

SUGGESTED ANSWERS

BOOKLET A [2 marks each]					
Question	Answer	Question	Answer	Question	Answer
1.	4	11.	3	21.	2
2.	2	12.	1	22.	1
3.	1	13.	1	23.	1
4.	2	14.	4	24.	2
5.	3	15.	4	25.	3
6.	3	16.	2	26.	4
7.	4	17.	4	27.	4
8.	4	18.	2	28.	2
9.	1	19.	2		
10.	1	20.	3		

BOOKLET B

Question	Suggested Answers	Marks	Remark(s)
29.	KEY CONCEPT(S) / SKILL(S) ASSESSED: <i>Show an understanding of how exercise affects the circulatory system</i>		DO NOT ACCEPT: •
(a)	ACCEPTABLE RESPONSE: Point B.	1	
(b)	Sally needs <u>less energy</u> [½] so her heart pumps slower to transport <u>less oxygen</u> [½] and <u>less digested food</u> [½] to her muscles for a <u>lower rate of respiration</u> [½]. OTHER ACCEPTABLE RESPONSE(S): Sally needs <u>less/ not as much energy</u> [½] so her heart pumps slower to transport <u>less blood containing oxygen</u> [½] and <u>digested food</u> [½] to her muscles for a <u>lower rate of respiration</u> [½].	2	DO NOT ACCEPT: • does not need anymore energy • pump slower to transport oxygen and digested food << comparison for amount of oxygen and digested food not mentioned.>>

BOOKLET B

Question	Suggested Answers	Marks	Remark(s)

30. (a)	Seeds develop into a <u>new plant to complete its life cycle/ and mature into adult plants.</u> OR Plants produce seeds to <u>ensure the survival / continuity of its own kind.</u>	1	DO NOT ACCEPT: • To prevent plant from becoming extinct
(b)	Birds <u>eat the fruit together with the seeds</u> (1/2) and <u>pass out the undigested seeds</u> (1/2) as waste when they <u>move to another location</u> (1). OTHER ACCEPTABLE RESPONSE(S): Any answers that include the idea of movement/ disperse seed further away from parent plant (1)	2	• spit seeds out [0]/ rule 4 if pupils gets full mark
(c)	ACCEPTABLE RESPONSE: Red	1	DO NOT ACCEPT:
(d)	ACCEPTABLE RESPONSE: He should <u>repeat the experiment</u> [½] and take the <u>average of the results.</u> [½]		

BOOKLET B

Question	Suggested Answers	Marks	Remark(s)
<p>31.</p> <p>(a)</p>	<p>KEY CONCEPT(S) / SKILL(S) ASSESSED:</p> <p>Understand the relationship between amount of light and growth of plants. Define population and apply the concept in analysis of data provided.</p> <p>Pond Q. The height <u>h</u> was the <u>lowest</u> [$\frac{1}{2}$], showing that water was the <u>murkiest</u> [$\frac{1}{2}$]. This would allow plants growing at pond Q to receive <u>least light</u> [$\frac{1}{2}$] for <u>slowest rate of photosynthesis</u> [$\frac{1}{2}$].</p> <p>OTHER ACCEPTABLE RESPONSE(S):</p> <p>-murkiest (least clear, very dark, darkest, most polluted, dirtiest)</p>	<p align="center">2</p>	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> take note: many pupils didnt write make less food, or less photosynthesis..

(b)	<p>ACCEPTABLE RESPONSE: No. The <u>young and its adult form one population / water lily and water hyacinth</u> are <u>producers</u> and not consumers [1] so there are <u>three</u> populations of consumers [1].</p> <p>OTHER ACCEPTABLE RESPONSE(S): No. Butterfly and caterpillar form one population. [½] Frog and tadpole form one population. [½] . Catfish forms 1 population, so there are <u>three</u> populations of consumers. [1]</p>		2	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> •
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32.	<p>KEY CONCEPT(S) / SKILL(S) ASSESSED: Identify parts of a plant cell and their functions.</p> <p>ACCEPTABLE RESPONSE: <u>Cell C.</u> Reason 1: It has a cell wall. Reason 2: It does not have chloroplast.</p>	2	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> • Note: many girls chose <u>cell A</u> as their answer.

