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Synthetic Fibres and Plastics

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ✧ monomers and polymers
- ✧ natural and synthetic fibres
- ✧ properties, uses, advantages and disadvantage of synthetic fibres
- ✧ plastics, their types and properties
- ✧ plastics and the environment

TEACHING AIDS

Pictures/charts/models/animations on structure of polymers; rayon, nylon, polyester and acrylic fibres and different things made of these fibres; Different objects made of plastics; harms of plastics; jute bags; International symbol of recycling.

LESSON PLAN

- ✧ The teacher should start the chapter with Gear Up and ask students the questions given in this section.
- ✧ The teacher should ask questions on artificial and natural fibres based on their previous knowledge.
- ✧ Now, the teacher should define monomers and polymers and also the process of polymerisation.
- ✧ The teacher should explain natural and synthetic polymers, examples of synthetic polymers with their properties and uses and should demonstrate Activity 2.
- ✧ The teacher should compare synthetic and natural fibres and demonstrate Activity 3.
- ✧ Now, teacher should discuss about plastics, their properties, types and demonstrate Activity 4.
- ✧ Now, the teacher should discuss about impacts of plastics on the environment by explaining their disadvantages and should also discuss the measures to be taken to reduce plastic pollution by explaining 4Rs principles.
- ✧ Now, teacher should ask the students to solve Check Points 1 and 2.

- ✧ At last, the teacher will sum up the lesson by going through the points given under the head 'Wrap Up Now'.
- ✧ The teacher will help the students to solve all the questions given in exercises under the head 'Practice Time' and will also discuss the topics given under the head 'Formative Tasks'.

BOOST UP

- ✧ The teacher should assign Activity 1 as home assignment and discuss the results in the class.
- ✧ Students should be encouraged to practise the diagrams of polymer, monomer, linear polymer and cross-linked polymer.
- ✧ Students should be encouraged to find uses of natural and synthetic fibres from everyday life. They should also be encouraged to explore adverse effects of plastics on the environment.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ natural and artificial fibres.
- ✧ monomers, polymers and synthetic, and natural polymers, their properties and uses.
- ✧ plastics, their properties, types and impacts on the environment and measures to reduce them by practising 4Rs principle.

EVALUATIVE QUESTIONS

The teacher may ask the following questions for evaluating the understanding of students:

1. Define synthetic fibres.
2. Write the differences between polymers and monomers.
3. Mention two properties of rayon.
4. Who discovered nylon? Write its few properties.
5. Mention three advantages of synthetic fibres.
6. Give two examples of thermoplastics.
7. How can we reduce plastic pollution?