

4. Your Own Book of Science



I

You may come across simple but amazing science experiments in magazines, newspaper supplements or on the internet. Collect any 5-8 experiments you like. Ask your parents/teachers whether the experiments are safe. Then carry out the experiments. (If necessary, take the help of your parents/teachers.) Record the experiments on separate sheets in your own 'Book of Science' ! An example is given below.

A Simple Experiment : Lifting Ice !

If you wanted to lift ice without touching it, what do you do ? Read on to find out.



What you need :

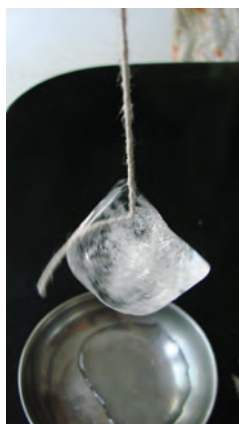
Ice cubes, thread, common salt.

What you do :

- * Place an ice cube in a dish.
- * Place a piece of thread on it.
- * Sprinkle some common salt on and near the thread on the ice cube.
- * Wait for a few seconds.
- * Hold the two ends of the thread and pick them up carefully.

What happens ?

Try placing the thread in different ways to lift the ice. You can place just one end of the thread on the ice cube and lift the ice with the other end !



II

Puzzles in your Surroundings

Why does it hail even in summer ?

We feel very hot in summer. The sun shines brightly and the temperature is high. And then suddenly, there are clouds in the sky and it starts raining – not just water but even small balls of ice. We say it has started hailing. The small balls of ice are called hailstones. Why does it hail in the hot summer season ?

As we move up from the land, the temperature begins to fall. Up in the sky, it is very cold even in the hot season. You know that there are water particles in the clouds that we see in the sky. Very high up in the sky, the water particles in the clouds turn into little bits of ice.

Sometimes, there are strong winds in the clouds. They push these little bits of ice upward. So, they do not fall to the ground. They go up and collect more water particles, which freeze onto them. Thus, the tiny balls get bigger and bigger. They turn into hailstones. The heavy hailstones then fall to the ground in the form of a shower.

Very tiny hailstones melt before they reach the ground. They turn into raindrops. But some hailstones reach the ground before they melt.

A light shower of hail can be great fun, but a hailstorm can cause great damage to crops, plants and animals.

Maharashtra was hit by a series of hailstorms in 2014. The hailstorms devastated thousands of acres of standing crops. Fruit crops were ruined. Birds and animals were killed and injured in large numbers. Farmers suffered heavy losses. It was a great natural calamity.



You may have other questions that puzzle you. Note down at least ten such questions on the basis of your observation of things and events in your surroundings.

A few examples are given below.

- * Where do flowers get their colour from ?
- * Why are leaves green ?
- * Why does chopping an onion make you cry ?

Note each question on a separate page in your 'Book of Science'. Draw suitable pictures or paste related photographs on that page.

Try to find the answers to your questions with the help of your parents, teachers or friends. Make use of science journals and reference books to find the answers. You may find the answers on the internet. With the permission and guidance of your parents/guardians or teachers, browse through the informative websites.

You may find some of the answers you need in your textbooks or in other informative books. Note down the answers on the relevant pages.

When you have collected a few experiments and answers to your questions, put them all together in your very own 'Book of Science'.