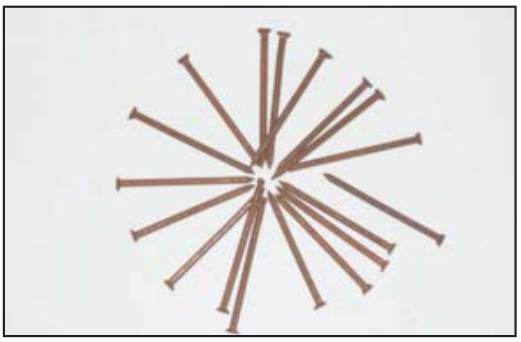
Unit 1 Magnet

What is required ? Cardboard, pins



What to do ?

- ☞ Take a cardboard.
- ☞ Place some pins on it.
- ☞ Move your hand below the cardboard and observe the pins and note it.

Now same activity is done by teacher, observe the pins and note it.

What is required ? Steel glass, magnet and a needle through which thread is passed.

What to do ?

- ☞ Take a steel glass.
- ☞ Take a needle through, which thread is passed.
- ☞ As shown in the figure, press the thread with a finger at the hole of the needle.
- ☞ Put the glass on the needle and raise the glass upward slowly.
- ☞ What happens ? Observe and note it.

Observe the same activity performed by teacher and note it.

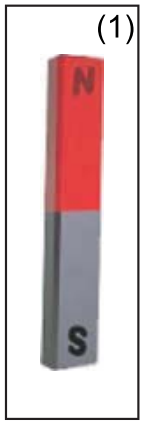
Do the needle stand vertically up without touching the glass ? Why this happnes ?

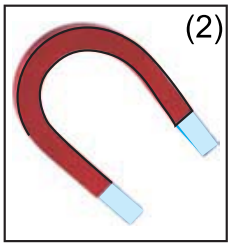
Discovery of magnet :

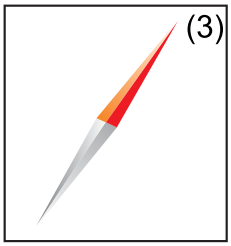
Long year ago in the country Greece a shepherd named Magnus was living in a region called Magnesia. While he pastured his sheeps he observed that the nails of the shoes and the tip of the staff were getting stuck to the ground with black stones on the ground, he got surprised. He showed this substance to other. This substance found in Magnetia region was named magnet.

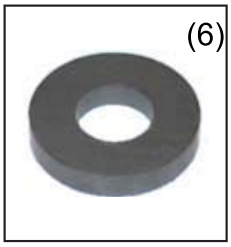
Magnet of different shapes :

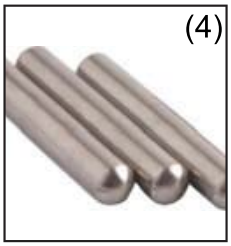
Magnet observed in day to day life are of different shapes.











(1) Bar-magnet (2) Horseshoe magnet (3) Needle magnet

(4) Cylindrical magnet (5) Oval shape magnet (6) Ring magnet

What is required ? Magnet

What to do ?

- ☞ Take a magnet.
- ☞ Take the magnet near to the objects surrounding you.
- ☞ What happens ? Observe and note.

The objects attracted by magnet :

The objects, not attracted by magnet :

The objects attracted by magnet are made up of which substance ?

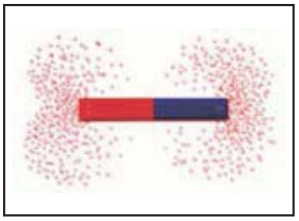
In addition to iron, magnet also attract substance made from Nickel and Cobalt.

Small particles stuck to the magnet lying on the ground. Of which substance these particles are made ?

What is required ? Paper, dust of iron, magnet

What to do ?

- ☞ Take iron dust on the paper.
- ☞ Place magnet over it.
- ☞ Now lift the magnet, observe on which part of magnet more iron dust is deposited and note it.



Magnetic power at both ends of magnet is more, so at the both ends more iron dust get stucked. These both ends of magnet are called magnetic poles.

What is required ? Magnet, thread and stand

What to do ?

- ☞ Take a bar magnet.
- ☞ Tide it with a thread and suspend it with stand as shown in figure.
- ☞ Let it become steady.
- ☞ In which direction it become steady, observe it and note down.

Slightly rotate the magnet and let to be steady again. Observe the direction in which it becomes steady and note down.

Repeat this procedure two-three times and note down the direction in which it becomes steady.

The end of magnet aligned in north direction (N) is called North-pole of magnet and the other along south direction (S) is called South-pole.

What is required ? Two bar magnet and table

What to do ?

- ☞ Take two magnets and find out North and South-pole of it and write N on North-pole and S on South-pole.

☞ Place a magnet on table. Slowly bring the north pole of other magnet close to the first magnet lying on the table.

- What happens ? Write.

☞ Similarly bring the South-pole of magnet to the North-pole of the magnet lying on the table.

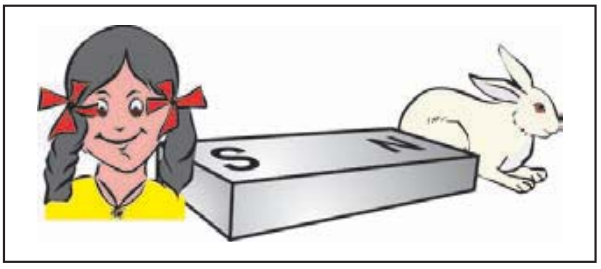
- What happens ? Write.

