


NAN HUA PRIMARY SCHOOL
Mid-Year Examinations 2021
PRIMARY SIX
SCIENCE

Answer Key

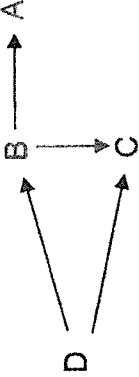
Section A (28x2) = 56marks

Qns	Ans	Qns	Ans	Qns	Ans
1	2	11	2	21	1
2	3	12	3	22	2
3	4	13	4	23	3
4	3	14	2	24	3
5	1	15	3	25	2
6	4	16	2	26	1
7	1	17	1	27	4
8	3	18	1	28	4
9	1	19	3		
10	4	20	4		

Section B (44 marks)

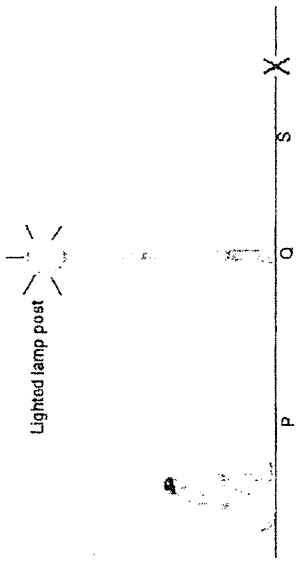
Qns	Answer						
29a	Microscope						
29b	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th data-bbox="395 1088 483 1267">Part X</th> <th data-bbox="395 819 483 1088">Part Y</th> <th data-bbox="395 551 483 819">Process R</th> </tr> </thead> <tbody> <tr> <td data-bbox="483 1088 587 1267">ovary [1/2]</td> <td data-bbox="483 819 587 1088">Testes [1/2]</td> <td data-bbox="483 551 587 819">Fertilisation [1]</td> </tr> </tbody> </table>	Part X	Part Y	Process R	ovary [1/2]	Testes [1/2]	Fertilisation [1]
Part X	Part Y	Process R					
ovary [1/2]	Testes [1/2]	Fertilisation [1]					
29c							
30a	As the <u>speed at which he runs increases</u> , <u>his heart rate also increases</u> .						
30b	<p><u>More energy is needed to move his legs faster so he breathed faster to take in more oxygen and his heart pumped faster to supply more blood rich in oxygen and digested food</u> to his legs for respiration (also to remove waste such as carbon dioxide faster).</p>						

30c	<table border="1" data-bbox="124 645 400 1227"> <thead> <tr> <th data-bbox="124 936 261 1227">Activity</th> <th data-bbox="124 645 261 936">Rested for</th> </tr> </thead> <tbody> <tr> <td data-bbox="261 936 400 1227">Heart rate (beats/min)</td> <td data-bbox="261 645 400 936">1 hour</td> </tr> <tr> <td data-bbox="261 936 400 1227"></td> <td data-bbox="261 645 400 936">60</td> </tr> </tbody> </table>	Activity	Rested for	Heart rate (beats/min)	1 hour		60
Activity	Rested for						
Heart rate (beats/min)	1 hour						
	60						
31a	Number of bubbles given out by the plant.						
31b	oxygen						
31c	To ensure that only the amount of light from the lamp affects the number of bubbles given out by the plant.						
32a	<p>Advantage 1: The frog will be able to feed on the insects (food).</p> <p>Advantage 2: The frog will be able to lay its eggs in the pond (reproduce).</p>						
32b	Plant P is a food <u>producer</u> .						
32c	When the population of the frog increases, more frogs will feed on insect X and fewer insect X will feed on plant P, causing plant P to reproduce more / less of plant P to die and the population of plant P to increase.						
33a	Organism C						

33b	
33c	Organism A
34a	<p>Length/breadth/width/thickness of the material</p> <ul style="list-style-type: none"> - Surface area of material - Size of material - Shape of material - Volume of material - Height of material - Position of strip - Location of strip
34b	<p>Z. (Choice)</p> <p>The <u>distance between the highest and lowest points of the material is the shortest</u> (Evidence)</p> <p>Material Z is the <u>least flexible/bends the least</u> (Concept), <u>so food placed on the food tray made of Z will not wobble/will be most stable/sturdy and spill/food will not drop/hold the food up</u> making it most suitable to be used to make into a food tray (Link).</p>
34c	<p>Most amount of water: Material <u>Z</u></p> <p>Least amount of water: Material <u>Y</u></p>

