

ACTIVITY NO. – 15: Let's minimize the use of plastics!

Subject	Science
Class	X
Chapter/Unit	Our Environment
Topic	Plastic Pollution
Time	40 min
Nature of Activity	Group

What will I learn (Learning Outcome)?

To explore systemic approaches to minimize use of plastics

Skills: Analyzing and Creating

What I have to do? To keep a record of plastic use and brainstorm ways to decrease the usage of plastic.

What do I require? Reading material

What do I need to know?

Plastic doesn't decompose quickly. A plastic bag, for example, can endure in the environment for 1,000 years. So the plastic waste we generate today isn't going to go away. It's going to pile up on land and float in the oceans

Teacher's Activity

- Teacher will-
 1. discuss about usage of plastic in our daily life.
 2. arrange materials for the activity
 3. divide the students in to groups
 4. ask students to begin thinking about what they use that is made of plastic or has plastic in it.
 5. explain that they are going to keep a record for one day of the plastic that they use.
 6. distribute "Record Your Plastics" sheet.
 7. give instructions for filling the observations-
 - (i) In the second column of their record, "What I did with it after I used it." , name the items that you throw away immediately (e.g., a plastic bag) or that you would throw away eventually (e.g., a computer).
 - (ii) In the third column ,write yes against the items that you could easily replace with something non-plastic.
 - (iii) For a week, keep a record of your usage if the items you have targeted to avoid/ replace with something non-plastic.

How will I proceed?

➤ Student's Activity

Students will-

1. follow the instructions and read the material
2. do brainstorming to list the plastic items they use.
3. discuss with their group and fill the 'Record your Plastic' sheet

What have I observed?

Record Your Plastic Sheet

S.No.	Plastic Items I use	What I did with it after I use it?	Articles which can be replaced with non-plastic material. (yes/No)
1.	Plastic Bottles	Threw it away	Yes

Follow-Up Study

S.NO	Articles which can be replaced with non-plastic material	Number Used Day 1	Number Used Day 2	Number Used Day 3	Number Used Day 4	Number Used Day 5	Number Used Day 6	Number Used Day 7
1	Plastic Bags							

What have I learnt?

1. Is there something you threw away immediately that you could avoid using entirely?

2. Is there some plastic item that you could easily replace with non-plastic material?
3. How many plastic bags did you use, and how did that number compare to the number you had recorded at the start of the lesson.
4. Calculate how many items you will not use over the course of a year if you continue your new behavior.
5. Tally with total class numbers. How many plastic bottles and how many plastic bags will all the students not be using?

Hence, Changes that individuals make do add up and changes made at a larger scale add up even faster, and can be more lasting.

What am I curious to learn?

Let us find out how plastic pollution can lead to biological magnification.

Let me evaluate myself

1. Plastics are mostly non-biodegradable. How would they affect the environment?
2. What changes can you make in your habits to become more environment friendly?
3. There was a time when tea in trains was served in plastic glasses which had to be returned to the vendor. Now disposable paper-cups are being used. What do you think are the advantages of disposable paper-cups over disposable plastic cups?
4. Reduce refers to using less of an item. Reuse refers to using an item more than once before discarding it. Recycle refers to taking out useful materials that otherwise might be

thrown away so that they can be used again (often in a different form.) Which of the 3 R's are being followed in the examples given below-

- (i) Using a cloth bag in a grocery store instead of plastic
- (ii) Using newspaper for gift wrapping
- (iii) Mashing up a paper carton and using the paper fibres to make tissue

5. Design a poster on “ Say No to Plastics” to spread awareness among people.

Reading Material

PLASTIC, PLASTIC EVERYWHERE!

We are drowning in plastic! Plastic bags, plastic bottles, plastic keyboards, plastic phone cases, plastic furniture, plastic wrapping in almost everything we buy.

Many human-made materials like plastics will not be broken down by the action of bacteria or other saprophytes. These materials will be acted upon by physical processes like heat and pressure, but under the ambient conditions found in our environment, these persist for a long time.

According to a study in the journal Environmental Science and Technology ,it's possible that humans may be consuming anywhere from 39,000 to 52,000 microplastic particles a year. Efforts to reduce the use of plastics and to promote plastic recycling have occurred. Some supermarkets charge their customers for plastic bags, and in some places more efficient reusable or biodegradable materials are being used in place of plastics. Some communities and businesses have put a ban on some commonly used plastic items, such as bottled water and plastic bags

Let us minimize the use of plastics.