

Exercise Questions

Page Number: 134-135

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 the olden days, sailors used to find direction by suspending a piece of _____.
- (v) A magnet always has _____ poles.

Solution:

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

2. State whether the following statements 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.

Solution:

- i) False
- ii) False
- iii) True
- iv) False
- v) True (Freely suspended bar magnet)
- vi) True
- vii) False

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

Solution:

Iron might have been used to make some part of it.

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

Solution:

Column – I	Column – II
N-N	<u>Repulsion</u>
N- S	Attraction
S-N	<u>Attraction</u>
S– S	Repulsion

5. Write any two properties of a magnet.

Solution:

Properties of a magnet are as follows

- It attracts objects made of Nickel, Cobalt and Iron.
- Like poles of two magnets repel each other and opposite poles attract each other.

6. Where are poles of a bar magnet located?

Solution:

On two ends of a bar magnet.

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

Solution:

A bar magnet is hung in the air, and the end pointing to the north is the north pole of the magnet.

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

Solution:

Take a bar magnet and keep in contact with one of its poles with one edge of the bar of iron.

- Without lifting the bar magnet, move it along the length of the iron bar till you reach the other end.
- Lift the magnet and bring the pole (the same pole you started with) to the same point of the iron bar from which we began.
- Move the magnet again along the iron bar in the same direction as you did before.
- Repeat this process for about 30-40 times.

9. How is a compass used to find directions?

Solution:

A compass always shows north and south directions; by keeping this as a reference, we can always find east and west directions also.

10. A magnet was brought from different directions towards a toy boat that has been floating in water in a tub. The 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

Boat gets attracted towards the magnet	Boat is fitted with a magnet with a north pole towards its head
Boat is not affected by the magnet	Boat is fitted with a magnet with a south pole towards its head
Boat moved towards the magnet when the north pole was brought near its head	Boat has a small magnet fixed along its length
Boat moves away from the magnet when the north pole is brought near its head	Boat is made up of magnetic material
Boat floats without changing its direction	Boat is made up of non-magnetic material

Solution:

Column I	Column II
Boat gets attracted towards the magnet	Boat is made up of magnetic material
Boat is not affected by the magnet	Boat is made up of non-magnetic material
Boat moved towards the magnet when the north pole was brought near its head	Boat is fitted with a magnet with the south pole towards its head
Boat moves away from the magnet when the north pole is brought near its head	Boat is fitted with a magnet with a north pole towards its head
Boat floats without changing its direction	Boat has a small magnet fixed along its length