



INDIAN SCHOOL AL WADI AL KABIR



CLASS: VI	DEPARTMENT: SCIENCE 2023-24	DATE: 09-11-2023
TEXTBOOK Q & A	TOPIC: FUN WITH MAGNETS	NOTE: A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.

1. Fill in the blanks in the following:

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

2. State whether the following statements are true or false:

- (i) A cylindrical magnet has only one pole. **[Hint: False; Any magnet has two poles: a north pole and a south pole, regardless of its shape]**
- (ii) Artificial magnets were discovered in Greece. **[Hint: False; Artificial magnet was discovered in England.]**
- (iii) Similar poles of a magnet repel each other. **[Hint: True]**
- (iv) Maximum iron filings stick in the middle of a bar magnet when it is brought near them.
[Hint: 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 a North-South direction. **[Hint: True]**
- (vi) A compass can be used to find the East-West direction at any place. **[Hint: True]**
- (vii) Rubber is a magnetic material. **[Hint: False; Rubber is a non-magnetic material]**

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. **[Hint:**

Iron might have been used to make some part of the sharpener due to which it is attracted toward 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.

<i>Column I</i>	<i>Column II</i>
<i>N-N</i>	_____
<i>N- _____</i>	<i>Attraction</i>
<i>S-N</i>	_____
<i>_____ -S</i>	<i>Repulsion</i>

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

5. Write any two properties of a magnet. [Hint: Two properties of magnets are: (i) A magnet has two poles: a North pole and a South pole. (ii) Like poles repel each other and unlike poles attract each other.]

6. Where are the poles of a bar magnet located? [Hint: Poles are located on the 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 located? [Hint: Take the bar magnet and suspend it freely with the help of a thread, the end that points towards the north pole will be regarded as the north end of the magnet. Take a bar magnet with known/marked poles on it. Let the north pole of the magnet be brought closer to the suspended magnet at the end that is pointing towards the north, if it shows repulsion then it is confirmed.]

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

[Hint: (i) Take an iron strip which is to be magnetised.

(ii) Keep it on a wooden table.

(iii) Hold one end of a bar magnet in your hand and keep the other end of the bar magnet near one edge of the iron strip.

(iv) Without lifting, move it along the length of the iron strip till you reach the other edge.

(v) After reaching the end of the iron strip, lift the bar magnet bring it to the same position and repeat the process again and again.

(vi) Bring some iron filings near the iron strip to check whether it has become a magnet. If not, continue the same process for some more time.]

9. How is a compass used to find direction? [Hint: 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 the Compass in guiding us in the right direction.]

10. A magnet was brought from different directions towards a toy boat that had 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
i) The boat gets attracted to the magnet.	a) The boat is fitted with a magnet with the North Pole towards its head.
ii) The boat is not affected by the magnet.	b) The boat is fitted with a magnet with the South Pole towards its head.
iii) The boat moves towards the magnet if the north pole of the magnet is brought near its head.	c) The boat has a small magnet fixed along its length.
iv) The boat moves away from the magnet when the north pole is brought near its head.	d) The boat is made of magnetic material.
v) Boat floats without changing its direction.	e) The boat is made of non-magnetic material.

Column I	Column II
i) The boat gets attracted to the magnet.	d) The boat is made of magnetic material.
ii) The boat is not affected by the magnet.	e) The boat is made of non-magnetic material.
iii) The boat moves towards the magnet if the north pole of the magnet is brought near its head.	b) The boat is fitted with a magnet with the South Pole towards its head.

iv) The boat moves away from the magnet when the north pole is brought near its head.	a) The boat is fitted with a magnet with the North Pole towards its head.
v) Boat floats without changing its direction.	c) The boat has a small magnet fixed along its length.

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