

---

**SCIENCE**

**1113/01**

Paper 1

**April 2016**

MARK SCHEME

Maximum Mark: 50

---

**IMPORTANT NOTICE**

Mark Schemes have been issued on the basis of **one** copy per Assistant examiner and two copies per Team Leader.

---

This document consists of **8** printed pages.



Question number			1	CSS00504		
Part	CF	Skill	Mark	Answer	Further Information	
(a)	7Be2	A	2	<b>cabbages (plants)</b> <b>slugs</b>  (toad)  <b>snakes</b> <b>rooks</b>	mark each pair of boxes independently  <b>two</b> pairs correct = 2 marks  <b>one</b> pair correct = 1 mark	
(b)	7Be2	A	1	5		
(c)	9Be4	K	2	<b>example</b> e.g. bacteria / fungi / microorganisms / microbes  <b>why</b> decays organic or waste matter / rots organic or waste matter / breaks down organic matter / breaks down waste (matter) / makes compost / provides minerals / provides (plant) nutrients		
<b>Total</b>			<b>5</b>			

Question number			2	CSS00270_A		
Part	CF	Skill	Mark	Answer	Further Information	
(a) (i)	7Ce1	A	1	igneous		
(ii)	7Ce1	A	1	magma cooled slowly / took longer for the magma to cool	<b>Accept</b> reverse argument if specified	
(b)	7Ce1	A	1	<b>E</b>	more than one answer = 0 mark	
(c)	7Ce3	K	1	fossils		
<b>Total</b>			<b>4</b>			

Question number			3	CSS00411		
Part	CF	Skill	Mark	Answer	Further Information	
(a)	7Pb2	K	1	orbit		
(b)	7Pb1	K	1	24 (hours)		
(c)	7Pb4	K	1	The Sun is <b>a source of light.</b>		
(d)	7Pb4	K	1	A planet is seen because light is <b>reflected by its surface.</b>		
<b>Total</b>			<b>4</b>			

Question number			4	CSS00313		
Part	CF	Skill	Mark	Answer	Further Information	
(a)	8Bh12	K	1	growth of body hair / pubic hair		
(b) (i)	8Bh13	K	1	ovary	<b>Accept ovaries</b>	
(b) (ii)	8Bh13	K	1	produce eggs / release eggs	<b>Do not accept ovule</b>	
(c) (i)	8Bh13	K	1	prepare for implantation	The answer must refer to a fertilised egg, foetus, zygote or embryo	
(c) (ii)	8Bh13	K	1	released as a period / menstruation / released as blood / passes out through the vagina		
<b>Total</b>			<b>5</b>			

Question number			5	CSS00445		
Part	CF	Skill	Mark	Answer	Further Information	
(a)	7Ep2 8Pm3	E	1	Increasing the number of turns of wire around the iron rod will make <b>the electromagnet stronger / the electromagnet pick up more objects.</b>		
(b)	7Ep2 8Pm3	E	1	yes (no marks)  use of two pieces of data to illustrate that she is correct / more turns picks up more paper clips	If no then = 0 marks for question  Answer must specifically refer to turns and number of paper clips	
(c)	8Ec4 8Pm3	E	1	(idea of) using a wider range of the number of turns / use 1, 3, 5, turns / use the same size paper clips / repeat each one / get an average value / use smaller paper clips		
<b>Total</b>			<b>3</b>			

Question number			6	CSS00383											
Part	CF	Skill	Mark	Answer	Further Information										
(a)	9Ec2 9Cc1	E	2	<table border="1"> <thead> <tr> <th>change in temperature in °C</th> <th>endothermic or exothermic reaction</th> </tr> </thead> <tbody> <tr> <td>(-4)</td> <td><b>endothermic</b></td> </tr> <tr> <td>(+4)</td> <td><b>exothermic</b></td> </tr> <tr> <td><b>-5</b></td> <td><b>endothermic</b></td> </tr> </tbody> </table>	change in temperature in °C	endothermic or exothermic reaction	(-4)	<b>endothermic</b>	(+4)	<b>exothermic</b>	<b>-5</b>	<b>endothermic</b>	left hand column = 1 mark, minus sign (-) must be present  right hand column = 1 mark.		
change in temperature in °C	endothermic or exothermic reaction														
(-4)	<b>endothermic</b>														
(+4)	<b>exothermic</b>														
<b>-5</b>	<b>endothermic</b>														
(b)	9Cc5	A	3	sodium chloride  water  carbon dioxide	<b>one</b> mark for each correct answer  answers can be in any order										
<b>Total</b>			<b>5</b>												

