

LESSON No. 22



WHAT FLOATS, WHAT SINKS AND MIXES



In the morning Chaoba went for a bath. He was in a hurry and the soap case fell out of his hands. He saw the soap case floating on water and the soap sinking to the bottom of the bucket. Chaoba thought — why did the soap case float and the soap sink ?

* Have you ever seen anything float on water ? _____

* Was it a paper boat or a piece of wood or anything else ? _____

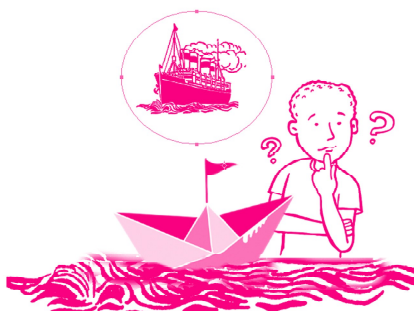
Think what would happen if —

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

* You put the cap of a plastic bottle on water ? Would it sink or float ?

Why, oh why ?
A wooden boat or an iron ship
floats on water.
But a needle or nail sinks in water.
Why does this happen ?

Think.



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Do it yourself and find out : Do this experiment yourself. You will need a big tub filled with water and the things listed in the table. Put each thing one-by-one in water and complete the columns.

Things to be put in water		Sinks	Floats
(a)	Soap		
(b)	Soap on a steel plate		
	An ice cube		
(a)	Empty Steel bowl		
(b)	After putting in 7-8 small pebbles, one by one		
	Iron nail or screw		
	Matchstick		
(a)	Empty plastic bottle		
(b)	Plastic bottle full of water		
(a)	Aluminium foil (from medicine packing)		
(b)	open and spread out		
(c)	in a cup-like shape		
	pressed tightly into a ball		

After doing the experiment, fill in the blanks below :

1. The empty plastic bottle _____
on water because it was _____
2. The plastic bottle filled with water _____
because it was _____

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3. The aluminium foil _____ when it was spread out. When pressed tightly into a ball it _____ because _____
4. The iron nail _____ in water because _____
5. The matchstick _____ on water because _____

Did you know ?

A liquid does not have its own shape. It takes the shape of the container that holds it. Thus a liquid poured into a bottle or glass will take the shape of the bottle or glass. You must have seen water bottle of different sizes e.g, 1/2 litre, 1 litre, 2 litres etc. We use litre as a unit for measuring volume of liquids such as water, oil, milk etc.

Which is faster ?

Do you know that water and milk flow more easily than oil ? For example, oil, milk and water will drip from a spoon at different speeds. Look at the picture. Oil flows off the spoon more slowly than milk or water. Why is it so ?



Water



Oil

Teacher's Note : *At such a tender age, children should not be told about density, gravity, etc. We should accept answers that children may give, such as heavy, light etc.*

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Do it yourself : Put 2 drops of oil on the lid of your tiffin box or clip board. Next to that put two drops of water and two drops of milk or sugar solution. Tilt the lid or clip board. Which drops slid down quickly.



Is it magic ?

Take some water in a glass. Put a lemon in it. Now keep putting salt in the water, a spoon at a time. Can you see the lemon floating in water ?



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

DEAD SEA

You have learned that seas have salty water. The saltiest of all is the Dead Sea. **It is a sea between Jordan and Israel.** Imagine 300 grams of salt in one litre of water ! Even if you do not know how to swim, you will float in this sea, as if lying down on it !



Remember, how the lemon floated in salty water.

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What dissolved, what did not ?

* Do this experiment

Make groups of three friends. For this experiment you will need 5 glasses, spoons, water and the things listed in the table. Take some water in each glass and try to dissolve one thing in one glass. See what happens and write in the table below.

Things	Did it dissolve or not ?	What happened after keeping for 3 minutes?
1. Sugar		
2. Sand		
3. Salt		
4. Oil		
5. Stone		

Now answer the following questions.

- * Could you see the sugar after it dissolved in water ?

- * Does that mean that the water does not contain sugar ? _____
- * If the water contains sugar, then where is the sugar ? _____
- * Did you see any difference between the water with sugar and the water with sand ? _____
- * Which of the two would you be able to separate from the water by straining with a cloth— sand or sugar ? _____
- * Does the oil mix with water ? _____

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Find out

- * What are the things that we put in water to make tea ? Which of those things dissolves in water ?
- * You have been given some mishri pieces (lumps of sugar). Find some ways to dissolve them quickly.