

Examiners' Report/ Principal Examiner Feedback

March 2010

GCSE

360Science

GCSE Science
Multiple Choice Paper P1a (5009)

GCSE Physics
Multiple Choice Paper P1a (5045)

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5009 Science/ 5045 Physics (P1a) Examiners' Report

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Foundation Tier

The performance of Foundation tier candidates indicated that they had been well prepared by centres for this examination. Over 60% of candidates identified the correct response in 11 out of the first 16 questions, and over 50% of candidates identified the correct response in 13 out of the first 16 questions. Candidates demonstrated a good understanding of renewable sources of energy and demonstrated considerable ability in analysing data about wind turbines.

Candidates showed a good understanding of an investigation into the performance of different makes of battery. Less than half of candidates identified the fuse wire as the wire designed to melt when the current in an appliance is excessive and over 40% of candidates thought that a 5A fuse would be suitable for a 10A heater. Over 50% of candidates thought that increasing the resistance in a circuit would lead to an increase of current in the circuit.

The common questions discriminated well between the Foundation and Higher tier candidates, and in the respective tiers most discriminated well between more able and less able candidates. Most candidates were able to correctly identify a prediction for a thermistor investigation and use Ohm's law to calculate the voltage across the resistor. In 5 out of 8 of the common questions 58% or more of Foundation candidates selected the correct response. Candidates demonstrated a good understanding of lines of best fit and identifying a prediction for an investigation. Candidates demonstrated an ability to calculate the power in an appliance. 35% of Foundation candidates thought that the current in a thermistor should be measured with a voltmeter and only 29% were able to calculate the efficiency of an electric motor.

Higher Tier

The performance of Higher tier candidates indicated that they had been well prepared by centres for this examination. In seven out of the eight common questions more than 50% of Higher tier candidates chose the correct response and in five of these questions over 80% of Higher tier candidates selected the correct response.

In 8 out of the 16 Higher tier only questions, over 50% of candidates selected the correct response. Candidates demonstrated a good understanding of renewable energy and demonstrated the ability to analyse data about solar cells and rechargeable batteries. Candidates demonstrated a good understanding of alternating current and the action of a fuse. 60% of candidates were unable to link proportionality to a straight line graph. Over 50% of candidates thought that an RCCB detects the difference between currents in the live and earth wires.

Grade Boundaries - March 2010

Multiple Choice Papers - GCSE Science

Raw Mark Grade Boundaries

5005/5025	Max mark	A*	A	B	C	D	E	F	G
H	24	19	17	15	13	9	7		
F	24				16	13	10	8	6

5006/5026	Max mark	A*	A	B	C	D	E	F	G
H	24	18	16	14	12	9	7		
F	24				16	13	11	9	7

5007/5035	Max mark	A*	A	B	C	D	E	F	G
H	24	16	13	10	8	5	3		
F	24				16	13	10	8	6

5008/5036	Max mark	A*	A	B	C	D	E	F	G
H	24	18	15	12	10	6	4		
F	24				18	15	12	10	8

5009/5045	Max mark	A*	A	B	C	D	E	F	G
H	24	19	17	15	14	11	9		
F	24				19	16	14	12	10

5010/5046	Max mark	A*	A	B	C	D	E	F	G
H	24	18	16	14	12	8	6		
F	24				15	12	10	8	6

Uniform Mark Grade Boundaries for these units

	Max UMS	A*	A	B	C	D	E	F	G
H	40	36	32	28	24	20	18		
F	27				24	20	16	12	8

Note: On higher tier papers, the "allowed" grade E is calculated as half a grade width

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