Question number			7	CSS00498		
Part	CF	Skill	Mark	Answer	Further Information	
(a) (i)	8Ec1 7Bc1	E	1	1.24 seconds		
(a) (ii)	8Ec1 7Bc1	E	1	0.31 seconds		
(a) (iii)	9Ec4 7Bc1	E	1	<b>no</b> because Oliver takes longer  <b>or</b>  <b>not sure</b> because their times are very similar	<b>NOTE</b> the mark is for the explanation. <b>BUT</b> No marks for Yes	
(b) (i)	8Ec4 7Bc1	E	2	anomalous = not fitting the pattern  4 <sup>th</sup> trial / 0.42 seconds	<b>one</b> mark for each correct point	
(b) (ii)	9Eo1 7Bc1	E	1	do more repeats / more trials		
<b>Total</b>			<b>6</b>			

Question number		8		CSS00379		
Part	CF	Skill	Mark	Answer	Further Information	
(a)	(i)	9Cp1	A	1	4	
	(ii)	9Cp1	A	1	5	
(b)		8Cp2	K	1	Be	<b>Do not accept</b> BE or be
(c)		9Cp2	A	2	<p><b>Any two from</b></p> <p>different number of protons / less protons / fewer protons / has 3 protons / lower atomic number / atomic number is 3</p> <p>smaller number of particles in nucleus / smaller mass number / smaller nucleon number / 7 particles in nucleus / mass or nucleon number is 7</p> <p>different number of electrons / less electrons / fewer electrons / 3 electrons / lithium is 2,1 / different electronic structure</p>	
(d)		9Cp1	K	1	Darwin Galileo Newton <b>Rutherford</b>	<b>two answers = 0 marks</b>
<b>Total</b>			<b>6</b>			

Question number			9	CSS00427		
Part	CF	Skill	Mark	Answer	Further Information	
(a)	8PI3	A	1	C		
(b)	8PI3	K	1	<p>i is always larger than r</p> <p><b>i is always the same as r</b></p> <p>r is always larger than i</p> <p>r is sometimes larger than i</p>	more than one answer circled = 0 marks	
<b>Total</b>			<b>2</b>			

Question number			10	CSS00178_A		
Part	CF	Skill	Mark	Answer	Further Information	
	9Pf1	A	3	<p>force/area <b>or</b> 10/2</p> <p>5</p> <p>N/cm<sup>2</sup> <b>or</b> N per cm<sup>2</sup></p>	correct numerical answer with incorrect units = 2 marks	
<b>Total</b>			<b>3</b>			

Question number			11	CSS00350					
Part	CF	Skill	Mark	Answer	Further Information				
(a)	7Bv3	A	2	<b>Any two from</b> 6 legs 3 body sections / has head, thorax and abdomen wings (1 pair of) antennae	must be visible features				
(b) (i)	9Bv4	K	1	(Charles) Darwin					
(ii)	9Bv4	K	2	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;"><b>C</b></td> <td style="padding: 5px;"><b>D</b></td> <td style="padding: 5px;">(A)</td> <td style="padding: 5px;"><b>B</b></td> </tr> </table>	<b>C</b>	<b>D</b>	(A)	<b>B</b>	<b>C and D = 1 mark</b> <b>B = 1 mark</b>
<b>C</b>	<b>D</b>	(A)	<b>B</b>						
<b>Total</b>			<b>5</b>						

Question number			12	CSS00423		
Part	CF	Skill	Mark	Answer	Further Information	
(a)	8Ps1	K	1	The loud speaker <b>vibrates</b> .		
(b)	8Ps1	K	1	When air particles are close together it is called a <b>compression</b> .		
<b>Total</b>			<b>2</b>			