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Synthetic Fibres and Plastics

LESSON PLAN

SPECIFIC OBJECTIVES

The students will learn about

- ✧ monomers and polymers
- ✧ various synthetic fibres, their properties and uses
- ✧ plastics, their types and properties
- ✧ plastic 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 will start the lesson with 'Science Vocabulary' section by telling the meaning/definition of new terms which are used in the chapter.
- ✧ 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 synthetic polymers, examples of synthetic polymers with their properties and uses.
- ✧ The teacher should compare synthetic and natural fibres and demonstrate Activity 1.
- ✧ Now, teacher should discuss about plastics, their properties, types and demonstrate Activity 2.
- ✧ 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.
- ✧ Now, teacher should ask the students to solve Check Points 1 and 2.
- ✧ The teacher will help the students to solve the questions given in exercises under the head 'Let's Drill Our Skills' and to complete the flowchart given under the head 'Let's Memorise'.

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 more uses of natural and synthetic fibres from everyday life. They should also be encouraged to explore more adverse effects of plastics on the environment.

EXPECTED LEARNING OUTCOMES

The students know about

- ✧ 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.

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?