

LIVING SCIENCE CLASS6 SOLUTION CHAPTER 14. FUN WITH MAGNETS

P. 158 Oral Questions For Formative Assessment

1. No, I do not agree. Substances like gold, silver, copper are non-magnetic substances.
2. No, in a bar or horseshoe magnet the regions of strongest magnetic strength are near the ends called poles.
3. This is because the magnet aligned itself in attraction to the earth's magnetic field.
4. 10 north poles and 10 south poles
5. Yes. If both ends are attracted by the North Pole, then it is a simple iron bar, not a magnet.

P. 159 Oral Questions For Formative Assessment

1. Yes, this is done by stroking the piece of iron from one end to the other with one pole of the magnet.
2. Because, magnets tend to become weaker after some time if their poles are left free.
3. All around the magnet, magnetic field
4. Electric motor in fan, picture tube of television

P. 160 For Formative and Summative Assessment

A. 1. a 2.c 3.d 4.a 5. a 6. d 7. c 8. d

B. 1. false 2. repel, attract 3. South 4. no 5. single touch method 6. false
7. true 8. field 9. magnetic compass 10. keepers

C. 1. 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. We will get two separate magnets each with its north and south poles.
3. No, because copper is a non-magnetic substance.
4. Unlike poles attract and like poles repel each other.
5. Because a magnet loses its magnetism. if it falls from a height.
6. Magnetic keepers are used to store magnets in order to avoid self-demagnetization.

D. 1. 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. Sea diagram: a. Cork floating in water b. Methods of suspending a magnet freely

3. 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. 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. 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. 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.

HOTS Questions

1. Compass is better as it can be used at any time of the day or night and in any weather. Stars can only be seen at night on a clear night. So they cannot be used during the day or in cloudy nights.

2. No. 3. By repulsion of like poles of powerful magnets.

4. If we suspend the bar magnet freely, it will align itself in the north-south direction. The north pole of the bar magnet points towards the north direction. Now, with reference to the north direction, we can find the west direction.