

# Perm + Include Magnetism, Magnetic Forces & Fields

## Mark Scheme

Level	GCSE (9-1)
Subject	Combined Science: Trilogy - Physics
Exam Board	AQA
Topic	6.7 Magnetism and Electromagnetism
Sub-Topic	Perm + Include Magnetism, Magnetic Forces & Fields
Difficulty Level	Silver Level
Booklet	Mark Scheme

Time Allowed: 16 minutes

Score: /15

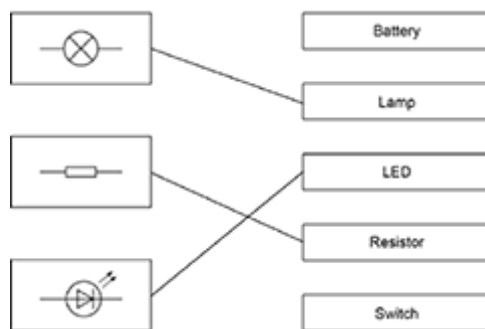
Percentage: /100

Grade Boundaries:

M1.(a) electrons

1

(b)



*extra lines from a symbol negate the mark*

3

(c) the total power = 7360 watts

1

$$\text{current} = 7360 \div 230$$

1

$$= 32 \text{ A}$$

*allow 32 with no working shown for 3 marks*

1

so the current is greater than 30 A

1

(d) to increase the voltage (across the cables) or to decrease the current (through the cables)

1

reducing energy losses (in the cables)

*do **not** allow electricity for energy*

*do **not** allow no energy loss*

1

increasing the efficiency of transmission

1

(e) to decrease the potential difference for domestic use

1

- (f)  $\text{efficiency} = \frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$  1
- (g) 405 / 900 1
- =0.45
- accept 45% 1
- allow 0.45 **or** 45% with no working shown for **2** marks
- [15]