

ANSWER KEY

YEAR : 2021

SCHOOL : SCGS PRIMARY SCHOOL

LEVEL : PRIMARY 6

SUBJECT : SCIENCE

TERM : MID-YEAR EXAM

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	1	1	2	4	3	3	4	3	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	1	4	1	4	2	4	1	4	3
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
4	3	2	1	3	2	1	2		

S/N	2021 P6 SA1 Suggested Answers
29	a) T b) T c) T d) F
30a	As the mass of weight/ mass/ weights hung on A increases, the extension of Spring A increases.
30b	14cm (1m)
30c	<i>Fix the length and compare the mass OR Fix the mass and compare the length:</i> Spring B. It requires a larger mass to extend/stretch the <u>same</u> length as Spring A. OR When the <u>same</u> mass is hung on Spring A and B, B stretch less than A.
31	potential energy → kinetic energy → kinetic energy → sound energy (all or none)
32a	(Elastic) Potential energy
32b	When the length of the gun increased, the rubber band is <u>stretched more</u> , so it has/ stores <u>more potential energy</u> which is converted to <u>more kinetic energy</u> , and hence caused a bigger tear.
32c	<p>Size of the tear (cm)</p> <p>Length of the gun (cm)</p>
33a	P and R

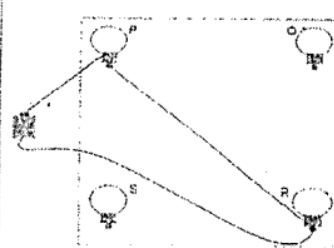
relationship

0.5m

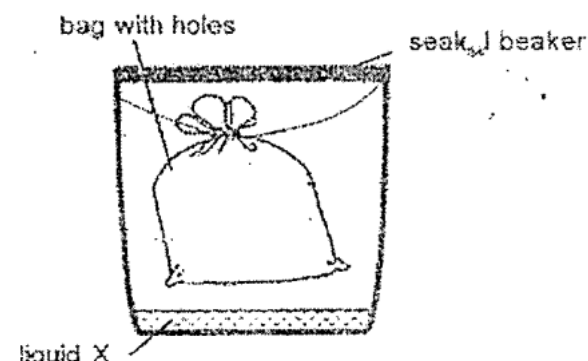
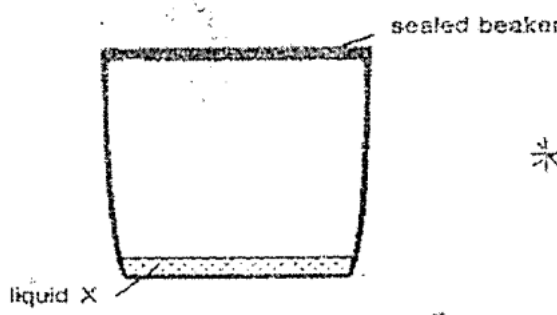
0.5m

0.5m

0.5m

33b	 <p>All connections must be correct to get full marks.</p>
34ai	<p><i>Must include explanation for both A and B.</i></p> <p>The <u>watch glass</u> was cooler than the <u>water vapour</u> in set-up A so condensation could take place. The <u>watch glass</u> was at the same temperature as / not cooler than <u>water vapour</u> in set-up B so condensation could not take place.</p>
34aii	More
34b	<p>Inner sides (of the windscreen and windows) AND</p> <p><u>Warmer water vapour</u> inside the car touches the cooler surface of the glass</p> <p><u>loses heat</u> and <u>condenses</u> to form water droplets.</p>
35ai	<p>Container P has a greater surface area in contact with/ touching Hot Plate P, so the water in container will gain heat from the hot plate P faster / gain more heat from Hot Plate P.</p>
35aii	<p><i>Must mention how the results/ time taken to boil is affected:</i></p> <p>Changing the material will affect the result of experiment / affect how fast the water boils.</p>
35b	<p>Glass B. B has more water/ more volume of water so it needs to gain more heat to boil.</p>
36a	F
36b	F → Insect X → A → B → C (All or none)
36c	A and D
36d	A OR B

37a	The water plants have air spaces in their stem /air in their stem /leaves to stay upright in water.
37bi	There is not enough dissolved oxygen at the bottom of the pond and the guppies must go nearer to the surface where there is more dissolved oxygen to breathe.
37bii	The water plants will photosynthesize and produce oxygen for the guppies.
37biii	The water lettuce will give out oxygen to the air above water and not into the water for the guppies. OR The water lettuce blocks the sunlight, so plant X cannot photosynthesis and <u>produce sufficient oxygen</u> for the guppies.
38ai	It reproduces by spores.
38aia	By wind dispersal method
38b	<i>Must base explanation on dispersal methods of C and D. Note that it is the seeds which disperse, not the fruits, especially Plant C.</i> Plant D disperses its seeds by animals and Plant C disperses its seeds by splitting method. Thus Plant D's seeds can travel a longer/ further distance away from the parent plant to reduce overcrowding / reduce competition for space, mineral salts, water and sunlight .
39a	Substance X : Water or mineral salts Substance Y : Glucose or food or sugar
39b	Phloem OR food-carrying tubes
39c	The food-carrying tubes cannot transport food from the leaves to the roots, so the roots will die and cannot take in/absorb water, so the tree died
40a	The bread has decomposed and the mould/ bacteria/ decomposition produced carbon dioxide .

40b	<p>Recall – A control removes the item/ substance causing the result Control setup. (must remove the bread)</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>bag with holes</p> <p>sealed beaker</p> <p>liquid X</p> </div> <div style="text-align: center;"> <p>OR</p>  <p>sealed beaker</p> <p>liquid X</p> <p>*Set up with bread in it is 0m.</p> </div> </div>
40c	<p>(i) Set-up Q : More than 5 days (ii) Set-up R : More than 5 days</p>
41a	<p>Must explain based on SHAPE of the tree, not the leaves or stem etc. The shape of the tree causes snow to fall off /slide down from the top of the tree and does not collect on its upper branches, thus preventing its branches from breaking due to extra mass of the snow.</p>
41bi	<p>Leaf A has more gaps to allow more snow to fall through so that the snow will not collect on the leaves.</p>
41bii	<p>Leaf A has the smaller surface area which has fewer stomata to lose water, thus Leaf A loses less water than Leaf B.</p>