

## CBSE NCERT Solutions for Class 8 Science Chapter 3

### Back of Chapter Questions

1. Explain why some fibres are called synthetic.

**Solution:**

The fibres prepared by human beings are called synthetic fibres. A synthetic fibre is also a chain of small units joined together. Each small unit called a monomer is actually a chemical substance. Some examples of synthetic fibres are rayon, nylon, polyester, acrylic, etc.

2. Mark ✓ the correct answer.

Rayon is different from synthetic fibres because

- (a) It has a silk-like appearance.
- (b) It is obtained from wood pulp.
- (c) Its fibres can also be woven like those of natural fibres.

**Solution:**

Rayon is different from synthetic fibres because: It is obtained from wood pulp.

3. Fill in the blanks with appropriate words.

- (a) Synthetic fibres are also called \_\_\_\_\_ or \_\_\_\_\_ fibres.
- (b) Synthetic fibres are synthesised from raw materials called \_\_\_\_\_.
- (c) Like synthetic fibres, plastic is also a \_\_\_\_\_.

**Solution:**

- (a) artificial, man-made.
- (b) petrochemicals.
- (c) polymer.

4. Give examples which indicate that nylon fibres are very strong.

**Solution:**

Examples which indicate that nylon fibres are very strong are as follows:

- (1) They are used for making ropes.
- (2) They are used for making parachutes.
- (3) They are used while rock climbing.

Hence, we can say that nylon fibres are very strong.

5. Explain why plastic containers are favored for storing food.

**Solution:**

The characteristics that make plastics favorable for storing food items are:

- (a) Light weight
  - (b) Lower price
  - (c) Good strength
  - (d) Easy handling
6. Explain the difference between thermoplastic and thermosetting plastics.

**Solution:**

There are two types of plastics: Thermosetting plastics and Thermoplastics.

Thermosetting plastic	Thermoplastic
More brittle. Break when they are bent.	They can be bent easily.
Softening of thermosetting is not possible even when heated. Once molded, they cannot be reshaped.	Softening of thermoplastics is possible when heated. Thus, it can be reshaped.

7. Explain why the following are made of thermosetting plastics.

- (a) Saucepan handles
- (b) Electric plugs/switches/plug boards

**Solution:**

- (a) Thermosetting plastics cannot be reshaped even when heated. Also, thermosetting plastics like bakelite, melamine, etc. are poor conductors of heat and electricity. Hence, they are used for such purposes.

8. Categorize the materials of the following products into 'can be recycled' and 'cannot be recycled'.

Telephone instruments, plastic toys, cooker handles, carry bags, ball point pens, plastic bowls, plastic covering on electrical wires, plastic chairs, electrical switches.

**Solution:**

Cannot be recycled	Can be recycled
Telephone instruments	Plastic toys
Cooker handles	Plastic chairs
Electrical switches	Carry bags

	Plastic covering on electrical wires
	Ball point pens
	Plastic bowls

9. Rana wants to buy shirts for summer. Should he buy cotton shirts or shirts made from synthetic material? Advise Rana, giving your reason.

**Solution:**

Cotton is a good absorber of water. So it can absorb sweat produced by the body and exposes it to the environment. The sweat therefore evaporates which cools the body. But clothes made from synthetic material cannot absorb sweat and therefore cannot produce the cooling effect of cotton. Hence, Rana should buy cotton shirts.

10. Give examples to show that plastics are non-corrosive in nature.

**Solution:**

Plastics are non-reactive in nature, even with strong chemicals. Hence, they don't get corroded and are therefore non-corrosive in nature.

For example:

- (1) Phenyl or acids, used for household work are stored in plastic bottles.
- (2) Buckets, bottles etc. don't react with water stored in them.

11. Should the handle and bristles of a toothbrush be made of the same material? Explain your answer.

**Solution:**

No.

In a toothbrush, the handle should be hard and strong, so that it doesn't break while bristles should be soft and flexible. Hence, handle should be made up of plastic while bristles should be made from nylon.

12. 'Avoid plastics as far as possible'. Comment on this advice.

**Solution:**

Due to the following reasons, plastics should be avoided:

- (1) They are non-biodegradable. Hence, they take hundreds of years to decompose.
- (2) If they are burnt, poisonous gases are released which pollute the environment.
- (3) Plastic dumps in the oceans affect marine life and can cause death of marine animals.

- (4) Plastic dumps on land can also be fatal. Animals can swallow them and the plastic can choke their respiratory system.

13. Match the terms of column A correctly with the phrases given in column B.

A		B
Polyester	(a)	Prepared by using wood pulp
Teflon	(b)	Used for making parachutes and stockings
Rayon	(c)	Used to make non-stick cookware
Nylon	(d)	Fabrics do not wrinkle easily

**Solution:**

A		B	
(i)	Polyester	(d)	Fabrics do not wrinkle easily
(ii)	Teflon	(c)	Used to make non-stick cookware
(iii)	Rayon	(a)	Prepared by using wood pulp
(iv)	Nylon	(b)	Used for making parachutes and stockings

14. 'Manufacturing synthetic fibres is actually helping conservation of forests'. Comment.

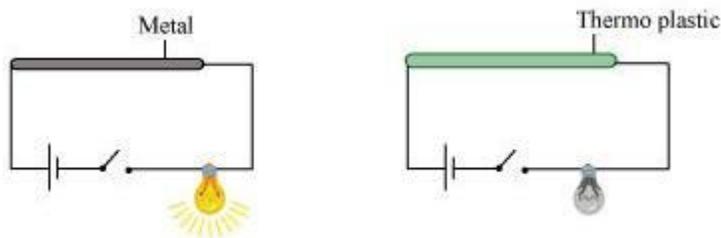
**Solution:**

Natural fibres are mainly obtained from plants and trees. Hence, to obtain them, we need to cut down trees which eventually leads to deforestation. But synthetic fibres are made using petrochemicals. Therefore, there will be no need of deforestation. So we can say that 'Manufacturing synthetic fibres is actually helping conservation of forests'.

15. Describe an activity to show that thermoplastic is a poor conductor of electricity.

**Solution:**

To show that thermoplastics are bad conductor of electricity, we can design a circuit with some wires, bulb, battery, a metal piece and a PVC pipe (PVC is a thermoplastic material) as shown in the figures.



In the first case, we will have a metal piece as shown in the figure. We can notice that the bulb will glow.

While in the second case, we will use a PVC pipe instead of a metal piece. We will notice that the bulb will not glow this time.

Hence, from this experiment we can say that “Thermoplastics are bad conductor of electricity”.

