# NCERT Solutions for Class 6

## Science

## Chapter 10 – Fun With Magnets

**1. Fill in the blanks in the following:**

**(i). Artificial magnets are made in different shapes such as ----, ------ and -------.**

**Ans:** bar, horseshoe and cylindrical.

**(ii). The materials which are attracted towards a magnet are called ----------.**

**Ans:** magnetic.

**(iii). Paper is not a ---------- material.**

**Ans:** magnetic

**(iv). In olden days, sailors used to find direction by suspending a piece of ---------.**

**Ans:** magnet.

**(v). A magnet always has ---------- poles.**

**Ans:** two

**2. State whether the following statement are true or false:**

**(i). A cylindrical magnet has only one pole.**

**Ans:** False, Any magnet has two poles: a north pole and a south pole, regardless of its shape.

**(ii). Artificial magnets were discovered in Greece.**

**Ans:** False

**(iii). Similar poles of a magnet repel each other.**

**Ans:** True, magnets with similar poles repel one another.

**(iv). Maximum iron filings stick in the middle of a bar magnet when it is brought near them.**

**Ans:** False, because the magnetic strength of a magnet is greatest at the ends, or poles, the most iron filings attach to the magnet's two ends.

**(v). Bar magnets always point towards North-South direction.**

**Ans:** True

**(vi). A compass can be used to find East-West direction any place.**

**Ans:** True

**(vii). Rubber is a magnetic material.**

**Ans:** False, A magnet does not attract rubber. As a result, it isn't a magnetic substance.

**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.**

**Ans:** Iron. By the help of an iron blade present in the sharpener, it gets attracted towards the magnet.

**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** |

**Ans:**

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

**5. Write any two properties of a magnet.**

**Ans:** Magnet Characteristics:

(i). Attracts iron, nickel, and cobalt-based objects.

(ii). Points in the direction of north-south.

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

**Ans:** The poles of a bar magnet are placed right before the ends of the magnet. The north and south poles are depicted here.

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

**Ans:** With the help of a thread, the bar magnet is freely hung. The north pole of the magnet is its end that points north.

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

**Ans:** The table has an iron strip on it. From one end to the other, one end of a bar magnet is pulled across the iron strip. This is done again. A magnet is made from the iron strip.

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

**Ans:** A magnetic needle rotates freely in a compass. The magnetic needle aligns in a north-south orientation when a compass is stored at a specific location. The North Pole is the red arrow on the compass, and the South Pole is the opposite end, which aids Compass in guiding us in the right direction.

**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 affects 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 North Pole towards its head.** |
| **Boat is not affected by the magnet.** | **Boat is fitted with a magnet with a magnet with South Pole towards its head.** |
| **Boat moves towards the magnet if the north pole of the magnet is brought near its head.** | **Boat has a small magnet fixed along its length.** |
| **Boat moves away from the magnet when north pole is brought near its head.** | **Boat is made of magnetic material.** |
| **Boat floats without changing its direction.** | **Boat is made of nonmagnetic material.** |

**Ans:**

| Column I | Column II |
|---|---|
| Boat gets attracted towards the magnet. | Boat is made of magnetic material. |
| Boat is not affected by the magnet. | Boat is made of nonmagnetic material. |
| Boat moves towards the magnet if the north pole of the magnet is brought near its head. | Boat is fitted with a magnet with a magnet with South Pole towards its head. |
| Boat moves away from the magnet when north pole is brought near its head. | Boat is fitted with a magnet with North Pole towards its head. |
| Boat floats without changing its direction. | Boat has a small magnet fixed along its length. |