



Pearson
Edexcel

Mark Scheme (Results)

October 2022

Pearson Edexcel International Award
in Primary In Science (JSC11/01) Paper 01
Year 6 Achievement Test

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

SECTION A

Question Number	Answer	Mark
1	<p>The only correct answer is A to make food.</p> <p>B is incorrect because leaves do not form fruits</p> <p>C is incorrect because leaves do not produce pollen</p> <p>D is incorrect because leaves do not spread seeds</p>	(1) comp

Question Number	Answer	Mark
2	<p>The only correct answer is B gravity</p> <p>A is incorrect because area is not a force</p> <p>C is incorrect because length is not a force</p> <p>D is incorrect because mass is not a force</p>	(1) comp

Question Number	Answer	Mark
3	<p>The only correct answer is C minerals</p> <p>A is incorrect because light does not pass from the soil into the roots of a plant.</p> <p>B is incorrect because micro-organisms do not pass from the soil into the roots of a plant.</p> <p>D is incorrect because pollen does not pass from the soil into the roots of a plant.</p>	(1) comp

Question Number	Answer	Mark
4	<p>The only correct answer is B it evaporated</p> <p>A is incorrect because the water did not condense</p> <p>C is incorrect because the water did not melt</p> <p>D is incorrect because the water did not precipitate</p>	(1) comp

Question Number	Answer	Mark
5	<p>The only correct answer is C as the meanings of both terms are correct</p> <p>A is incorrect because herbivores only eat plants.</p> <p>B is incorrect because predators hunt and eat other animals</p> <p>D is incorrect because herbivores only eat plants and predators hunt and eat other animals</p>	(1) comp

Question Number	Answer	Mark
6	<p>The only correct answer is D using hot water and stirring</p> <p>A is incorrect because using cold water and not stirring will not make sugar dissolve in water most quickly</p> <p>B is incorrect because using hot water and not stirring will not make sugar dissolve in water most quickly</p> <p>C is incorrect because using cold water and stirring will not make sugar dissolve in water most quickly</p>	(1) comp

Question Number	Answer	Mark
7	<p>The only correct answer is A because water has a melting point of 0 °C and a boiling point of 100 °C</p> <p>B is incorrect because water does not have a melting point of -9 °C or a boiling point of 103 °C</p> <p>C is incorrect because water does not have a melting point of 100 °C or a boiling point of 0 °C</p> <p>D is incorrect because water does not have a melting point of -114 °C or a boiling point of 78 °C</p>	(1) comp

Question Number	Answer	Mark
8	<p>The only correct answer is B because the cells have been reversed and the switch is closed</p> <p>A is incorrect because no electricity would flow because the two cells oppose each other</p> <p>C is incorrect because no electricity would flow because the switch is open</p> <p>D is incorrect because it is the same as the original circuit</p>	(1) comp

Question Number	Answer	Mark
9	<p>The only correct answer is C a solution</p> <p>A is incorrect because a solid is not formed</p> <p>B is incorrect because the solute has dissolved</p> <p>D is incorrect because the solvent has dissolved the solute</p>	(1) comp

Question Number	Answer	Mark
10	<p>The only correct answer is B because shadows become shortest in the middle of the day when the sun is overhead</p> <p>A is incorrect because the shadows are all the same length</p> <p>C is incorrect because the shadows become shorter throughout the day</p> <p>D is incorrect because the shadows become longer throughout the day</p>	(1) comp

Question Number	Answer	Mark										
11(a)	<table border="1"> <thead> <tr> <th>Statement</th> <th>True</th> </tr> </thead> <tbody> <tr> <td>bacteria, viruses and yeasts are all micro-organisms</td> <td>✓</td> </tr> <tr> <td>micro-organisms can only be seen using binoculars</td> <td></td> </tr> <tr> <td>bacteria can be useful in making cheese</td> <td>✓</td> </tr> <tr> <td>micro-organisms are only found in soil</td> <td></td> </tr> </tbody> </table> <p>Both ticks required for one mark</p> <p>If a third box ticked 0 awarded</p>	Statement	True	bacteria, viruses and yeasts are all micro-organisms	✓	micro-organisms can only be seen using binoculars		bacteria can be useful in making cheese	✓	micro-organisms are only found in soil		(1) Grad
Statement	True											
bacteria, viruses and yeasts are all micro-organisms	✓											
micro-organisms can only be seen using binoculars												
bacteria can be useful in making cheese	✓											
micro-organisms are only found in soil												