	<p>Note: **Even if wrong cell given, marks still awarded for correct reason 1 or 2. (unless pupils wrote <u>root-hair cell IS AN ANIMAL CELL</u>) - 0 mark</p>		
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BOOKLET B			
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33.	<p>KEY CONCEPT(S) / SKILL(S) ASSESSED:</p> <p>The Web of Life</p> <ul style="list-style-type: none"> • Food chains • Food Webs • Decomposers 		

(a)	<p>ACCEPTABLE RESPONSE:</p> <p>Animal X feed on animal W. or Animal W is the prey of animal X. or Animal X is the predator of animal W.</p> <p>OTHER ACCEPTABLE RESPONSE(S):</p> <ul style="list-style-type: none"> W is a prey and X is a predator. 	1	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> They are prey-predator relationships. W and X are prey and predator.
(b)	<p>ACCEPTABLE RESPONSE:</p> <p>Animal Y feeds on animal X causing the population of animal X to decrease [1] after week 2. There is a lack of food for animal Y thus the population of animal Y decreased [1].</p>	2	<p>DO NOT ACCEPT:</p>
(c)	<p>ACCEPTABLE RESPONSE:</p> <p>A food chain shows the (food) relationships between organisms in a community. OR It shows how the energy is transferred from one organism to another in a community.</p>	1	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> Food relationship between animals. Food relationship of organisms <p>No mention of the producer.</p>

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34.	<p>KEY CONCEPT(S) / SKILL(S) ASSESSED:</p> <p>Energy & Photosynthesis</p> <ul style="list-style-type: none"> • Energy & the need for it • Photosynthesis <p>ACCEPTABLE RESPONSE:</p> <p>The plant gave off oxygen when it photosynthesized. [1] When more oxygen was collected in the air space, it pushed the water level in the tube down. [1]</p>	2	<p>DO NOT ACCEPT:</p> <p>Water is taken in by the plant during photosynthesis... (Reason: If water is taken in, the water level X should rise and not fall. Totally wrong answer. No ECF to part C)</p>
(b)	<p>The water level in the glass tube would <u>move down faster</u>.</p>	1	<p>DO NOT ACCEPT:</p>
(c)	<p>The <u>rate of photosynthesis would increase</u> when the lamp was moved nearer the syringe/plant [½] Thus <u>oxygen would be produced faster</u>. [½] causing the water to move down the tube faster.</p>	1	<p>DO NOT ACCEPT:</p> <p>Water in taken in faster</p>

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	Remark(s)	

<p>35.</p> <p>KEY CONCEPT(S) / SKILL(S) ASSESSED:</p> <p>Show an understanding of electromagnets.</p> <p>List magnetic materials and electrical conductors.</p>		<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> • TYPE HERE << TYPE REASON FOR NOT ACCEPTING. >>
<p>(a)</p> <p>Electrical current will flow through the circuit and <u>W will become an electromagnet / magnetized</u> [½] and <u>attract Q</u>. [½]</p>	1	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> •
<p>(b)</p> <p>There was an <u>open circuit</u> [½] so <u>electric current cannot flow through</u> [½].</p>	1	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> •
<p>(c)</p> <p><u>Aluminum, gold, copper, silver, bronze, etc.</u> (½) (Must mention specific type)</p> <p>It is a <u>conductor of electricity</u> (½) so electric current can flow through it but <u>not a magnetic material</u> (1) so it cannot be attracted by W.</p>	2	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> • Steel, iron, nickel, cobalt << they are magnetic materials and will get attracted to W. >> • Plastic, wood, water (0) • Metal (0) - which type? • Magnet (0) - which type?

