

CLASS – VIII
LESSON PLAN
CHAPTER-14 Chemical effects of electric current

Unit	Chapter -14: Chemical effects of electric current
Class Transaction	Total: 8 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires previous knowledge of- 1. Test different liquids and classify them as good and poor conductors of electricity. 2. Describe the chemical effects of electric current. 3. Explain electroplating and list its applications.
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 • Describe the term electricity Test different liquids and classify them as good and poor conductors of electricity. Describe the chemical effects of electric current. Explain electroplating and list its applications. Given the reading of the topic, the learners will be able to list the various liquids which act as conductors.
Learning Outcomes	<u>KNOWLEDGE-</u> <i>Students will know and understand</i> • Describe the term electricity Test different liquids and classify them as good and poor conductors of electricity. Describe the chemical effects of electric current. <u>SKILLS AND COMPETENCIES-</u> <i>Students would be able to</i> 1. Express properties of conducting liquids and develop collaboration in the process. 2. Built character and citizenship amongst themselves by discussing /communicating the ways to identify <i>conducting and non conducting liquids</i> hence strengthening nation's economy. 3. Develop the ability to analyze and differentiate between various types of liquids. 4. Provide examples for different types of liquids. Apply concepts learnt in everyday problems. 5. Carry out practical related to properties of liquids in lab develop critical thinking and collaboration in the process.
Transaction Methodology (The teacher can use the mentioned	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

techniques, wherever applicable, and can use any other too.)	that they would learn now. They would also be told the significance of the topic that they would be studying. <i>Introduction of the topic</i>- classroom demonstration on different types of fibres Students observe the behaviour of different types of fibres Group activities <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, Research work/surveys
Resources	Text Book: NCERT text book for science Reference Book 1. CBSE Exemplar 2. Sample papers / last years papers
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W notebooks 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 marks On time submission.....1 mark Presentation/ Neatness(creativity).....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	4 UNIT TESTS (25, 25, 25, 25)..... 100 Marks HALF YEARLY EXAMINATION.....80 Marks ANNUAL BOARD EXAMINATION.....80 Marks PERIODIC TEST By administering pen paper test we assess creativity and critical thinking. INTERNAL ASSESSMENT20 Marks

	Periodical Test 10 Marks By administering pen paper test we assess creativity and critical thinking. Subject Enrichment 10 Marks With the help of subject enrichment activities we assess communication ,collaboration, character building and citizenship By writing the answers of NCERT questions we can assess critical thinking(Level 2 questions), creativity(Level 3 questions) Note Book Submission 05 Marks
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> • Preparing a debate • Making PPT • Designing an exhibit • Writing a report • Preparing a talk • Encouragement for referring other resources <i>For weak students:</i> • Making a Chart/diagram/poster/ flashcards • Buddy system 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.

Topic	DAY 1-Introduction to electricity and Do liquids conduct electricity
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires Basic knowledge of conduction of electricity which students had already learnt in class VI and VII
Assessment of qualifying knowledge	Knowledge testing by asking questions in class
Objective	Students will be able to explain term conduction in liquids and identify the various conducting and non conducting liquids.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> the term electrolyte and non electrolyte <u>SKILLS AND COMPETENCIES</u>- <i>Students would be able to</i> • Critically analyse the different liquids available around us
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 *Facilitator will introduce the term conductor and insulator with the help of various solids available around us. * Students observe and identify the use of conducting and non conducting liquids. * Students also note down the examples in this category. DOL 1,2,3 Discussion of topic through Collaborative Learning: 15 min (Critical Thinking and Problem Solving) Think, pair share Students in group discuss types of conducting liquids. Activity: Teacher will draw GO of types of liquids on board Guided practice: 10 min • Discussion with students and explanation of the term electrolyte Independent Practice: Worksheet 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	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self Study, Home	Independent Practice: worksheet

Work, Assignments	
Assessments	Assignment
Topic	DAY 2-How to identify weak current
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of current flow through circuits which students had already learnt in classes VII and VIII
Assessment of qualifying knowledge	Knowledge testing by asking students various questions on current flow through various circuits
Objective	Students will be able to explain how to detect weak currents using tester.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to Critically analyse the importance of conduction of electricity through liquids..
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 4 students each. - Each group will discuss this topic from NCERT . - They will be asked to identify the liquids for conduction of electricity. - The students will then draw out the conclusion and record it. Guided practice: 10 min. The following questions will be asked to check their understanding: - Why do liquids conduct electricity ? - Explain the properties of conducting liquids? - What kind of raw material is used in making water a conducting liquid? Independent Practice: worksheet Closure: 5 min Involving students in summarizing by asking them to prepare questions based on the topic.
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self Study, Home Work, Assignments	Independent Practice: Worksheet

