

## Grade : 6

### CHAPTER 14. FUN WITH MAGNETS

A. Choose the most appropriate answers.

1. Which of the following is not a magnetic material  
A .gold
2. The magnetic strength of a magnet  
C.Is concentrated in two regions called the poles of the magnet
3. If a magnet is rolled in a packet of steel pins, the pins will get most attracted to  
D. Equally to both poles
4. Which of these does not use a magnet  
A. LCD TV
5. A freely suspended magnet comes to rest in the  
A. North South direction
6. Which of the following can not happen, irrespective of whether the given iron bar B is a bar magnet or not  
B. Both ends of B are repelled by the South Pole of a magnet
7. Which of these materials can be used to make the needle of a compass  
C. steel
8. A compass needle is kept in the centre of a bar magnet which of the following is true  
D. It will align itself along the length of the magnet with its South Pole towards the North Pole of the magnet

B. Very short answer questions

1. We can make a magnet with only one full. True or false.

Ans: false

2. Like poles repel and unlike poles attract each other.
3. The earth behaves like a huge bar magnet with its magnetic North Pole near the geographical South pole
4. Can a magnetic North Pole exist without a magnetic South Pole. No
5. You are given a piece of iron under bar magnet. How can you magnetize the piece of iron? Single touch method
6. The single touch method of making a magnet is extensively used nowadays to make magnets. False
7. If a magnet is heated, it can lose its magnetism. True or false? True
8. The region around a magnet where its magnetic influence can be felt is called its magnetic field.
9. Which instrument based on a property of magnets, is used to find directions? Magnetic compass

10. Iron piece used for story magnets are called magnetic keepers

C. Answer in short.

1. Why does a freely suspended magnet point in the north South direction?

Ans: Freely suspended magnet points in the north-south direction. This is because the earth itself behaves like a huge bar magnet with its magnetic poles near the geographical North and South Poles. In a freely suspended magnet, the North Pole points towards the geographical North Pole since it is attracted by the earth's magnetic South Pole. Similarly, the South Pole of the suspended magnet is attracted by the earth's magnetic North Pole and, therefore, points towards the geographical South Pole.

2. What will happen to the poles of a magnet if it is broken into two?

Ans: We will get two separate magnets each with its north and south poles.

3. Will a strong magnet attract a piece of copper? Why?

Ans: No, because copper is a non-magnetic substance.

4. State the rule for attraction and repulsion between two magnets.

Ans: Unlike poles attract and like poles repel each other.

5. One precaution you should always take while handling a magnet is not to drop it. Why?

Ans: Because a magnet loses its magnetism, if it falls from a height.

6. Why are magnetic keepers used to store magnets? Ans: Magnetic keepers are used to store magnets in order to avoid self-demagnetization.

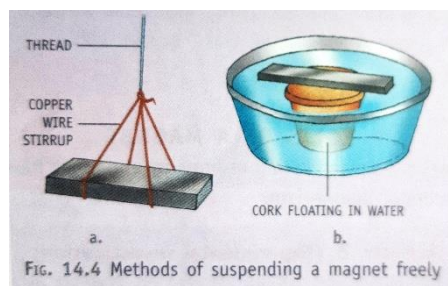
D. Long Answer questions.

1. How will you experimentally show that there are two regions in a magnet where its magnetic strength is concentrated?

Ans: Put some iron filings on a sheet of paper. Roll a bar magnet in the filings and then lift it up. We will find that most of the iron filings stick to the magnet at the ends. There are fewer iron filings in between and almost none at the centre. Thus, in a bar magnet the regions of strongest magnetism are near the ends called the poles of a magnet.

2. Show diagrammatically two ways in which a magnet can be freely suspended to locate directions?

Ans: a. Cork floating in water , b. Methods of suspending a magnet freely



3. Give the step by step method you will adopt to test if a piece of magnetic material is a magnet .

Ans: Bring one pole of a magnet close to the ends of the magnetic material, one end at a time. If one end is attracted and the other repelled, the magnetic material is a magnet. If both ends are attracted, the magnetic material is not a magnet.

4. Given a bar magnet, describe the method you will use to magnetize an iron nail.

Ans: Place an iron nail or a bar on a table. Hold it down firmly and stroke it about 30 times, from one end to the other with one pole of a bar magnet. After you reach the other end, lift the magnet high and bring it back to the first end. We will find if we stroke with the north pole of the magnet, the end of the iron bar from which the stroking is started (end 1) becomes the north pole. The other end (end 2) becomes the south pole. If we stroke with the south pole, poles in the iron needle will be reversed.

5. Name and describe the instructions that uses a magnet to find direction.

Ans: Magnetic compass: A compass consists of a magnetized needle pivoted at a point so that it is free to rotate about that point. The needle points in the north-south direction provided it is kept away from another magnet or other magnetic materials.

6. List any three uses of magnets.

Ans: Three uses of magnets are:

- (i) In refrigerator door stickers.
- (ii) In electric motors used in fans and other electrical appliances.
- (iii) In speakers. Microphones, picture tubes of televisions and computer monitors.

**Complete the think and answer questions in your own words.**