Question Number	Answer	Additional Guidance	Mark
11(b)	Accept any two from wash hands / wear (disposable) gloves OR wash surfaces / knives / cutlery OR tie hair back / hair covering OR use food from proper storage (e.g. fridge / container)	Allow other sensible examples e.g. allow wear apron / wash vegetables before using Allow use fresh food Ignore references. to anything after making the sandwich e.g. put sandwich in fridge / container	(2) Exp

Question Number	Answer	Additional Guidance	Mark
11(c)	food poisoning	Allow get sick / sickness / diarrhoea / stomach ache / poorly / diseases / fever / illness Ignore death	(1) Grad

Question Number	Answer	Mark
12	<p>Accept either:</p> <p>To make the image of the rocket look bigger the student moves the rocket to be closer to / further from the light source / screen.</p> <p>OR</p> <p>To make the image of the rocket look bigger the student moves the rocket to be closer to / further from the light source / screen.</p>	1 Grad

Question Number	Answer	Mark
13	<p>The only correct answer is C is measured using a thermometer</p> <p>A is incorrect because temperature is measured in °C</p> <p>B is incorrect because temperature measures how hot or cold an object is</p> <p>D is incorrect because temperature is not a force</p>	(1) comp



Question Number	Answer	Mark
14	<p>The only correct answer is A amphibians, birds, fish, mammals and reptiles</p> <p>B is incorrect because worms are not vertebrates</p> <p>C is incorrect because crabs are not vertebrates</p> <p>D is incorrect because snails are not vertebrates</p>	(1) comp

Question Number	Answer	Mark
15	<p>The only correct answer is D because it has spots, has more spots than stripes, has mostly round spots and longer legs than its body depth</p> <p>A is incorrect because it has spots</p> <p>B is incorrect because it has legs longer than its body depth</p> <p>C is incorrect because it has mostly round spots</p>	(1) comp

Question Number	Answer	Mark
16	<p>The only correct answer is B because it has the lowest slope at the front of the vehicle</p> <p>A is incorrect because the front is flat</p> <p>C is incorrect because the front is flat</p> <p>D is incorrect because the slope at the front is less than in B.</p>	(1) comp

Question Number	Answer	Mark
17	<p>The only correct answer is C germination is when a seed starts to grow</p> <p>A is incorrect because a bud opening is flowering</p> <p>B is incorrect because nucleus from pollen combines with ovule nucleus is fertilisation</p> <p>D is incorrect because seed dispersal is seeds being spread away from the plant</p>	(1) comp

Question Number	Answer	Mark
18	<p>The only correct answer is B fire is not a mechanism by which seeds are dispersed</p> <p>A is incorrect because explosion is a mechanism by which seeds are dispersed</p> <p>C is incorrect because water is a mechanism by which seeds are dispersed</p> <p>D is incorrect because wind is a mechanism by which seeds are dispersed</p>	(1) comp

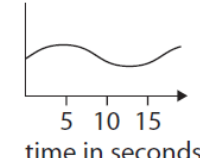
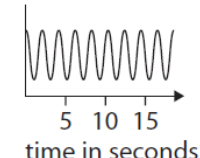
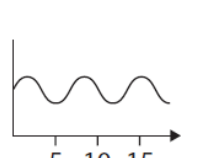
Question Number	Answer	Additional guidance	Mark
19	<p>adaptation</p> <ul style="list-style-type: none"> Large leaves to absorb sunlight Thick stems to store water Pointed end of leaves so water drips away Small leaves to prevent water loss Long roots to find water <p>habitat</p> <p>PAL AL95890</p>  <p>PAL AL1215726</p>  <p>2 marks for all correct 1 mark for 3 correct</p>	Reject two lines from one adaptation	(2) Exp

Question Number	Answer	Additional Guidance	Mark
20 (a) (i)	filtration	Allow decant / pour off the seawater Reject evaporation Ignore sieving	(1) Grad

Question Number	Answer	Additional Guidance	Mark
20 (a) (ii)	cooling / contact with cold surface	Reject distillation	(1) Grad
20 (b)	(changes of) state	Ignore 'matter' Reject reversible change	(1) Cler

Question Number	Answer	Additional guidance	Mark
21 (a)	Jupiter spins / rotates on its axis (1) faster than Earth does (1) OR Earth spins / rotates on its axis (1) slower than Jupiter does (1)	Needs to be comparative Allow (Jupiter) spins faster on its axis than Earth = 2 marks	(2) Exp

