

Chapter 13: Magnetism

Multiple Choice Questions

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1. (d) 2. (b)

Multiple Choice Questions

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1. (a) 2. (c)

EXERCISE

A. Tick (✓) the correct options.

1. (c) 2. (b) 3. (c) 4. (c) 5. (c)
6. (a) 7. (b)

B. Fill in the blanks.

1. magnetic 2. magnetic 3. two 4. repel, attract
5. centre 6. north, south 7. lose 8. directions
9. pairs

C. Match the following.

1. (c) 2. (a) 3. (d) 4. (b)

D. Very Short Answer Questions.

1. The poles of a bar magnet are located towards the ends of the magnet.
2. The two objects that are attracted by magnets are iron and steel.
3. Magnetite is a natural magnet.
4. On heating, the magnets lose their magnetic properties.
5. An electromagnet is a type of magnet around which a magnetic field is produced due to the flow of electric current.
6. Magnetic keepers

E. Short Answer Questions.

1. The substances which are attracted by the magnets are called magnetic

substances. Iron, steel, nickel and cobalt are examples of magnetic substances (write any two examples).

2. The substances which are not attracted by the magnets are called non-magnetic substances. Wood, stone, leather, plastic, aluminium and copper are non-magnetic substances (write any two examples).
3. Natural magnets are found in nature. Magnetite or lodestone is a natural magnet. Natural magnets generally have low magnetic power and such magnets are not found at all places.

Artificial magnets are prepared by humans which can be used at any time and at any place. These magnets are much stronger than natural magnets. Artificial magnets may be rod-shaped, U-shaped or horseshoe-shaped.

4. A freely suspended magnet always rests pointing in the north-south direction. This property of a magnet is called its directive property. The end of a magnet that points towards the north is called the north pole of the magnet and the other end that points towards the south is called the south pole of the magnet.
5. (a) Attractive property of a magnet
(b) Obedient and helping nature
6. The three uses of magnets are as follows :
 - (i) Motors, generators and loudspeakers have powerful magnets.
 - (ii) In scrapyards, magnets are used to separate iron and steel from junk materials.
 - (iii) Data, sound and images are stored on special surfaces coated with magnetic material in computer hard disks, floppies, audio and video tapes.
7. The ends of a magnet where the magnetic force is strongest, are called its poles. A magnet always has two poles. The two poles of a horseshoe-shaped magnet are located near its free ends.
8. It is necessary to store magnets carefully because they tend to lose their magnetism after some time, if not stored properly.
9. (a) It repels the freely suspended magnet.
(b) It attracts the freely suspended magnet.

F. Long Answer Questions.

1. To make a magnetic compass

Things needed: A sewing needle, a bar magnet, a cork and a cup

Method: Magnetise a sewing needle using a bar magnet. Pass the magnetised needle through a small piece of cork. Place this cork containing the magnetised needle in a cup containing water. Make sure that the needle does not touch water. When the needle comes to rest, it points to the north-south direction. Rotate the cork with the needle



inserted in it in different directions. Note the direction of needle in which it comes to rest.

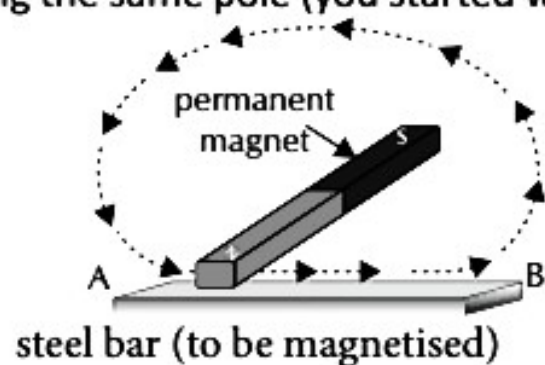
Observation: You observe that the needle always points in the north-south direction, when the cork stops rotating. The magnetic compass is ready for use.

2. Properties of a magnet are as follows :

- (a) A magnet can attract magnetic substances towards it. This property is called the attractive property of a magnet.
- (b) A freely suspended magnet always rests pointing in the north-south direction. This property of a magnet is called its directive property.
- (c) A magnet always has two poles.
- (d) One pole of a magnet is called the north pole and the other pole of a magnet is called the south pole.
- (e) Opposite poles of a magnet always attract each other, while like poles repel each other.

3. We can make a magnet by the single touch method.

Keep a steel bar on a table. Now take a strong permanent bar magnet and keep its one pole on the steel bar at end 'A'. Without lifting the bar magnet, move it along the length of the steel bar till you reach the other end 'B'. Now, lift the magnet and bring the same pole (you started with) to the same point (end A) on the steel bar from which you started. Again move the magnet in same direction 'A' to 'B'. Repeat this for about 30–40 times. Bring some iron nails near the steel bar. If they are attracted by the steel bar, then steel bar has been magnetised.



NOTE (Higher Order Thinking Skills) Questions