

W a t e r S p e c t a c l e s

Grandpa has his breakfast after mom, dad leave for work. Then he lies down on his bed and reads the newspaper for two hours.

But before he can do that grandma has to do one important job for him and that is, she has to hunt for his spectacles.

Grandma had gone out for two days.

Grandpa had an early breakfast. He went and sat on the bed as was his usual habit.

But he couldn't read the paper.

Because he just couldn't find his spectacles. Grandpa started searching here and there.

Grandpa searching for something means a big mess all over the house. He looked in the usual places but the spectacles were not there. And Grandpa wouldn't be at ease till he had read the newspaper.

Mihir said to him, "I will help you but first you must stop searching."

Grandpa smiled and nodded.

Mihir brought a round glass bottle from the kitchen.



He kept the bottle in front of Grandpa.

Then he brought some water in a vessel.

By now, Grandpa had become quite restless.

Mihir started slowly pouring the water which was in the vessel into the bottle.

He stopped only when the water started overflowing.

Now grandpa was really annoyed, "What is going on? Where are my spectacles? And you have spilt so much water, wipe it first!"

Mihir closed the bottle full of water very tightly.

He wiped the bottle and the water on the floor.

He held the bottle in front of grandpa and said, "Here are your spectacles."

Grandpa looked at Mihir suspiciously. He wondered if Mihir had gone crazy or whether he was doing it deliberately.

He drew Mihir close to him and said, "Mihiru, my child, this is a bottle of water and not my spectacles. If a bottle of water is called spectacles, then what are spectacles called? I don't want water to drink but I want my spectacles. Get it?"

Mihir looked at grandpa with wide eyes and said, "Grandpa you need water to read, that's why I have given you these spectacles.

Now you can read your newspaper in a jiffy."

Before grandpa could scold him, Mihir took the bottle and held it horizontally over the paper.

And what a surprise!



The small type was suddenly magnified. Grandpa took the bottle in his hand. Now he could see the fine lines on his palm very well.

“We were taught in our school that if a bottle is filled to the brim with water and then closed tightly with a cork, what we get is a small microscope.

We have observed ants, mosquitoes and the petals of some flowers under this microscope.

I thought that if an ant can be magnified, then even the small print of this paper could be magnified.

So I made these special ‘water spectacles’ for you.” Grandpa was pleased when he heard this.

Grandpa pulled Mihir close to him and said, “But do you know why this happens?

A lens which bulge at the centre and tapers towards the sides is known as a convex lens.

This type of lens bends the ray of light travelling in a straight line. It brings together all rays of light.

But the ray of light travelling through the centre of the lens does not bend. It travels through in a straight line.

Any object seen through a convex lens is magnified.

Here a drop of water acts like a convex lens.

So if we hold a round bottle filled with water in front of our eyes, everything seen through it is magnified.”

Mihir said, “Grandpa, my friend told me that we can even ignite paper with a convex lens. Is it true?”



Grandpa replied, "Yes, it is possible but children must not conduct such experiments when no adult is present.

When your grandma returns, we will heat water with the help of a convex lens."

"Now please find my spectacles.

Till then I will read the headlines with my 'water spectacles'!"

Mihir immediately said, "Oh grandpa your spectacles are right here...in your pocket itself!"

Grandpa laughed and said, "Oh dear! Now I must get myself spectacle-searching spectacles to look for my lost pair!!"

■ Rajiv Tambe.

rajcopper@gmail.com