

LESSON PLAN
CLASS – VII
CHAPTER-6 Physical and chemical changes

Unit	Chapter 6: Physical and Chemical changes
Class Transaction	Total: 8 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires previous knowledge of- Changes around us and explain physical and chemical changes. Difference between physical and chemical changes .
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. Group Discussion 4. HW notebook
Objective	• Given the content (chapter) the learners will be able to give the various examples of physical and chemical changes explain their specific and related characteristics and identify the type of change from different activities and write in notebook with 90% accuracy. • Given the reading of the topic, the learners will be able to describe and explain the different types of changes in their notebook with 90% accuracy.
Learning Outcomes	<u>KNOWLEDGE-</u> <i>Students will know and understand</i> 1. Characteristics of different types of changes. 2. Types of changes. 3. Define: physical and chemical changes, physical properties and chemical properties. <u>SKILLS AND COMPETENCIES -</u> <i>Students would be able to</i> 1. Express characteristics of different types of changes and develop collaboration in the process. 2. Built character and citizenship amongst themselves by discussing communicating the different changes hence strengthening nation's economy. 3. Develop the ability to analyze and differentiate between physical and chemical change and apply related concepts in everyday problems. 4. Able to give various activities on varied changes and develop critical thinking and collaboration in the process.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and	Transaction would proceed in the following manner- <i>Brain Storming</i>-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying.

can use any other too.)	<i>Introduction of the topic-</i> classroom discussion on changes <i>Guided practice followed by Independent Practice-</i> NCERT questions to be discussed in the classroom. Techniques to be used: Quiz Daily Practice Problem MCQ Peer Assessment Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare-contrast matrix), silent/ loud reading, collaborative learning,
Resources	NCERT Science CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content(critical thinking and creativity)..... 3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.
Assessments	Unit tests: 1. Unit Test 1 (25 marks) 2. Unit Test 2 (25 marks) 3. Unit Test 3 (25 marks) 4. Unit Test 4 (25 marks) Half Yearly Exam (80 marks) Annual Exam (80 marks) PERIODIC TEST By administering pen paper test we assess understanding, conceptual knowledge and critical thinking. INTERNAL ASSESSMENT 20 Marks Subject Enrichment 10 Marks

	With the help of subject enrichment activities, we assess communication, collaboration, character building and citizenship. Note Book Submission 10 Marks By writing the answers for relevant question we can assess their knowledge, critical thinking and understanding.
Addressing Classroom Diversity	Due to various social backgrounds and multiple intelligences, the classroom might be a diverse arena. The following techniques can be used for various groups: <i>For gifted students:</i> • EXEMPLAR questions to be done. • HOTS questions will be discussed. • Encouragement for referring other resources <i>For weak students:</i> • NCERT to be completed • Buddy help to be provided • Provide grade-up classes <i>For differently abled students:</i> • Ignore spelling mistakes and formulae, if not written • Call parents at regular intervals • Provide grade-up classes
Marks	The weightage would be given by CBSE.
Questions for assessment during closure	1. Why are physical changes irreversible? 2. What changes are observed during chemical changes? 3. Iron displaces copper from its salt solution and zinc displaces copper and iron from their solution solutions but can't displace aluminium. Which is the most reactive metal among above. 4. What are the conditions required for rusting? 5. Is galvanization a physical or chemical change?

Topic	DAY 1- Subtopic-Physical and Chemical Changes
Class Transaction	40 min
Pre-requisite for the course	This topic requires basic knowledge of physical and chemical changes which students had already learnt in class VI.

Assessment of qualifying knowledge	Knowledge testing by asking them to name the changes taking place around them in day to day life.
Objective	Student will be able to suggest the different changes which they see around them in daily lives.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and understand the meaning of the term physical and chemical change and compare them. <u>SKILLS AND COMPETENCIES</u>- <i>Students would be able to</i> • Critically analyse the term physical change and chemical change. • Contrast the two terms on basis of observations.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Anticipatory Set: 10 min Demo by teacher - classroom demonstration on chemical and physical changes. DOL 1,2,3 Students observe and justify why is categorizing an important part of our daily life. Students also can recall the characteristics which determine the type of change taking place. DOL 1,2,3 Discussion of topic through Collaborative Learning: 15 min (Critical Thinking and Problem Solving) Think, pair share Students in group write about physical and chemical change. They are also able to suggest other examples on observing surroundings including classroom. Guided practice: 10 min Students will write the list of physical and chemical changes. Independent Practice: EXEMPLAR Questions Closure: 5 min Involving students in summarizing by asking them to prepare questions based on the topic. A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	NCERT Science CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self-Study, Home Work, Assignments	Independent Practice: EXEMPLAR Questions
Assessments	Assignment
Topic	DAY 2- Activities to understand physical change
Class Transaction	40 min
Pre-requisite for	This topic requires basic knowledge of general physical properties such

the course	as size, shape, colour, physical state etc.
Assessment of qualifying knowledge	Knowledge testing by asking students to write the properties which show change in different activities.
Objective	Students will be able to understand different physical changes.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to Critically analyse and understand the term physical change and cite appropriate examples from daily life.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Anticipatory Set: 5 min Teacher asks questions based on previous day learning DOL 1,2,3 Discussion of topic through Collaborative Learning: 20 min (Critical Thinking and Problem Solving and collaboration) • Class will be divided into groups of 6 students each. • Each group will discuss about different changes. • They will be asked to name any five physical changes. • The students will then be helped by facilitator for understanding the characteristics of physical changes. Guided practice: 10 min. The following questions will be asked to reinforce their understanding: 1. Write the physical changes taking place around you. 2. What is a physical change? 3. How is physical change determined? Independent Practice: EXEMPLAR Questions Closure: 5 min Involving students in summarizing by asking them to prepare questions based on the topic.
Resources	NCERT Science CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self-Study, Home Work, Assignments	Independent Practice: EXEMPLAR Questions
Assessments	Peer assessment
Topic	Day 3 – Activities based on chemical changes
Class Transaction	40 min
Pre-requisite for the course	This topic requires basic knowledge of characteristics which determine chemical changes.
Assessment of qualifying knowledge	Knowledge testing by asking questions based on previous day learning
Objective	Students will be able to explain the different type of chemical changes taking place around them.

Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to ➤ Analyze the properties which interpret the chemical change. ➤ Will develop collaboration and citizenship while discussing in groups.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Anticipatory Set: 5 min Recapitulation by asking questions based on previous day's learning DOL 1,2,3 Discussion of topic through Collaborative Learning: 20 min (Critical Thinking and Problem Solving, collaboration and communication) Think, pair share Students in groups of six will discuss- chemical change in their groups. They will be asked to find the difference between physical and chemical change. They will also give some examples of specific reactions in each category. Teaching strategy – Demo by teacher, Discussion, think pair share, explanation by teacher Guided practice: 10 min Relevant NCERT and EXEMPLAR Questions Closure: 5 min Summarization by students Independent Practice -Students will complete related questions of EXEMPLAR.
Resources	NCERT Science CBSE Exemplar
Closure	Involving students in summarizing the topic
Self Study, Home Work, Assignments	Independent Practice: EXEMPLAR Questions
Assessments	Quiz
Topic	DAY 4 –Discussion of physical and chemical properties
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of physical and chemical properties.
Assessment of qualifying knowledge	Knowledge testing by asking students to write the parameters which involve physical and chemical properties.
Objective	Students will be able to explain the different characteristics involved in physical and chemical changes.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze the parameters involved in physical and chemical changes.

Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Anticipatory Set: 5 min Recapitulation by asking questions based on previous day's learning DOL 1,2,3 Discussion of topic through Collaborative Learning: 20 min (Critical Thinking and Problem Solving, collaboration and communication) Rally Robin: Students in pairs will find the different indicators which can identify physical and chemical change. Teaching strategy: Demo by teacher, Discussion, think pair share, active learning strategies, explanation by teacher Guided practice: 10 min Relevant NCERT Questions Closure: 5 min Summarization by students Independent Practice- Students will complete related questions of EXEMPLAR
Resources	NCERT Science CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self-Study, Home Work, Assignments	Independent Practice: EXEMPLAR Questions
Assessments	Questioning

Topic	DAY 5 –Rusting of iron
Class Transaction	40 min
Pre-requisite for the course	This topic requires basic knowledge of the process of rusting.
Assessment of qualifying knowledge	Knowledge testing by asking students to tell the conditions required for rusting.
Objective	Students will be able to explain the process of rusting.
Learning Outcomes	<u>SKILLS AND COMPETENCIES</u> - Students would be able to effectively interpret the observation and identify the factors responsible for the process.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and	Transaction would proceed in the following manner- Anticipatory Set: 5 min Recapitulation by asking questions based on previous day's learning DOL 1,2,3 Discussion of topic through Collaborative Learning: 25 min (Critical Thinking and Problem Solving, collaboration)

can use any other too.)	Collaborative work, students will discuss different stages of life history of silkworm in their groups. Class will be divided into groups of 6 students each. Groups will be asked to prepare presentation on allotted topics. Each group will be given 4 minutes to give presentation. • Group 1- What is rust? • Group 2- How is it formed? • Group 3 –What are the conditions required for rusting? • Group 4 –How can we prevent rusting? • Group 5 -What is galvanization? • Group 6- Summary of rusting process. Guided practice: 5 min Students will write the conditions required for rusting. Independent Practice: EXEMPLAR Questions Closure: 5 min Involving students in summarizing by asking them to prepare questions based on the topic
Resources	NCERT Science CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self-Study, Home Work, Assignments	Independent Practice: EXEMPLAR Questions
Assessments	Oral Test
Topic	DAY 6-Crystallization
Class Transaction	40 min
Pre-requisite for the course	This topic requires basic knowledge of crystals which students had already learnt in class VI
Assessment of qualifying knowledge	Knowledge testing by asking students to write various substances which they find as crystals around them.
Objective	Students will be able to write different crystals which we see around us.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to • Critically analyse and understand the principle behind the process of crystallization. • Solve knowledge, understanding and application-based questions on the topic.
Transaction Methodology (The teacher can use the mentioned techniques,	Transaction would proceed in the following manner- Anticipatory Set: 5 min Recapitulation by asking questions based on previous day's learning DOL 1,2,3 Discussion of topic through Collaborative Learning: 20 min

wherever applicable, and can use any other too.)	(Critical Thinking and Problem Solving, collaboration, communication and character) Instructional Input: Collaborative work, students will discuss page 62-64 of NCERT in their groups. Teaching strategy – Class will be divided into groups of 8 students each. Groups will be asked to prepare play enacting different steps involved in formation of crystals. Each group will be given 5 minutes to give presentation. Presentation by groups followed by discussion Guided practice: 10 min NCERT Questions Independent Practice: Students will complete related questions EXEMPLAR. Closure: 5 min Summarization by students with the muddiest point discussed by the teacher.
Resources	NCERT Science CBSE Exemplar
Closure	Summarization by students with the muddiest point discussed by the teacher.
Self-Study, Home Work, Assignments	Independent Practice: EXEMPLAR Questions
Assessments	Oral Test
Topic	DAY 07: Closure by mind mapping and open discussion
Topic	DAY 08:Class test