



# HOMEWORK BOOKLET

**P7 Foundation**



# Magnets and Magnetism True or False?

Decide whether each of the following statements about magnets and magnetism are true or false. Write a corrected version for each statement you believe to be false.

Statement	True or False?	Correction (If False)
Iron, cobalt, aluminium and copper are all examples of magnetic metals.		
Magnetic field lines are drawn pointing from the south to the north pole of a bar magnet.		
Magnetic forces are the strongest at the poles of a magnet.		
The north pole of one bar magnet would be repelled by the south pole of a second bar magnet.		
A compass contains a tiny bar magnet that aligns with the Earth's magnetic field.		
When an induced magnet is removed from a magnetic field, it remains magnetic.		



# Factors Affecting Magnetism

Homework 1

A student places a bar magnet flat on a desk. The student is holding an iron nail in their hand.

1. Describe how the strength of the magnetic field felt by the iron nail changes when:

a. the nail is moved further away from the magnet.

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b. the nail is moved towards the poles of the magnet.

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The iron nail is attracted to the north pole of the magnet.

c. Predict how the iron nail will interact with the south pole of the magnet.

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d. Explain your answer to part c.

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The student swaps the iron nail for an aluminium can.

e. Explain the interaction between the aluminium can and the bar magnet.

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When an electric current flows through a wire it generates a magnetic field.

2. Describe the effect on the magnetic field around a current-carrying wire when:

a. the current flowing through it is changed from 3 A to 1 A.

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b. the shape of the wire is changed from straight to coiled.

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c. an iron core is placed through the centre of the coil of wire.

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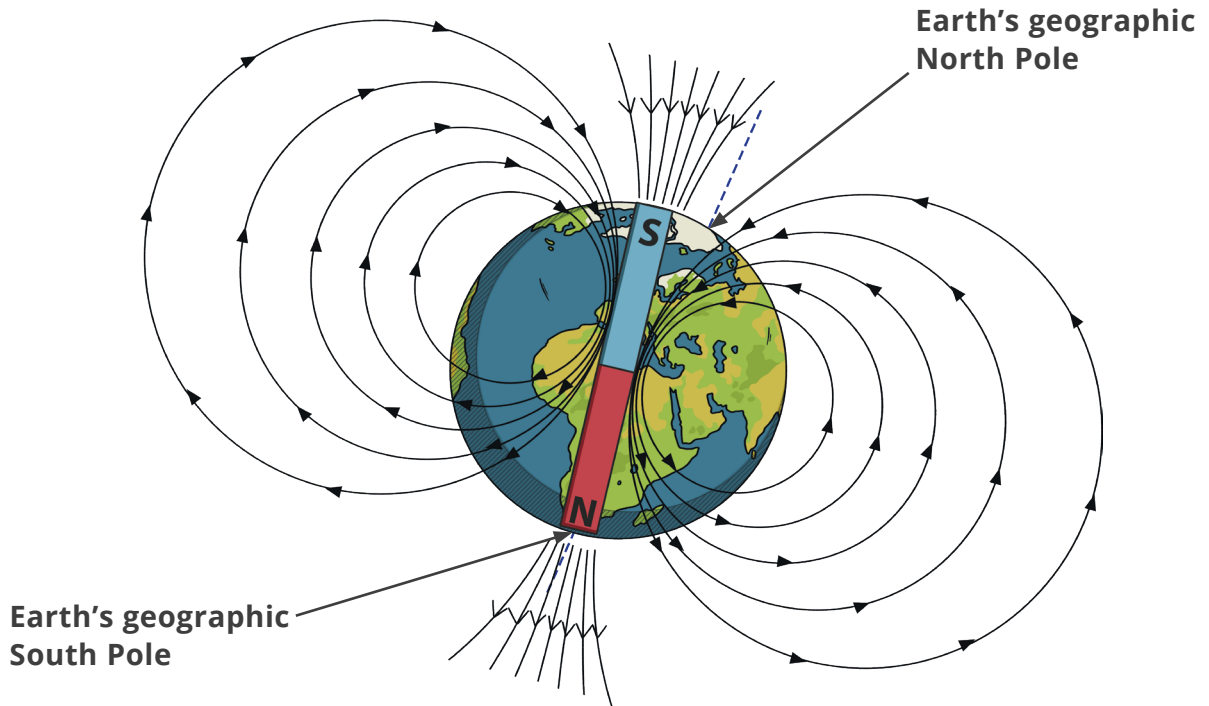
d. the direction of the current flowing through the wire is reversed.

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The Earth's core produces its own magnetic field.

**Figure 1** shows how a bar magnet can be used to model the magnetic field produced by the Earth's core.

**Figure 1**



Evaluate **Figure 1** as a model of the Earth's magnetic field.

In your answer, you should explain how a magnetic compass can be used to provide evidence for this model.

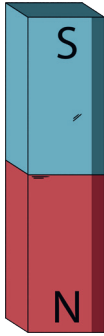
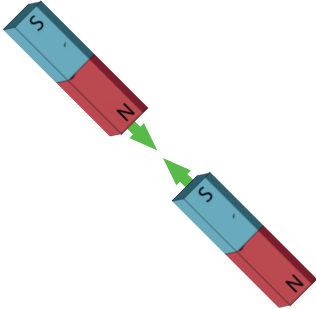
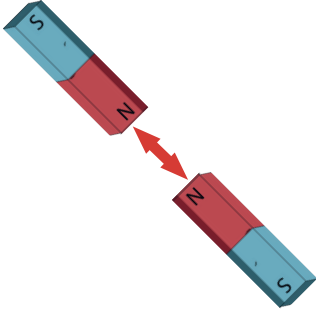
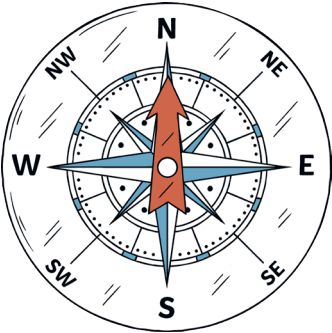
[6 marks]





# Magnetism and Electromagnetism

Each image in the table below represents a key term relating to magnetism or electromagnetism. Write the key term and a description for each image in the correct columns.

Key Word	Image	Description
		
		
		
		

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