

OCR A Physics GCSE

4.1 - Magnets and Magnetic Fields

Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



At which part of a magnet are the magnetic forces strongest?



At which part of a magnet are the magnetic forces strongest?

The poles of the magnet.



What happens when two magnets are brought close to each other?



What happens when two magnets are brought close to each other?

They exert a force on each other.



What type of force is exerted if two like poles of a magnet are brought near each other?



What type of force is exerted if two like poles of a magnet are brought near each other?

A repulsive, non-contact force.



What type of force is exerted if two unlike poles of a magnet are brought near each other?



What type of force is exerted if two unlike poles of a magnet are brought near each other?

An attractive, non-contact force.



What is a permanent magnet?



What is the difference between a permanent magnet and an induced magnet?

A permanent magnet produces its own magnetic field.



What is an induced magnet?



What is an induced magnet?

An induced magnet becomes magnetic when placed in a magnetic field.



What type of force does induced magnetism always cause?



What type of force does induced magnetism always cause?

A force of attraction.



What happens when an induced magnet is removed from a magnetic field?



What happens when an induced magnet is removed from a magnetic field?

The induced magnet loses most/all of its magnetism.



What is a magnetic field?



What is a magnetic field?

The region surrounding a magnet where another magnet or magnetic material experiences a non-contact force.



Give four examples of magnetic materials.



Give four examples of magnetic materials.

1. Iron
2. Steel
3. Cobalt
4. Nickel



What can always be said about the force between a magnet and a magnetic material?



What can always be said about the force between a magnet and a magnetic material?

It is always attractive.



How does the strength of a magnetic field alter as you move further away from the magnet producing it?



How does the strength of a magnetic field alter as you move further away from the magnet producing it?

The magnetic field strength decreases the further you move away.



In what direction does a magnetic field point?



In what direction does a magnetic field point?

- In the direction that a north pole would experience a force if placed in the field.
- From the north seeking pole to the south seeking pole of a magnet.



What does a magnetic compass contain?



What does a magnetic compass contain?

A small bar magnet that points in the direction of the Earth's magnetic field.



What is produced when current flows through a conducting wire?



What is produced when current flows through a conducting wire?

A magnetic field is produced around the wire.



Describe the magnetic field produced around a current carrying wire.



Describe the magnetic field produced around a current carrying wire.

Uniform rings along the whole length of wire.



What determines the strength of the magnetic field around a current-carrying wire?



What determines the strength of the magnetic field around a current-carrying wire?

- The magnitude of the current flowing through the wire.
 - The distance from the wire.



What is a solenoid?



What is a solenoid?

A coil of wire which when current passes through creates a strong magnetic field.



Describe the magnetic field found inside a solenoid.



Describe the magnetic field found inside a solenoid.

Strong and uniform.



What does a magnetic compass provide evidence of?



What does a magnetic compass provide evidence of?

The Earth's core being magnetic.