Question Number	Answer	Additional Guidance	Mark
21 (b)	the Moon (it) reflects light from the Sun	Reject gets the light / light passes through the moon / absorbs light from sun / sunlight reflects onto the moon Accept sunlight reflects off the moon	(1) Exp

Question Number	Answer			Mark	
22	Breathing rate graph				(1) Grad
	Activity	sleeping	playing football	walking to school	

Question Number	Answer	Mark
23	<p>The only correct answer is C water resistance</p> <p>A is incorrect because mass is not a force</p> <p>B is incorrect because movement is not a force</p> <p>D is incorrect because weight acts downwards</p>	(1) comp

Question Number	Answer	Mark
24	<p>The only correct answer is D breathing moves oxygen to the lungs and respiration is oxygen being used by the organs</p> <p>A is incorrect because breathing moves oxygen to the brain, and respiration is not blood carrying carbon dioxide</p> <p>B is incorrect because respiration is not blood carrying carbon dioxide</p> <p>C is incorrect because breathing does not move oxygen to the brain</p>	(1) comp

Question Number	Answer	Mark
25	<p>The only correct answer is A the bulb lights up</p> <p>B is incorrect because the buzzer would have no electricity flowing through it</p> <p>C is incorrect because the buzzer would have no electricity flowing through it</p> <p>D is incorrect because the bulb would have electricity flowing through it and would light up</p>	(1) comp

Question Number	Answer	Mark
26	<p>The only correct answer is A the flower is insect pollinated</p> <p>B is incorrect because the reproductive parts are within the flower</p> <p>C is incorrect because we cannot see what type of fruit is produced</p> <p>D is incorrect because we cannot see what type of seeds will be made</p>	(1) comp

Question Number	Answer	Additional guidance	Mark
27	gravity (it) causes it to fall / pulls the ball down / gravity slows it down going up / gravity speeds it up coming down	Reject pushes it down Allow forces it down	(1) Grad

Question Number	Answer	Additional Guidance	Mark												
28	<table border="1"> <thead> <tr> <th>Change</th> <th>Reversible</th> <th>Irreversible</th> </tr> </thead> <tbody> <tr> <td>bread turning into toast</td> <td></td> <td>✓</td> </tr> <tr> <td>water turning into ice</td> <td>✓</td> <td></td> </tr> <tr> <td>Salt dissolving in water</td> <td>✓</td> <td></td> </tr> </tbody> </table>	Change	Reversible	Irreversible	bread turning into toast		✓	water turning into ice	✓		Salt dissolving in water	✓		All three ticks correct for one mark	(1) clerical
Change	Reversible	Irreversible													
bread turning into toast		✓													
water turning into ice	✓														
Salt dissolving in water	✓														

Question Number	Answer	Additional guidance	Mark
29	This change is reversible / irreversible because no new substance / a new substance has been formed.	Both correct for 1 mark	(1) Clerical

Question Number	Answer	Additional guidance	Mark
30(a)(i)	B and D		(1) clerical
30 (a)(ii)	friction	Allow forward force / air resistance / drag	(1) Grad
30 (b)	snow chain has more grip because it increases friction (between the wheel and the ice)	Reject protects the tyre Allow chain cuts into the ice	(2) Exp

Question Number	Answer	Additional guidance	Mark
31 (a)	<p>After six weeks the pulse rate dropped more quickly OR after jogging for 3 minutes pulse rate was lower after 6 weeks (1)</p> <p>quantifies or makes a numerical comparison (1)</p> <p>e.g. the pulse rate at six weeks, after two minutes rest, is only 70 but at day one it was 95 Or After six weeks of exercise, after two minutes rest, the pulse rate is 25 bpm less than day one Or After six weeks the pulse rate is almost back to normal after two minutes rest but at the start it was still very high after two minutes</p>	<p>Reject 'the fitter a person is the sooner their pulse rate returns to normal'</p>	(2) Exp
31 (b)	<p>Accept any two from</p> <p>to pump blood faster (around the body)</p> <p>to supply more oxygen / nutrients</p> <p>to the muscles</p>	<p>Ignore any reference to breathing</p> <p>Allow to pump more blood (around the body)</p> <p>Reject to the lungs</p> <p>Ignore to the heart</p>	(2) Exp

