

Subject – Science

Class- 8

Topic – chapter-3

EXERCISES

the black plastic bags are made from recycled...

A. Tick (✓) the correct options:

- Which of the following fibres gives wool-like feeling?
 (a) nylon (b) acrylic (c) terylene (d) rayon
- Which of the following is not a thermoplastic?
 (a) polythene (b) melamine (c) polyester (d) PVC
- Which of the following plastics is used for making water pipes?
 (a) melamine (b) polythene (c) PVC (d) bakelite
- Terylene mixed with cotton form _____.
 (a) terrycot (b) terrywool (c) terrysilk (d) polyester
- Acrylic fibres are used for making _____.
 (a) sweaters (b) shawls (c) blankets (d) all of these

B. Fill in the blanks:

- Synthetic fibres absorb very little water. This property is called Low absorbing capacity on heating.
- Thermosetting plastic does not become Melt
- Plastic wastes dumped in water cause Water pollution
- Thermacol is a common plastic known for its lightness and rigidity.

C. Match the following :

Column A	Column B
1. Biodegradable wastes (e)	(a) thermosetting plastic
2. Air pollution (f)	(b) natural fibre
3. Bakelite (g)	(c) polymer
4. Thermoplastics (h)	(d) making dress materials
5. Formica (a)	(e) green bin
6. Single large unit (c)	(f) burning of plastics
7. Linen (b)	(g) making electrical plugs
8. Terrycot (d)	(h) can be recycled

Questions:

7. (b) 8. (d)
Very Short Answer Questions:

1. Amide molecule
2. Polythene and polyvinyl chloride/polystyrene
3. Raincoats and water pipes are made with plastics due to their non-reactive nature.
4. Rayon
5. Ester
6. PVC and bakelite

E. Short Answer Type-I Questions:

1. Fibres obtained through different chemical processes in the industries are human-made or synthetic fibres.
2. Polymer is a very large unit formed by the combination of a large number of smaller molecules joined end to end by chemical bonds.
3. Due to high tensile strength of the nylon fibres, these are used for making bristles of toothbrushes.
4. Refuse, Reduce, Reuse, Recycle and Recover are together called 5-R principle. They help to reduce pollution and keep the environment clean.

F. Short Answer Type-II Questions:

1. (a) Plastic is a polymer made up of a very large number of small units joined end to end to form long chains.
 (b) (i) Plastic (PVC) is used for making water pipes.
 (ii) Plastic (Bakelite) is used for making electrical switches and plugs.

S.No.	Thermoplastics	Thermosetting plastics
(i)	Plastics that easily get deformed on heating and can be bent easily are called thermoplastics.	Plastics that once moulded into a shape do not become soft on heating and cannot be moulded again are called thermosetting plastics.
(ii)	They can be moulded into different shapes again and again by repeated heating and cooling.	They maintain their shape and size even at high temperatures.
	Examples: Polythene, PVC, polystyrene, etc.	Examples: Bakelite, melamine, formica, etc.

3. (a) Polyester is used for making water hoses for firefighting operations because it is light, strong and elastic.

(b) Saucepan handles, electric plugs and switches are made of thermosetting plastics because they are more tough and rigid, and are poor conductors of heat and electricity.

others in overcoming

G. Long Answer Questions:

1. (i) Plastic wastes do not get completely burnt and produce toxic gases that cause air pollution.
(ii) When plastics are dumped in water, they cause water pollution.
(iii) Most of the plastics dumped in land fills cause soil pollution.
(iv) Polybags carelessly thrown here and there, clog the drains and sewer lines.
(v) Throwing of plastics, here and there, provides breeding grounds for disease-causing microorganisms.
2. (a) Cooking pans have plastic handles because plastic is poor conductor of heat.
(b) Burning of plastic produces toxic gases and smoke that cause air pollution.
(c) Electric wires have a plastic covering because plastic is a poor conductor of electricity.
(d) Bakelite is used for making electrical switches because it is a poor conductor of electricity.
(e) Plastics are strong and durable because they can be moulded into different shapes and sizes.
3. Advantages of synthetic fibres:
 - (a) **High tensile strength:** Synthetic fibres are very strong and have high tensile strength (as they can hold large amount of weight without breaking).
 - (b) **Low water absorbing capacity:** Synthetic fibres absorb very little amount of water. So, they dry quickly and this property is called drip-dry property.
 - (c) **Abrasion-resistant:** Most of the synthetic fibres have a high abrasion (wear and tear) resistance. So, the clothes made by these fibres are long lasting or durable.
 - (d) **Less expensive:** Synthetic fibres are less expensive and more affordable.
 - (e) **Good elasticity:** Most synthetic fibres are fairly elastic. They can be

stretched or compressed to some extent and on releasing the force, they regain their original shape and size.

4. (a) We should avoid the use of plastics.
- (b) We should clean and dry plastic bags, plastic containers and plastic disposable bottles for reuse.
- (c) We should carry cotton or jute bags when we go for shopping.
- (d) We should not throw plastic disposable bottles, polybags, wrappers, etc., on the roads.
- (e) We should not dispose of articles made of plastic in the sewage system.

HOTS (Higher Order Thinking Skills) Questions:

1. Nylon is used to make fishing nets because it has high tensile strength and is waterproof.