

GCSE Physics B (Twenty First Century Science)
J259/02 Depth in physics (Foundation Tier)

Question Set 21

1

Jamal does an investigation to see how two bar magnets behave when they are brought close to each other.

Fig. 1.1 shows how the two bar magnets are arranged.

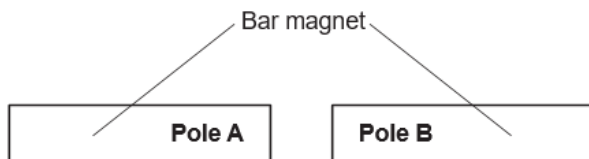


Fig. 1.1

(a) The table shows the possible positions of the north and south poles for the two bar magnets.

Complete the table to show the expected results for the investigation.

Use words from the list.

You may use each word once, more than once or not at all.

Attract **No effect** **Repel**

The first one has been done for you

Pole A	Pole B	Expected Result
N	S	Attract
N	N
S	S
S	N

[2]

(b) Fig. 1.2 shows the magnetic field around a bar magnet.

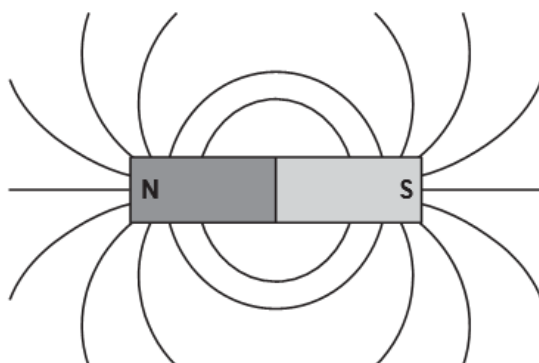


Fig. 1.2

(i) Draw **four** arrows on Fig. 1.2 to show the direction of the magnetic field around the bar magnet.

[1]

(ii) Complete the sentence about Jamal's observations.

Use words from the list.

You can use each word once, more than once, or not at all.

stronger weaker closer together further apart

Jamal observes that when the two bar magnets are attracted to one another, the magnetic force of attraction near the poles is

because this is where the magnetic field lines are [2]

(c) Which statement about magnetism is correct?

Tick (✓) **one** box.

An induced magnet loses its magnetism when removed from a magnetic field.

A permanent magnet loses its magnetism when removed from a magnetic field.

Induced magnets produce their own magnetic field.

Permanent magnets do **not** produce their own magnetic field.

[1]

Total Marks for Question Set 21: 6

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