Like poles (N-N, S-S) repels each other and unlike poles (N-S, S-N) attract each other.

What will be the North-pole and South-pole in the given ring magnet ?

What is required ? Two bar-magnets and pictures (rabbit, grass, girl and kulfi)

What to do ?

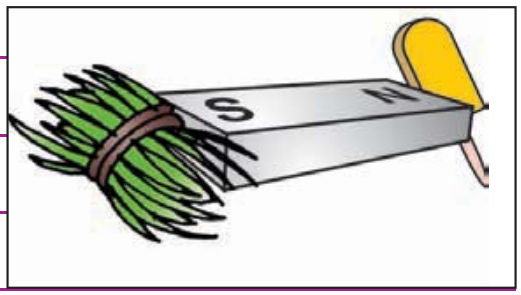


☞ Paste picture of rabbit at one end of magnet and at the other end paste the picture of girl.

☞ Then suspend magnet with a thread.

☞ Now on the other magnet paste picture of kulfi and grass in such a way that, when end of magnet with picture of kulfi is taken close to the first magnet the picture of girl is attracted to it and when the end where grass picture is pasted, taken close to first magnet the rabbit is attracted.

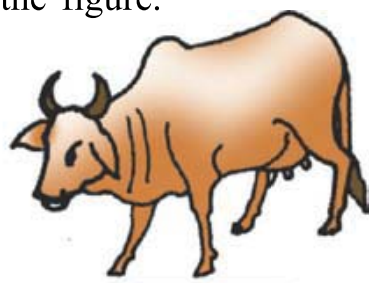
To complete above activity successfully, which thing you have kept in your mind ?

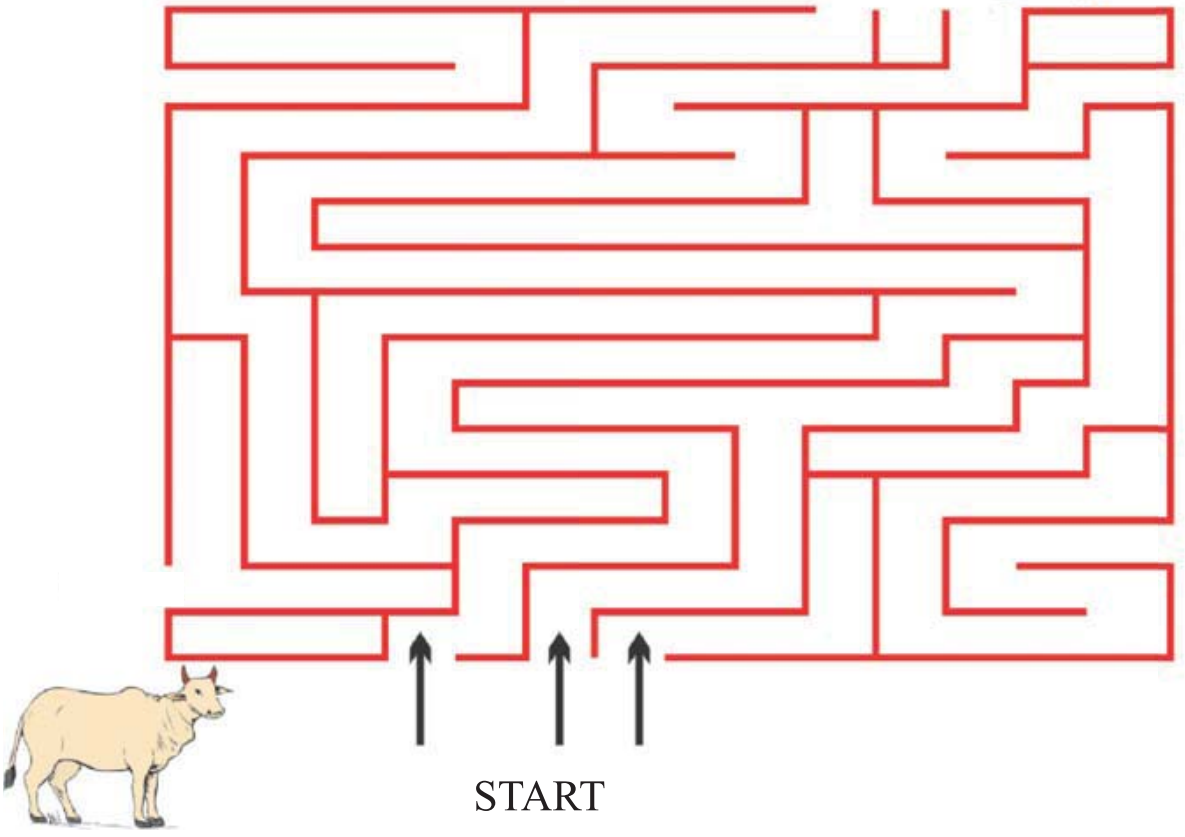


What is required ? Pin, picture of calf, blank paper and magnet.

What to do ?

- ☞ Stick the picture of the calf on the pin.
- ☞ On the blank paper draw the zigzag path as shown in the figure.
- ☞ Now, place the picture of calf at start point.
- ☞ Place a magnet below the paper and move magnet.
- ☞ In this way bring calf to the cow.





Q. 1 Which objects in your house are attracted by magnet ?

Q. 2 Which are N-pole and S-pole for given magnet ?

Q. 3 How N and S poles of magnet are decided ?

Q. 4 If a bar-magnet and a piece of iron is given to you, then how you will decide, which one is a bar-magnet and which is a piece of iron ?

Q. 5 If small nails are spread on the floor, then how can you collect then quickly ?