



Independent Schools
Examinations Board

COMMON ENTRANCE EXAMINATION AT 13+

SCIENCE

LEVEL 1

MARK SCHEME

Specimen Paper Mark Scheme


(for first examination in Autumn 2017)

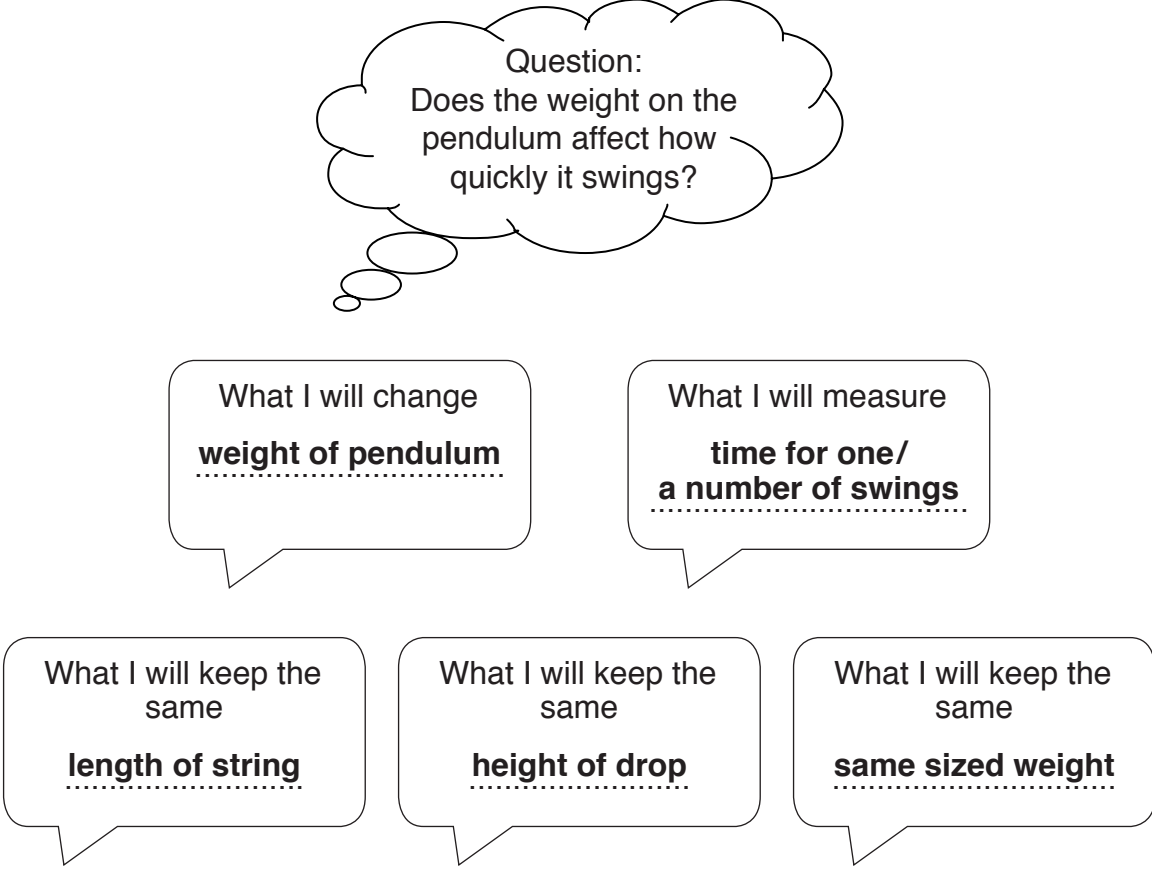
This is a suggested, not a prescriptive, mark scheme.



