

CLASS – VIII
LESSON PLAN
CHAPTER-18: Pollution of air and Water

Unit	Chapter -18:Pollution of air and water
Class Transaction	Total: 8 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires previous knowledge of- • Pollution, green house effect, global warming and potable water • Discuss the sources of pollutants and their harmful effects. • Suggest the measure to reduce pollution of air and water. •
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 Explain term pollution and various types of pollutants Identify the reasons behind pollution • What is atmosphere? • Name the various gases present in atmosphere. • Explain the terms pollutants • What are the various types of pollution? Given the reading of the topic, the learners will be able to list the various pollutants and list them in their notebook with 90% accuracy.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Pollution and its types 2. Green house effect 3. Global Warming <u>SKILLS AND COMPETENCIES</u>- <i>Students would be able to</i> 1. Express pollution and its types develop collaboration in the process. 2. Built character and citizenship amongst themselves by discussing /communicating the ways to identify <i>different types of pollution</i> hence strengthening nation's economy. 3. Develop the ability to analyze and differentiate between various types of pollutants. 4. Provide ways to reduce pollution and apply concepts learnt in everyday life. 5. Carry out various activities to develop critical thinking and collaboration in the process.
Transaction Methodology	Transaction would proceed in the following manner-

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<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. <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 worksheet question we can assess their knowledge ,critical thinking, creativity 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> • Encouragement for referring other resources <i>For weak students:</i> • 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.

Topic	DAY 1-Introduction to pollution
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires Basic knowledge of pollution 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 pollution and identify the various sources of pollution in daily life
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and understand the term pollution and pollutants. <u>SKILLS AND COMPETENCIES</u>- Students would be able to • Critically analyse the different pollutants 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 with the help of observations from our surroundings. * Students observe and identify the use of term pollution and pollutants * Students also note down the examples in this category. DOL1,2,3 Discussion of topic through Collaborative Learning: 15 min (Critical Thinking and Problem Solving) Think, pair share Students in group discuss types of pollution Activity: Teacher will draw GO of types of pollutants on board and then teacher will introduce types of pollution. Guided practice: 10 min • Discussion with students and explanation of the term pollution • 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 Work, Assignments	Independent Practice: worksheet
Assessments	Assignment
Topic	DAY 2-Air pollution
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of pollutants of air which students had already learnt in classes VI and VII
Assessment of	Knowledge testing by asking students various questions on pollutants

qualifying knowledge	emitted out from vehicles
Objective	Students will be able to explain term pollution and relate it with daily life. Students can also identify the difference between pollution and pollutants.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to Critically analyse the hazards of air pollution
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 find the sources of air pollution. - 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: - Where do we need to reduce air pollution ? - Explain the sources of air pollution. - What are the harmful effects of pollution? 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 -Decoloration of Taj Mahal
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires basic knowledge of air pollution.
Assessment of qualifying knowledge	Knowledge testing by asking questions based on previous day learning
Objective	Students will be able to explain the term decolouration.

Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze the effects of air pollution.
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 decolouration of Taj in their groups. They will be asked to find the deterioration of different monuments due to air pollution. Teaching strategy – Demo by teacher, 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 the topic
Self Study, Home Work, Assignments	Independent Practice: Worksheet
Assessments	Quiz
Topic	DAY 4 -Green house effect and ways to reduce air pollution
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of air pollutants
Assessment of qualifying knowledge	Knowledge testing by asking students effects of air pollution
Objective	Identify the green house gases present in atmosphere
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze various green house gases present in atmosphere.
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 communication) Rally Robin Students in pairs will find the green house gases present in atmosphere.. 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-Water pollution and ways to reduce water pollution
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires basic knowledge of water pollutants.
Assessment of qualifying knowledge	Knowledge testing by asking students to write.the different water pollutants.
Objective	Students will be able to explain the term water pollution and identify different types of water pollutants.
Learning Outcomes	<u>SKILLS AND COMPETENCIES</u> - <i>Students would be able to</i> effectively interpret various causes of water pollution.
Transaction Methodology (The teacher can use the mentioned techniques, wherever	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)

applicable, and can use any other too.)	• 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- Water pollution • Group 2 –Sources of water pollution • Group 3 – Effects of water pollution • Group 4 –Ways to reduce water pollution • Group 5 - Treatment of pollutants • Group 6- Effects on human beings Presentation by group 1 followed by discussion Guided practice: 5 min Students will write the methods to reduce water pollution. 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-Potable water
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of water used for drinking purposes.
Assessment of qualifying knowledge	Knowledge testing by asking students to write the requirements of drinking water.
Objective	Students will be able to explain the term potable water and its properties.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to • Critically analyse the properties of potable water • Answer knowledge, understanding and application based questions on the topic.
Transaction Methodology (The teacher can use the mentioned	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

techniques, wherever applicable, and can use any other too.)	Discussion of topic through Collaborative Learning: 20 min (Critical Thinking and Problem Solving, collaboration, communication and character) Instructional Input : Collaborative work, students will discuss importance of potable water in groups. Teaching strategy – Class will be divided into groups of 8 students each. Groups will be asked to prepare play enacting importance of drinking water. 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 worksheet 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-Quiz
Class Transaction	40 min each)
Pre-requisite for the course	This topic requires basic knowledge of pollution and its types
Assessment of qualifying knowledge	Recording of the observations made in surroundings
Objective	Students will be able to define biodegradable and non biodegradable materials. They will also relate these terms with daily life.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze various types of pollution.
Transaction Methodology (The teacher can use the mentioned	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

techniques, wherever applicable, and can use any other too.)	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 pollution of various types. 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 Oral Test
Class Transaction	40 min each
Pre-requisite for the course	This topic requires basic knowledge of pollution
Assessment of qualifying knowledge	Knowledge testing by asking students to tell some methods of waste disposal.
Objective	Students will be able to identify the various problems with plastic.
Learning Outcomes	SKILLS AND COMPETENCIES- Students would be able to develop the ability to analyze and give methods for waste disposal.
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 worksheet
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