Simple Phenomena of Magnesium

Question Paper 2

Level	IGCSE
Subject	Physics (0625/0972)
Exam Board	Cambridge International Examinations (CIE)
Topic	General Physics
Sub-Topic	Simple Phenomena of Magnesium
Booklet	Question Paper 2

Time allowed: **15 minutes**

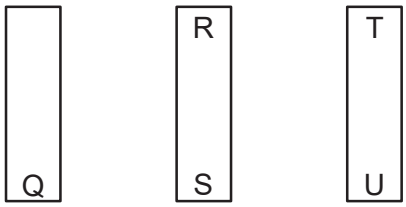
Score: **/12**

Percentage: **/100**

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>85%	75%	68%	60%	55%	50%	43%	35%	<30%

The ends of three metal rods are tested by holding end Q of rod 1 close to the others in turn.



The results are as follows.

End Q: attracts end R,
attracts end S,
attracts end T,
repels end U.

Which of the metal rods is a magnet?

A. rod 1 only

B. rod 1 and rod 2

C. rod 1 and rod 3

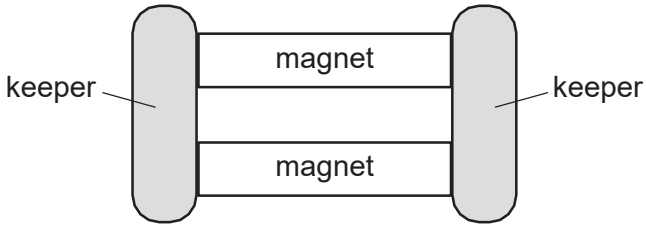
D. rod 3 only.

A permanent magnet is made from metal and an electromagnet uses a metal core.

Which metal is suitable for each of these purposes?

	permanent magnet	core of electromagnet
A	iron	iron
B	iron	steel
C	steel	iron
D	steel	steel

The diagram shows two bar magnets, stored with metal keepers across the ends. The keepers help to keep the magnets magnetised.



The material used for the keepers becomes strongly magnetised when placed in contact with the magnets, but does not remain magnetised when taken away from the magnets.

What is a suitable metal to use for the magnets and what is a suitable metal to use for the keepers?

	metal for magnets	metal for keepers
A	iron	iron
B	iron	steel
C	steel	iron
D	steel	steel

A hard magnetic material can be used to make a permanent magnet.

A soft magnetic material can be used to make a temporary magnet.

Which row shows whether iron and steel are hard or soft magnetic materials?

	iron	steel
A	hard	hard
B	hard	soft
C	soft	hard
D	soft	soft

How can a permanent magnet be demagnetised?

A. cool the magnet for a long time

B. hit the magnet repeatedly with a hammer

C. leave the magnet in a coil which is connected to a battery

D. shine bright light onto the magnet

In which pair are both metals ferrous?

A aluminium and copper

B aluminium and steel

C copper and iron

D iron and steel

Which statement describes a property of a magnet?

A. It attracts ferrous materials.

B. It could have only one pole (north or south).

C. It points in a random direction when suspended.

D. It repels non-ferrous materials.

Which procedure may be used to demagnetise a steel bar?

A. cooling it in a freezer

B. earthing it with a copper wire

C. placing it in a solenoid carrying a large direct current (d.c.)

D. striking it repeatedly with a hammer

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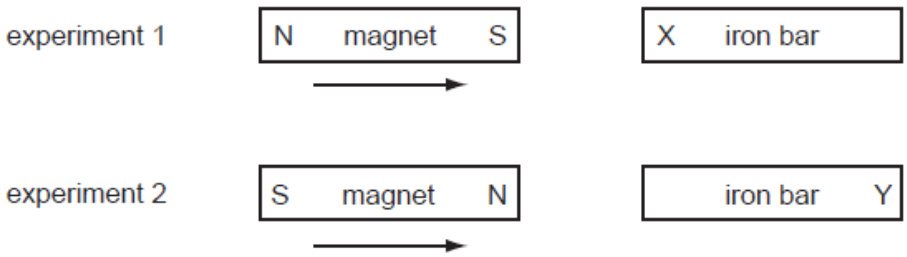
In two separate experiments, a magnet is brought near to an unmagnetised iron bar. This causes the bar to become magnetised.



Which magnetic poles are induced at X and at Y?

	pole induced at X	pole induced at Y
A	N	N
B	N	S
C	S	N
D	S	S

Which test could be used to find which end of a magnet is the north pole?

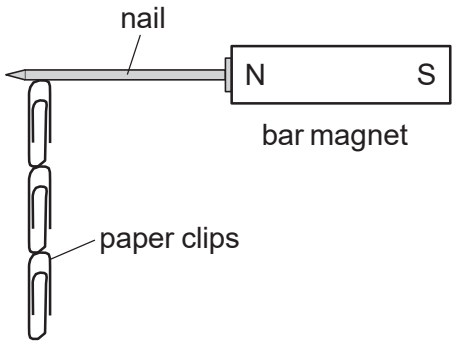
A. putting it near a compass needle

B. putting it near a ferrous metal

C. putting it near a non-ferrous metal

D. putting it near a steel spoon

Four nails, **A, B, C** and **D,** are tested to find which makes the strongest permanent magnet.

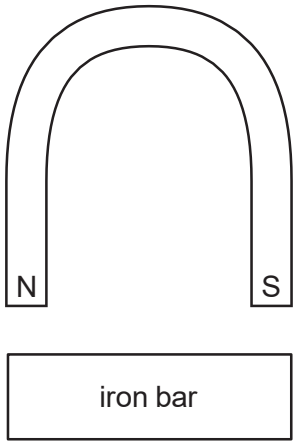


One of the nails is placed against a bar magnet and the number of paper clips which the nail can support is recorded. The bar magnet is then removed and the number of paper clips remaining attached to the nail is recorded. Each nail is tested in turn.

Which nail becomes the strongest permanent magnet?

nail	number of paper clips attached to the nail	
	bar magnet present	bar magnet removed
A	2	0
B	2	1
C	4	3
D	5	2

A horseshoe magnet is brought near to an unmagnetised iron bar.



Which row in the table shows the magnetic poles induced in the iron bar and the direction of the forces between the bar and the magnet?

	magnetic poles induced in iron bar	force between iron bar and magnet
A	N S	attraction
B	N S	repulsion
C	S N	attraction
D	S N	repulsion