Q.	Answer	Mark	Additional Guidance
1. (a)	the Sun	10	
(b)	a producer and one or more consumers		
(c)	C		
(d)	a fuse		
(e)	A has a higher frequency than B		
(f)	CuSO ₄		
(g)	solute		
(h)	discontinuous variation		
(i)	renewable resource		
(j)	carbon		
2. (a) (i)	points correctly plotted	4	$\frac{1}{2}$ mark for each point
(ii)	curve of best fit	1	
(b) (i)	25 °C	1	accept answers 23–27 °C
(ii)	rises slowly	2	
(iii)	rises rapidly	2	
(c)	saturated	1	
3. (a) (i)	it creates an increased surface area	1	accept valid alternatives
(ii)	to facilitate diffusion of gases	1	
(iii)	to carry gases to and from lungs	1	
(b)	the heart	1	
(c)	airways narrow/become blocked, reducing airflow to the lungs	2	or words to this effect
(d)	widens airways, it enlarges the airflow to the lungs	2	or words to this effect
(e)	tar covers lung walls/airways and there is less surface area for gas exchange	2	accept valid alternatives

Q.	Answer	Mark	Additional Guidance											
4. (a)	(i) different colours easily distinguish acid and alkaline solutions	2												
	(ii) can be difficult to identify the difference in the colours pink and purple	2												
(b)	red onion water, turmeric water, red litmus	3												
(c)	both blue and pink litmus paper show no colour change in a neutral solution	2												
(d)	<table border="1"> <thead> <tr> <th>pH</th> <th>acid, neutral or alkaline?</th> </tr> </thead> <tbody> <tr> <td>less than 7</td> <td>acid</td> </tr> <tr> <td>7</td> <td>neutral</td> </tr> <tr> <td>more than 7</td> <td>alkaline</td> </tr> </tbody> </table>	pH	acid, neutral or alkaline?	less than 7	acid	7	neutral	more than 7	alkaline	1				
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less than 7	acid													
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5. (a)	suitable questions in boxes requiring yes/no answer	3												
(b)	answer depending on questions in part (a)	2												
(c)	(i) each vertebrate group has a different skin-covering skin-covering is a diagnostic feature in vertebrates	2												
	(ii) <table border="1"> <thead> <tr> <th>vertebrate group</th> <th>skin-covering</th> </tr> </thead> <tbody> <tr> <td>amphibians</td> <td>moist and no scales</td> </tr> <tr> <td>birds</td> <td>feathers</td> </tr> <tr> <td>fish</td> <td>wet scales</td> </tr> <tr> <td>mammals</td> <td>fur/hair</td> </tr> <tr> <td>reptiles</td> <td>dry scales</td> </tr> </tbody> </table>	vertebrate group	skin-covering	amphibians	moist and no scales	birds	feathers	fish	wet scales	mammals	fur/hair	reptiles	dry scales	3
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(d)	has the features both of a bird and a mammal	2												

Q.	Answer	Mark	Additional Guidance												
6. (a)	letter P anywhere in light grey zone on surface of the Earth	1													
(b)	increased darkness, drop in temperature, change in wind direction	2	any two sensible suggestions												
(c)	to prevent eye damage	1													
(d)		2	1 mark for the shape 1 mark for the orientation												
(e)	<table border="1"> <thead> <tr> <th>object</th> <th>opaque</th> <th>luminous</th> </tr> </thead> <tbody> <tr> <td>card</td> <td>✓</td> <td></td> </tr> <tr> <td>Moon</td> <td>✓</td> <td></td> </tr> <tr> <td>Sun</td> <td></td> <td>✓</td> </tr> </tbody> </table>	object	opaque	luminous	card	✓		Moon	✓		Sun		✓	3	
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(f)	$3700 \times 4 = 14800 \text{ km}$	2													

Q.	Answer	Mark	Additional Guidance
7. (a)	test only one variable at a time all other variables are kept the same	2	
(b)		5	accept valid alternatives
(c)	to ensure that results are reliable	1	

Q.	Answer	Mark	Additional Guidance
8. (a)		balanced	unbalanced
	a formula 1 driver cornering at 120 km/hr		✓
	a woman walking towards you at a steady 5 km/hr	✓	
	a runner on the starting blocks in a 100 m-sprint	✓	
	a runner in the first 3 seconds of a 100 m-sprint		✓
	a plane landing at an airport		✓
	an ice skater slowing down		✓
		6	
(b)	downward force arrow longer than upward force arrow	2	
Total		80	