BOOKLET B

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36.	<p>KEY CONCEPT(S) / SKILL(S) ASSESSED:</p> <p>Water</p> <ul style="list-style-type: none"> • Expansion/contraction • Evaporation • Surface area and heat <p>Because towel X has a larger exposed surface area / larger surface area in contact with surrounding air [1] so the water in the towel gained heat faster FROM THE (WARMER) SURROUNDINGS [1] Sun to evaporate faster.</p>	2	<ul style="list-style-type: none"> • First marking point: "...has a larger surface area..." (0) - which type? also, both towels are identical - so should have the same surface area. • Second marking point: "gain more heat" (0) - missing direction of heat flow (gain heat from where?)
(a)			
(b)	<ul style="list-style-type: none"> - *Presence of wind / presence of stronger wind / amount of wind / intensity of wind [½] - Higher temperature of surroundings [½] or - Lower / Lesser humidity [½] 	1	<p>For temperature and humidity: Pupils must mention the comparison (higher/lower) to be awarded marks.</p> <p>For *wind: marks will be awarded even if no comparison is shown.</p> <ul style="list-style-type: none"> • Heat / presence of heat / colour (0)

BOOKLET B

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37.	KEY CONCEPT(S) / SKILL(S) ASSESSED:		DO NOT ACCEPT:
(a)	<p>There will be only <u>one changed variable</u> [1] and the number of spins of the wheel is only <u>due to the length of the elastic band pulled and not other variables</u> [1] like the type of wheel.</p> <p>OR</p> <p>If he had used a different wheel, it might have had a <u>different weight / mass / length / size / material [any dimension factor]</u> (1) thus the experiment will be unfair due to <u>more than 1 changed variable.</u> (1)</p>	2	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> •
(b)	<p>When the length of the string pulled increased, the number of times the wheel spins <u>increased.</u> OR</p> <p>The <u>longer</u> the length of the string pulled, the <u>greater</u> the number of times the wheel spins.</p>	1	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> • Wrong trend (0)
(c)	<p>1. Gravitational force / gravity</p> <p>2. Air resistance / frictional force / friction</p>	2	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> • Elastic Spring Force • Movement force • Kinetic Force • Any type of ENERGY

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		Remark(s)

38. (a)	<p>The beam will tilt downwards at B. or The beam will tilt upwards at A</p> <p>OTHER ACCEPTABLE RESPONSE(S): The beam will tilt towards B</p>	1	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> The beam will tilt towards A (did not indicate clearly that it is pointing upward)
(b)	<p>500 cm³ [1] Air has no definite volume. / Air can be compressed [1]</p> <p>The volume remained the same (Remind the pupils that they must state the exact volume)</p>	2	<p>DO NOT ACCEPT:</p>
39. (a)	<p>Metal X expands more than metal W so it is <u>longer</u> than metal W after heating.</p> <p>OTHER ACCEPTABLE RESPONSE(S): Metal X expands more and allows more space / make space for it to bend downwards [½]</p>	1	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> Metal X expands faster than metal W. (Repeated- already mentioned in question stem)
(b)	<p>Metal X expands more than metal W so the strip <u>would bend away from the upper contact point.</u> [1] Since the <u>two contact points did not touch the circuit will not be closed/ the circuit is still open</u> [1]</p>	2	<p>DO NOT ACCEPT:</p> <ul style="list-style-type: none"> Dependant marking. Must shown that the strip bends away and

			it did not touch the contact point.
			<ul style="list-style-type: none"> The contact point is not magnetic / electrical insulator
(c)		They must be (good) <u>conductors of electricity</u> .	1
40.		ACCEPTABLE RESPONSE:	No partial mark.
(a)		A <i>Translucent</i> B <i>Transparent</i> C <i>Opaque</i>	1
(b)		Light travels in a straight line. or Light can be blocked by an <u>opaque / translucent</u> object.	DO NOT ACCEPT: <ul style="list-style-type: none"> light is blocked by an object.
(c)		The shadow size is not affected by the amount of light.	1