Assessments	Peer assessment
Topic	Day 3 - Identification of weak current with the help of magnetic needle
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires basic knowledge of magnetic field.
Assessment of qualifying knowledge	Knowledge testing by asking questions based on previous day learning
Objective	Students will be able to detect weak current with the help of few samples
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze and detect weak current in the circuit.
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 the ways to detect weak current. Teaching strategy – Demo by teacher, Discussion, think pair share, explanation by teacher Guided practice: 10 min Relevant NCERT Questions Closure: 5 min Summarization by students Independent Practice-Students will complete related questions of NCERT
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Closure	Involving students in summarizing the topic
Self Study, Home Work, Assignments	Independent Practice: worksheet
Assessments	Quiz
Topic	DAY 4 -Conduction of electricity through water
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of conducting and non conducting liquids.
Assessment of qualifying	Knowledge testing by asking students to write chemical equations for given reaction

knowledge	
Objective	Students will be able to identify the conduction of current through tap water
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze and differentiate between conducting and non conducting liquids.
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 RobinStudents in pairs will find the difference between conducting and non conducting liquids. Teaching strategy – Demo by teacher, Lab activity, Discussion, think pair share, explanation by teacher Guided practice: 10 min NCERT Questions Closure: 5 min Summarization by students Independent Practice-Students will complete related questions of NCERT
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self Study, Home Work, Assignments	Independent Practice: Worksheet
Assessments	Questioning

Topic	DAY 5- Introduction of chemical effect of electric current
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires basic knowledge of chemical changes.
Assessment of qualifying knowledge	Knowledge testing by asking students to write the different chemical effects of electric current
Objective	Students will be able to explain the term chemical effect of electric current
Learning Outcomes	<u>SKILLS AND COMPETENCIES</u>- Students would be able to effectively interpret various chemical effects of electric current.

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: 5min 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) - Collaborative work, 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 5 minutes to give presentation. - Group 1- Conductors and insulators - Group 2 – Conducting and Non Conducting liquids - Group 3 -Making of Magnetic Tester - Group 4 –Detection of weak currents - Group 5 – Chemical changes taking place in liquids - Group 6- Uses of conducting Liquids Presentation by group 1 followed by discussion Guided practice: 5 min Students will write the chemical equations for the reactions Independent Practice: worksheet Closure: 5 min Involving students in summarizing by asking them to prepare questions based on the topic
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self Study, Home Work, Assignments	Independent Practice: Worksheet
Assessments	Oral Test
Topic	DAY 6-Electroplating
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of coating metals on objects.
Assessment of qualifying knowledge	Knowledge testing by asking students to write the usage of coating metals on objects in our surroundings.
Objective	Students will be able to explain the term electroplating
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to - Critically analyse the process of electroplating - Answer knowledge, understanding and application based questions on the topic.

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, communication and character) Instructional Input : Collaborative work, students will discuss- Page17 and 18 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 electroplating. 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 in NCERT Closure: 5 min Summarization by students with the muddiest point discussed by the teacher.
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Closure	Summarization by students with the muddiest point discussed by the teacher.
Self Study, Home Work, Assignments	Independent Practice: Worksheet
Assessments	Oral Test
Topic	Day 7-Application of electroplating
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires basic knowledge of process of electroplating
Assessment of qualifying knowledge	Recording of the observations made in lab
Objective	Students will be able to give uses of electroplating in daily life.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze various objects which are electroplated.
Transaction Methodology (The teacher can	Transaction would proceed in the following manner- Anticipatory Set: 5 min Recapitulation by asking questions based on previous day's learning

use the mentioned techniques, wherever applicable, and can use any other too.)	DOL 1,2,3 Discussion of topic through Collaborative Learning: 20 min (Critical Thinking and Problem Solving , collaboration and Character building) Teaching strategy – Discussion and tabulation Instructional Input : Teacher will explain the tabulation of materials into two groups -biodegradable and non biodegradable. Guided practice: 10 min Students will observe and record their observation in tabular form. Closure: 5 min Summarization by students Independent Practice-Students will complete practical in their worksheet and answer related questions.
Resources	Text Book: NCERT text book for Science. Reference Book
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.
Self Study, Home Work, Assignments	Independent Practice: Worksheet
Assessments	Observations recorded in the worksheet
Topic	DAY 8 Quiz
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of chemical effects of electric current.
Assessment of qualifying knowledge	Knowledge testing by asking students to tell some chemical effects of electric current
Objective	Students will be able to identify the various uses of chemical effects of electric current.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze and give answers to various objective type questions.
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, collaboration and communication) Collaborative work, Presentation by groups followed by discussion Guided practice: 10 min

	NCERT Questions Closure: <u>5 min</u> Summarization by students with the muddiest point discussed by the teacher. Independent Practice-Students will complete related questions of NCERT
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Closure	Involving students in summarizing
Self Study, Home Work, Assignments	Independent Practice: Worksheet
Assessments	Oral Test