

CBSE Class–VI Subject Science
NCERT Solutions
(CHAPTER-13)
FUN WITH MAGNETS

Question 1. Fill in the blanks in the following:

- (i) Artificial magnets are made in different shapes such as -----, -----and -----.
- (ii) The materials which are attracted towards a magnet are called -----.
- (iii) Paper is not a ----- material.
- (iv) In olden days, sailors used to find direction by suspending a piece of -----.
- (v) A magnet always has ----- poles.

Answer: (i) Artificial magnets are made in different shapes such as **bar magnets, horseshoe magnet and cylindrical or a ballended magnet.**

- (ii) The materials which are attracted towards a magnet are called **magnetic materials.**
- (iii) Paper is not a **magnetic** material.
- (iv) In olden days, sailors used to find direction by suspending a piece of **magnet.**
- (v) A magnet always has **two** poles.

Question 2. State whether the following statement are True or False:

- (i) A cylindrical magnet has only one pole.
- (ii) Artificial magnets were discovered in Greece.
- (iii) Similar poles of a magnet repel each other.
- (iv) Maximum iron filings stick in the middle of a bar magnet when it is brought near them.
- (v) Bar magnets always point towards North-South direction.
- (vi) A compass can be used to find East-West direction at any place.
- (vii) Rubber is a magnetic material.

Answer: (i) False (ii) False (iii) True (iv) False (v) True (vi) False (vii) False

Question 3. It is observed that a pencil sharpener gets attracted by both the poles of a magnet although its body is made of plastic. Name the material that might have been used to make some part of it.

Answer: The blade of the sharpener is made up of iron which is a magnetic substance which gets attracted by both the poles of a magnet although its body is made of plastic.

Question 4. Column I shows different positions in which one pole of a magnet is placed near that of the other. Column II indicates the resulting action between them for each situation. Fill in the blanks.

Column I	Column II
N-N	
N- ...	Attraction
S-N	
...- S	Repulsion

Answer:

Column I	Column II
N-N	Repulsion
N-S	Attraction
S-N	Attraction
S- S	Repulsion

Question 5. Write any two properties of a magnet.

Answer: Properties of magnet:

- (a) Attracts object made of iron, nickel or cobalt.
- (b) freely suspended magnet always directs north-south direction.

Question 6. Where are poles of a bar magnet located?

Answer: Poles of a bar magnet located at its two ends.

Question 7. A bar magnet has no markings to indicate its poles. How would you find out near which end is its north pole located?

Answer: To locate its north pole, we would do the following steps:

- (i) A bar is taken and suspended freely from the middle with the help of thread.
- (ii) Allow the magnet to come into rest.
- (iii) The North pole of the magnet will face the north direction and South pole will face the south direction.
- (iv) Mark the north pole of the magnet with the marker.

Question 8. You are given an iron strip. How will you make it into a magnet?

Answer: Steps to make an iron strip into bar magnet:

- (i) A flat strip of iron is taken.
- (ii) On the iron strip, a bar magnet is placed and rubbed against it horizontally only in one direction.
- (iii) When you reached the end of the strip, lift the magnet and again start rubbing from the initial position.
- (iv) This process is repeated more than 4050 times.
- (v) After this, the iron strip will attain the property of magnet.

Question 9. How is a compass used to find directions?

Answer: A compass has a magnetic needle attached to it which can rotate freely. The magnet always points to north-south direction which is marked on compass and thus helps in finding direction.

Question 10. A magnet was brought from different directions towards a toy boat that has been floating in water in a tub. Effect observed in each case is stated in Column I. possible reasons for the observed effects are mentioned in Column II. Match the statements given in Column I with those in Column II.

Column I	Column II
(i) Boat gets attracted towards the magnet.	(a) Boat is fitted with a magnet with North Pole towards its head.
(ii) Boat is not affected by the magnet.	(b) Boat is fitted with a magnet with a magnet with South Pole towards its head.
(iii) Boat moves towards the magnet if the north pole of the magnet is brought near its head.	(c) Boat has a small magnet fixed along its length.

(iv) Boat moves away from the magnet when north pole is brought near its head.	(d) Boat is made of magnetic material.
(v) Boat floats without changing its direction.	(e) Boat is made of non-magnetic material.

Answer: (i).(d), (ii).(e), (iii).(b), (iv).(a), (v).(c)

Column I	Column II
(i) Boat gets attracted towards the magnet.	(d) Boat is made up of magnetic material.
(ii) Boat is not affected by the magnet.	(e) Boat is made up of non-magnetic material.
(iii) Boat moves towards the magnet if the north pole of the magnet is brought near its head.	(b) Boat is fitted with a magnet with South pole towards its head.
(iv) Boat moves away from the magnet when north pole is brought near its head.	(a) Boat is fitted with a magnet with North pole towards its head.
(v) Boat floats without changing its direction.	(c) Boat has a small magnet fixed along its length