solution are not visible to naked eyes.</li> <li>• Colloids have two phase or components: dispersed phase and dispersion medium.</li> <li>• Colloidal solution shows tyndall effect.</li> <li>• Colloidal cannot be separated by filtration.</li> <li>• Particles of colloids can be separated by centrifugation.</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> Colloidal solution is a:</p> <ol style="list-style-type: none"> <li>Homogeneous mixture</li> <li>Heterogeneous mixture</li> </ol> <p><b>Q2.</b> Colloid shows _____ effect.</p> <p><b>Q3.</b> Colloidal solution can be separated by filtration method. <b>(True/False)</b></p> <p><b>Q4.</b> Colloidal solutions are separated by _____ technique.</p> <p><b>Q5.</b> What are the two components of colloids?</p>
<b>HOME-WORK</b>	<b>Q.</b> What is tyndall effect? Give few examples of tyndall effect phenomenon.

## 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](#)
- [School Campus Cleanliness: Need & Importance | Its Role](#)
- [Furniture Cleaning: Importance |Measures to keep them clean](#)
- [First Aid: Importance |Common Ailments |Bandaging types & its Use](#)
- [Rally/ Campaign: How to Organize a rally at School level ?](#)

**Disclaimer:** [wandofknowledge.com](http://wandofknowledge.com) is created only for the purpose of education and knowledge. For any queries, disclaimer is requested to kindly contact us. We assure you we will do our best. We do not support piracy. If in any way it violates the law or there is any problem, please mail us on [wandofknowledge539@gmail.com](mailto:wandofknowledge539@gmail.com)