

# Mark Scheme (Results)

## November 2010

IGCSE

IGCSE Biology (4325) Paper 03  
IGCSE Science (Double Award) (4437) Paper 07

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IGCSE BIOLOGY 4325/03 4437/07 - November 2010

Question Number	Answer	Mark														
1(a)	<table border="1"> <thead> <tr> <th>Name of apparatus</th> <th>Letter of apparatus</th> </tr> </thead> <tbody> <tr> <td>Rubber tube</td> <td>(F)</td> </tr> <tr> <td>Elastic band</td> <td>C;</td> </tr> <tr> <td>Glass tube</td> <td>E;</td> </tr> <tr> <td>Knife</td> <td>B;</td> </tr> <tr> <td>Beaker</td> <td>A;</td> </tr> <tr> <td>Ruler</td> <td>D;</td> </tr> </tbody> </table>	Name of apparatus	Letter of apparatus	Rubber tube	(F)	Elastic band	C;	Glass tube	E;	Knife	B;	Beaker	A;	Ruler	D;	(5)
	Name of apparatus	Letter of apparatus														
	Rubber tube	(F)														
	Elastic band	C;														
	Glass tube	E;														
	Knife	B;														
	Beaker	A;														
Ruler	D;															

Question Number	Answer	Mark
1(b)(i)	glass tube in beaker of water; air bubble in glass tube; ruler beside glass tube; elastic band attaching ruler to glass tube;	(3)

Question Number	Answer	Mark
1(b)(ii)	hairdryer / fan / eq;	(1)

Question Number	Answer	Mark
1(c)	increases / eq; by 4 (cm per hour) / eq;	(2)

Question Number	Answer	Mark
2(a)(i)	S scale linear and half grid; L line neat and through points; A axes correct way; P points correct; U axes labelled with units;	(5)

Question Number	Answer	Mark
2(a)(ii)	faster flow less glucose / eq;	(1)

Question Number	Answer	Mark
2(a)(iii)	(if flow rate high): less <u>time</u> ; to digest / enzyme/lactase;  (if flow rate slow): more <u>time</u> ; to digest / enzyme/lactase;	(2)

Question Number	Answer	Mark
2(b)(i)	pH; concentration of enzyme/lactase; type of milk / eq; size of beads / surface area / eq; number of beads / eq;  Ignore volume of milk	(2)

Question Number	Answer	Mark
2(b)(ii)	rate increases / more glucose / more digestion/ enzymes work faster/ eq; ref. <u>optimum</u> temp; (kinetic) energy; more collisions / eq;	(2)

Question Number	Answer	Mark
2(c)	less glucose;	(1)

Question Number	Answer	Mark
2(d)	more experiments / eq;	(1)

Question Number	Answer	Mark
3(a)	tally both correct;; 26 males; 34 females; Tally wrong but number correct from tally = max 2 for transfer	(4)

Question Number	Answer	Mark
3(b)(i)	parents XX and XY; gametes X X and X Y; offspring XX and XY; gender XX female and XY male;  ecf = max 1	(3)

Question Number	Answer	Mark
3(b)(ii)	random / chance / less Y (fertilise eggs) / small sample / fertility / eq;	(1)

Question Number	Answer	Mark
3(c)(i)	107 and 99;	(1)

Question Number	Answer	Mark
3(c)(ii)	tube 3;	(1)

Question Number	Answer	Mark
3(c)(iii)	less food / less water / disease / less fertile / eq; Ignore death/miscounting	(1)

Question Number	Answer	Mark
4(a)	6.89 / 6.9;; allow one mark for wrong numbers used correctly in equation	(2)

Question Number	Answer	Mark
4(b)(i)	% (contraction); with ATP; without ATP; 5 trials / eq;	(4)

Question Number	Answer	Mark
4(b)(ii)	more times / repeats / reliable; control / without ATP;	(2)

Question Number	Answer	Mark
5	C cold water and hot water / range of temperatures / eq; O same species / size / age of plant / eq; R repeats / average; M1 mass / length / number of leaves / ruler / eq; M2 ref to time; S1 and 2 same light / carbon dioxide / water / mineral conc. / pH / eq;;	(6)



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