SECTION B

Question Number	Answer	Additional guidance	Mark								
32(a)	Accept any 2 pieces of equipment and their units from (Unit marks are dependent on correctly named equipment.) <table border="1" style="margin: 10px auto; width: 80%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Name of piece of equipment</th> <th style="text-align: center;">Unit of measurement</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">(weighing) scales</td> <td style="text-align: center;">grams / g</td> </tr> <tr> <td style="text-align: center;">stopwatch / timer</td> <td style="text-align: center;">seconds / secs / s</td> </tr> <tr> <td style="text-align: center;">ruler</td> <td style="text-align: center;">metres / m</td> </tr> </tbody> </table>	Name of piece of equipment	Unit of measurement	(weighing) scales	grams / g	stopwatch / timer	seconds / secs / s	ruler	metres / m	4 correct for 3 marks, 2 or 3 correct for 2 marks, 1 correct for 1 mark Reject weighing meter Allow kg / cm / mm Ignore minutes Reject Km / hours	(3) Exp
Name of piece of equipment	Unit of measurement										
(weighing) scales	grams / g										
stopwatch / timer	seconds / secs / s										
ruler	metres / m										

Question Number	Answer	Additional guidance	Mark
32(b)	repeat the test (for each mass of sand)	Allow take an average or mean	(1) Grad

Question Number	Answer	Additional guidance	Mark															
32(c)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Scientific question</th> <th style="text-align: center;">Yes</th> <th style="text-align: center;">No</th> </tr> </thead> <tbody> <tr> <td>Does the thickness of the wire affect the speed the bottle goes down the wire?</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Does the shape of the bottle affect the speed the bottle goes down the wire?</td> <td style="text-align: center;">✓</td> <td></td> </tr> <tr> <td>Does the time of year affect the speed the bottle goes down the wire?</td> <td></td> <td style="text-align: center;">✓</td> </tr> <tr> <td>Does the type of material the wire is made from affect the speed the bottle goes down the wire?</td> <td style="text-align: center;">✓</td> <td></td> </tr> </tbody> </table>	Scientific question	Yes	No	Does the thickness of the wire affect the speed the bottle goes down the wire?	✓		Does the shape of the bottle affect the speed the bottle goes down the wire?	✓		Does the time of year affect the speed the bottle goes down the wire?		✓	Does the type of material the wire is made from affect the speed the bottle goes down the wire?	✓		2 marks for all 4 correct 1 mark for any 2 or 3 correct	(2) Grad
Scientific question	Yes	No																
Does the thickness of the wire affect the speed the bottle goes down the wire?	✓																	
Does the shape of the bottle affect the speed the bottle goes down the wire?	✓																	
Does the time of year affect the speed the bottle goes down the wire?		✓																
Does the type of material the wire is made from affect the speed the bottle goes down the wire?	✓																	

Question Number	Answer	Additional guidance	Mark
33(a)	<p>Accept any two from</p> <p>volume / mass of water used (to make the ice cube)</p> <p>the temperature the ice was frozen to / temperature of the freezer</p> <p>(melting) in the same room / at same temperature</p> <p>same type / size of plate</p> <p>same type / source of water</p>	<p>Accept other reasonable answers</p> <p>Allow BOD (same) amount of water Reject (the same) amount of ice</p> <p>Ignore temperature unqualified</p> <p>Allow time the water was frozen for</p> <p>Ignore temperature unqualified</p> <p>Reject same plate / the plate</p>	(2) Exp

Question Number	Answer	Additional guidance	Mark
33(b) (i)	bar height 330	Ignore bar width	(1) Grad
33(b) (ii)	240 (seconds)		(1) Grad
33(b) (iii)	B	Allow ECF from bi	(1) Grad

Question Number	Answer	Additional guidance	Mark
34(a)	Accept any one from to see if fertiliser improves or does not improve growth / to test how well the plant grows without fertiliser / to see if the radish needs fertiliser to grow	Allow to compare using fertiliser and no fertiliser Allow as a control Reject to see if the plant really needs it	(1) Exp

Question Number	Answer	Additional guidance	Mark
34 (b)	C / 2 teaspoons of fertiliser (1) because the (length and) circumference of the radish were the highest / greatest (1)	M2 dependent on M1 being awarded Allow bigger / biggest circumference (comparative)	(2) Exp

Question Number	Answer	Additional Guidance	Mark
34 (c)	Any one from measure the volume of fertiliser more accurately / use measuring cylinder / pipette weigh (determine the mass of) the fertiliser use more (than 5) seeds	Allow any other reasonable answer Allow reference to repeat the investigation or experiment BOD Ignore let seeds grow for longer Ignore measure the length / area of leaves	(1) Exp

