

The Motor Effect

Mark Scheme

Level	GCSE (9-1)
Subject	Combined Science: Trilogy - Physics
Exam Board	AQA
Topic	6.7 Magnetism and Electromagnetism
Sub-Topic	The Motor Effect
Difficulty Level	Bronze Level
Booklet	Mark Scheme

Time Allowed: 15 minutes

Score: /14

Percentage: /100

Grade Boundaries:

M1.(a) S – top, N – bottom

1

(b) touch / attracted to magnet **A**

1

(c) the magnetic needles point to the north pole

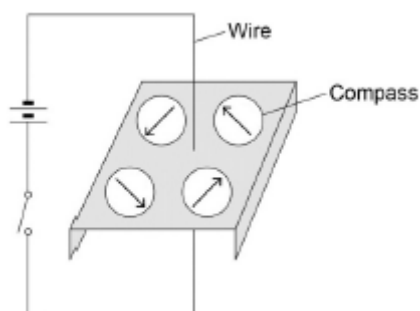
1

because The Earth has a magnetic field

1

accept the needles align to the Earth's magnetic field for 2 marks

(d)



1

(e) point in the opposite direction
change direction is insufficient

1

(f) uniform field lines through the wire coil.

1

field lines curving round the top and bottom of the wire coil.

1

arrows indicating direction from N to S
*do **not** accept conflicting arrows*

1

[9]

M2.(a) a force

1

(b) any **two** from:

- more powerful magnet
*do **not** allow 'bigger magnet'*
- reduce the gap (between magnet and coil)
- increase the area of the coil
- more powerful cell
*do **not** allow 'bigger cell'*
accept battery for cell
accept add a cell
accept increase current / potential difference
- more turns (on the coil)
allow 'more coils on the coil'
*do **not** allow 'bigger coil'*

2

(c) reverse the (polarity) of the cell
allow 'turn the cell the other way round'
accept battery for cell

1

reverse the (polarity) of the magnet
allow 'turn the magnet the other way up'

1

[5]

