

SUBJECT: CHEMISTRY
TOPIC: WASTEWATER STORY

DIARY- LESSON PLAN

Pre- Content/Content / Post –content	Learning Outcome/Objectives	
	<u>General</u>	<u>Specific</u>
Pre Content: Students know that we use water every day for various purposes. Water should be filtered before it is used for drinking as it contains impurities that cannot be seen through our naked eyes. With increasing population, industrialization and infrastructure development, more and more waste water is being produced. Polluted water produced can prove to be fatal. Content: • Waste water and sewage • WWTP(Waste Water treatment plant or Sewage Treatment Plant) • Sanitation and diseases. Post Content: The student at the end of the chapter should be able to comprehend the following concepts. • Define Waste Water • List the sources from which sewage is being produced • Describe the sewage treatment plant. • Explain how diseases are related to sanitation.	Students will be able to: • appreciate the need of WWTP and elaborate the various steps of it. • formulate a link between Sanitation and Diseases.	Students will be able to: • develop definitions of the new terms Waste Water and Sewage. • identify the sources of Sewage • list and elaborate the steps of Sewage Treatment Plant. • appraise the importance of treating polluted water. • correlate poor sanitation and contaminated drinking water as the cause for diseases. • discuss the significance of Drainage Disposal. • identify alternative arrangement for sewage disposal. • create awareness of sanitation at public places. • adapt steps to prevent disease prevention is better than cure.

Home Work / Assignments

- Worksheets and assignments.
- Question answers from text-book.

AND PROGRESS**MONTH: APRIL****CLASS: VII**

Teacher's Activity	Student's Activity	Teacher's Observation and Remedial action taken
Teacher will: discuss the properties and uses of Water explain an activity of contaminant survey in an open drain. explain the concept of sewage treatment explain the Waste Water Treatment Plant <u>Annexure18(A):</u> explain an activity to show the importance of purification of water. explain the students the relation between sanitation at public places and health.	Students will: participate actively and draw flowchart to show the various uses of water. observe the various types of sewage, record and tabulate the colour odour and any other marked observation. participate in the discussion and note down the important points. draw the diagram of WWTP and list the various steps of treatment <u>Annexure18(a):</u> participate actively and record their observations suggest and list ways to maintain proper sanitation at public places	

Teaching Aids – Active Inspire boards, ICR, Materials required for activities, worksheets and textbook, Activity Kits

Methodology / Innovative Methods: Activity based teaching, Know to Unknown, Discussions, Activity method, brainstorming sessions.

Interdisciplinary Links –

- **Art** – Creative skills will be developed
- **English** – It will improve the power of expression while explaining the activity and also vocabulary

HOD**Coordinator****Vice-Principal****Principal**

ANNEXURE -18(A) & (a) -WATER PURIFICATION

Subject	Science
Class	VII
Chapter/Unit	Wastewater story
Topic	Purification of polluted water
Time	30 minutes
Nature of Activity	Pair work

What will I learn (Learning Outcome)?

Students will interpret the importance of purification of water.

Skills: Analysing, Applying and Interpreting.

What I have to do?

To see how water is purified in the water cycle.

What do I require?

- Four cups of dirt or sand
- Twelve stones
- A large glass bowl
- A short glass
- Plastic cling film and
- Sunny day

What do I need to know?

Water cycle or the hydrological cycle, is the continuous movement of water over, above, and beneath the Earth's surface. As water moves around in the hydrosphere, it changes its state among liquid, vapor, and ice. The process through which a liquid becomes a vapor, is defined as Evaporation. When the air cools, the water vapor condenses in the clouds and falls to the earth it hits the ground and is absorbed in many ways. It can be absorbed by plants, stored on the surface in a lake, stream, ocean, or evaporated by the sun. It can also be absorbed into the soil or pulled through the soil for years as groundwater. The water used by plants can go back into the earth by transpiration.

In the water cycle, evaporation and condensation are the key processes that help in rainwater being pure. These processes can also be used to purify water for drinking or industry use.

➤ Teacher's Activity

Teacher will

1. arrange the materials for the individual
2. make pairs and explain the role of each member of the pair.
3. give instructions regarding the activity.

How will I proceed?

➤ Student's Activity

1. Student A will mix the dirt (or sand) and water in a large bowl.
2. Student B will stand a clean and empty short glass in the centre of the bowl.
3. Student A will place the bowl outside in the sun.
4. Student B will cover the bowl with the plastic wrap and weigh down the edges with the remaining rocks
5. Student A will place one rock on the plastic wrap directly over the cup.
6. Student B will allow the bowl to remain in the sun for twelve hours.

What have I observed?

Observation	In the cup	In the bowl
After 12 hours		

What have I learnt?

Minerals like _____ and other substances dissolved in water are left behind. As a result, when the water vapor condenses to become water again, it is relatively pure. The _____ and _____ are the key terms that help in the purification of water.

What am I curious to learn?

Let us find out how waste water and sewage is disposed of in our house or apartment complex and

- Find out where the waste water goes.
- Find out if there are open drains, stagnant water and contamination of groundwater.
- Find out how and where the sewage is disposed of.
- Trace the route of sewage disposal and identify any problems along it.

Let me evaluate myself

Q1. What are the two processes responsible for the purification of water?

Ans. _____

Q2. Give one example from your everyday life where we come across the process of condensation.

Ans. _____
_____.

Q3. How does this process of water cycle work on Earth?

Ans. _____
_____.

Q4. What is the plastic wrap?

Ans. _____
_____.

Q5. What would happen if the plastic wrap was dirty?

Ans _____
_____.