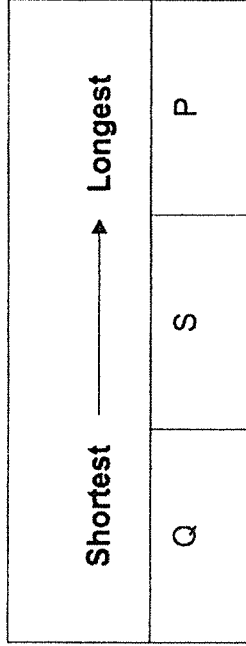
35a	<p><u>Water boils and changes into steam.</u></p> <p>There are holes in the lid of steamer A. <u>More steam will escape through the hole in the lid of steamer A unlike steamer B where more steam can condense into water droplets</u> which dripped back into the steamer.</p>
35b	<p>Steamer C (Choice)</p> <p>Metal is a better conductor of heat. (Concept)</p> <p>Steam will <u>lost heat to the (cooler) inner metal lid faster and condense into water droplets faster.</u> (Link)</p>
36a	<p>The contacts must be an electrical conductor/conductors of electricity/allow electricity to pass through.</p> <p>This will form a closed circuit when the contacts touch each other. Electric current will flow through the bell causing the bell to ring when the luggage exceeds the 7 kg limitation.</p>
36b	<p>Change the spring to a stiffer/less stretchable spring./Add more spring.</p> <p>A greater force/heavier weight/ heavier load is needed to compress the spring to the same extent/ for the contact to touch. Hence a luggage of a greater mass can be placed on metal plate.</p> <p>Alternative answer: Make the contact thinner. More weight needed to compress the spring further/ for contact to touch.</p>

37a

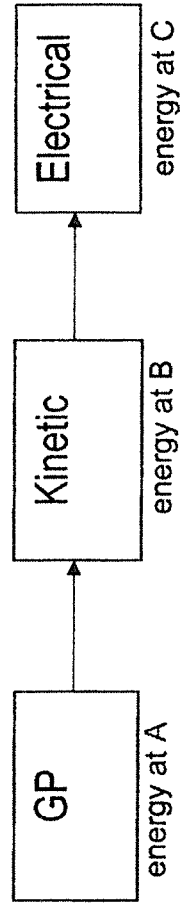


37b The light from the lamp post at the back/behind Mr Tan is blocked by Mr Tan's body and a shadow is cast in front of him.

37c



38a



38b

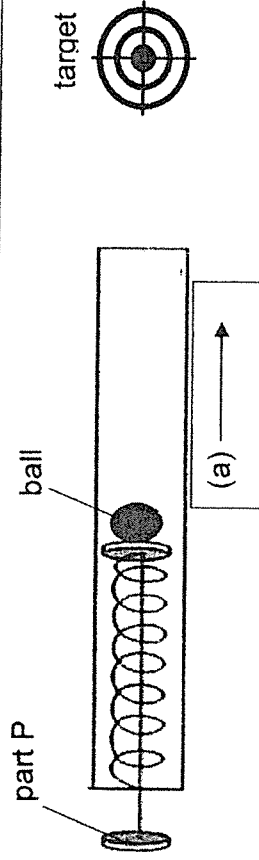
Advantage:

More electrical energy is generated.

Explanation:

Water at a greater height possesses more gravitational potential energy, which can be converted into more kinetic energy of the running water and in turn converted into more electrical energy.

39a



39b

Gravitational force

39c

At position B, Part P is pulled further back and the spring was more compressed than A.

This caused an increased in the elastic spring force acting on the ball. Hence, the ball could travel farther and hit the target.

40a	Jason can repeat his experiment a few more times./ Jason can repeat his experiment two more times and calculate the average of the number of weights added before the wooden block started to move.
40b	The gravitational force/weight of the weights pulling the weights down overcame the frictional force <u>between the wooden block and the surface/material.</u> /The gravitational force acting on the weights is greater than the friction <u>between the wooden block and the surface/material.</u>
40c	Surface Y (Choice) Number of weights added before the wooden block started to move was the greatest. (Evidence) Surface Y is the roughest. Friction <u>between the outer surface of the gloves and the bricks</u> is the greatest (Concept), allowing the brick layers <u>to have the strongest grip on the bricks.</u> (Link)