

# ENVIRONMENTAL STUDIES

CLASS 5

CHAPTER 7

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## Think What Would Happen If

1. Ayesha put a puffed puri in a bowl of water. Would it sink or float? **Ans.**

The puri would float.

2. You put a steel plate on water. Would it sink or float? What would happen to a spoon?

**Ans.** If I put the steel plate carefully on water, it would float. The spoon would sink.

3. Would the cap of a plastic bottle sink or float on water? **Ans.**

The cap of the plastic bottles would float on water.

4. Have you seen that some things float on water while others sink? Think how this happens?

**Ans.** Yes, I have observed that certain things float on water while others sink.

Everything displaces water equal to its volume. If the displaced water is more than the weight of a thing, then the thing floats, otherwise it sinks in water.

## Do This and Find Out

Do this experiment in groups of four friends. Each group will need a big pot filled with water and the things listed in the table. Put each thing one-by-one in water and observe. **1. Mark**

(✓) for the things that float. Mark (X) for those that sink.

<i>Things to be put in water</i>	<i>I guessed before I did it</i>	<i>I saw when I did it</i>
(a) Empty bowl (Katori)	X	X
(b) After putting in 6–7 small pebbles, one-by-one	X	X
Iron nail or pin	X	X
Matchstick	✓	✓
(a) Empty plastic bottle with its lid closed	✓	✓
(b) Bottle half-filled with water	✓	✓
(c) Bottle full of water	X	X
Aluminium foil (from medicine packing)	✓	✓
(a) open and spread out	✓	✓
(b) pressed tightly into a ball	X	X
(c) in a cup like shape	✓	✓
(a) Soap cake	X	X
(b) Soap cake on a small plastic plate	✓	✓
A piece of ice	✓	✓

**2. Find out from the other groups which things floated and which sank in the water?**

**Ans.** A ball, a Styrofoam ball, etc. can float on water. An iron nail, a key, etc. will sink in water.

**3. After doing the experiment, fill in the blanks:**

**1. The iron nail.....in water but the katori.....I think this happened because.....**

**2. The empty plastic bottle.....on water. The bottle filled with water.....because.....**

**3. The aluminium foil.....when it was spread out. When pressed tightly into a ball it..... This may have happened because.....**

**Ans.** 1. Iron nail sank in water but the katori floated. I think this happened because iron nail could displace less amount of water than what was displaced by the katori.

2. The empty plastic bottle floated. The bottle filled with water sank because the filled bottle could displace less amount of water compared to its weight.

3. The aluminium foil floated when it was spread out. When pressed tightly into a ball it sank. This may have happened because aluminium foil spread out could displace more water compared to its weight.

**It Is Magic?**

**1. Take some water in a glass. Put a lemon in it. Now keep putting salt in the water, half-a-spoon at a time. Were you able to float your lemon in water?**

**Ans.** Yes, the lemon started to float on water.

**2. What do you think, the lemon floated in salty water because.....**

**Ans.** After adding salt, the water became thicker and thus the lemon started floating.

**What Dissolved, What Did Not?**

**1. Suggest some ways to Hamid for quickly dissolving sugar.**

**Ans.** Hamid should follow any of these methods:

(a) Stir the mixture thoroughly. (b) Warm the mixture over a flame. .

### Do This Experiment

1. Make groups of four friends. For the experiment you will need 4-5 glasses or bowls, spoons, water, and the things listed in the table. Take some water in each glass. Now try to dissolve one thing in one glass. Observe what happened note in the table. **Ans.**

<i>Things</i>	<i>Did it dissolve or not?</i>	<i>What happened after keeping for 2 minutes?</i>
1. Salt	Yes	Salt and water got mixed together completely. Water remained transparent.
2. Soil	No	Soil settled down at the bottom. Water became muddy.
3. Chalk powder	No	Chalk powder settled down at the bottom. Water became whitish.
4. 1 spoon milk	Yes	Milk and water got mixed together completely. Water became whitish.
5. Oil	No	Oil floats on the surface of water.

### Tell

1. Could you see the salt after it dissolved in water? If no, why?

**Ans.** Salt cannot be seen after it dissolves in water. This is because the salt is completely soluble in water.

2. Does that mean that the water does not have salt? If it has, then where is the salt?

**Ans.** No, it does not mean that the water does not have salt. The salt is dissolved in water.

3. What difference did you see—in the water with salt and the water with chalk powder—after keeping for some time?

**Ans.** Salt mixed completely with water, while chalk powder settled down at bottom. Which of the two would you be able to

4. separate from the water by straining with a cloth—salt or chalk powder?

**Ans.** We can separate chalk powder from water; by straining with a cloth.

5. Do you think the oil got dissolved in the water? Why do you think so?

**Ans.** I think that the oil did not dissolve in water. Oil floating on water surface made me to think so.

**6.You also try to do the same and then tell—which drop went ahead? Why did it slide faster?**

**Ans.** The drop of water went ahead slide faster. Drops of oil or sugar-syrup stick to the tiffin box.

### **Where Did the Water Go?**

**One day Ayesha’s mother put some water to boil on the stove for making tea. She got busy with something and forgot about it. When she remembered and came to check, she found only a few drops of water left in the pan.**

**1. Think where did the water go?**

**Ans.** The water evaporated and turned into vapour.

**2.Why did Chittibabu and Chinnababu keep their mango jelly in the sun?**

**Ans.** They kept their mango jelly in the sun so that the water from the jelly could evaporate.

**3.At your house, what things are made by drying in the sun?**

**Ans.** Following items are made in my house by drying in the sun: Potato chips, papad, pickles, badis and sabudaana papad.

### **What We Have Learnt**

**1.You have washed your handkerchief and you want to dry it quickly. What all can you do?**

**Ans.** I will squeeze the water out of the handkerchief. Then I will spread the handkerchief on a clothes line, in the sun. I can also use a hot electric iron to dry the handkerchief.

**2.What things do you put in water to make tea? Which of those things dissolves in water?**

**Ans.** For making tea, I put sugar, milk and tea leaves in water. Sugar and milk dissolve in water.

**3.You have been given some mishri pieces (lumps of sugar). Suggest some ways to dissolve them quickly.**

**Ans.** Follow these steps to dissolve the mishri pieces quickly:

1. Crush the mishri pieces into fine powder.
2. Put it in water and stir thoroughly.
3. You can also warm the mixture on a flame.

