YEW TEE PRIMARY SCHOOL
PSLE PRACTICE PAPER SET 1
PRIMARY 6 SCIENCE
MARK SCHEME

Section A: [28 questions X 2 marks = 58 marks]

No	Answer
1	**3**
2	**1**
3	**2**
4	**1**
5	**2**
6	**2**
7	**4**
8	**4**
9	**3**
10	**4**

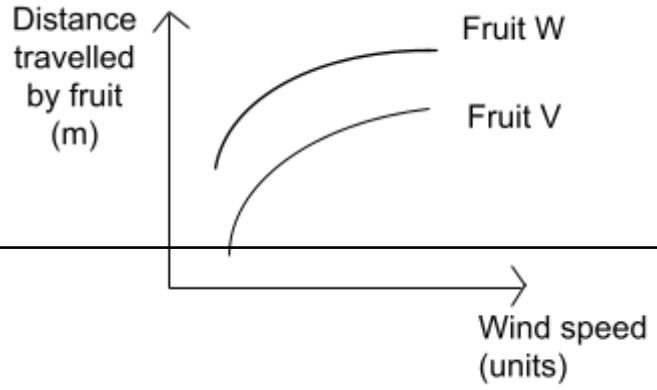
No	Answer
11	**3**
12	**1**
13	**4**
14	**1**
15	**3**
16	**2**
17	**4**
18	**2**
19	**4**
20	**1**

No	Answer
21	**4**
22	**3**
23	**2**
24	**2**
25	**2**
26	**3**
27	**1**
28	**4**

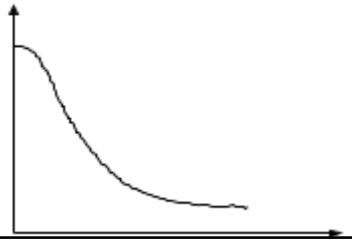
Notes for markers:

1. Spelling: Deduct ½ mark for word that is spelt wrongly *only where indicated* in the REMARKS column. These words are in **bold** and underlined.
2. Key concepts are underlined. Award partial marks where answer is incomplete.
3. Do not award marks for an answer that contains the key words but expresses the wrong concept.
4. Do not penalise grammatical errors.

Section B: [12 questions - 44 marks]

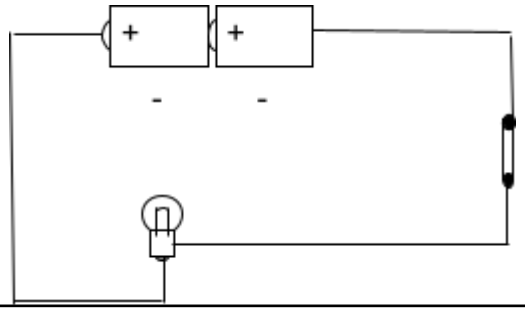
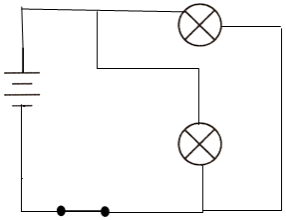
Q.	Acceptable Answers (Please indicate the parts and partial marks.)	Marks to be awarded	Remarks (Do not accept, etc)
29a	**LO - Identify the function of chloroplasts in a plant cell.** Cell Y has chloroplasts which contain chlorophyll to trap light to make food but Cell Z does not have chloroplasts to make food (1). OR Cell Y has chloroplast to help make food for the plant while Cell Z is a root cell that helps store excess food / Z absorbs water and mineral salts	1	Trap sunlight - 0 Only mention function of Cell Y - ½
29b	**LO: Infer that animal cells do not have plant parts such as cell walls / chloroplasts.** It does not have a cell wall / chloroplasts (1).	1	
30a	**LO – Describe the process of pollination in the sexual reproduction of flowering plants.** Pollen grains from D/anther are transferred to the stigma / A or C (1).	1	
30b	**LO – Infer characteristics of flowers that are pollinated by animals** Animals (1/2). The nectar attracts the animals to eat it (1/2). Insects, look / find / feed / drink / suck nectar.	1	
30c	**LO – Interpret data from a graph and draw a line graph to show the relationship between two variables.**  	1	

30d	**LO – Explain the purpose of seed dispersal.** Fruit W because it is dispersed further away from the parent plant (1). This helps to prevent overcrowding (1) OR reduce competition for sunlight, space, water and/or mineral salts/nutrients (1).	2	State 3 resources (1m), 2 resources (1/2m), 1 resource (0) All in and mentioned "food" - minus ½
31a	**LO – Identify substances transported in the circulatory system** More blood containing (more) oxygen (1/2) and digested food/nutrients (1/2) is carried to the muscles (to undergo more respiration) to release more energy (1). OR More oxygenated blood is carried to the muscles (1/2) OR Blood containing oxygen is carried faster to the muscles (1/2)	2	No comparison: a lot of energy (0) most energy (0)
31b	**LO – Recognise the integration of circulatory and digestive system in carrying out life processes** When exercising, less blood is carried to his stomach (1/2) where digestion takes place so rate of digestion is slower (1/2) Second part of answer: Digestive system does not function properly (½) Not all the food can be digested immediately/properly (½) (most) food is not fully digested (½) hard to digest (½) stomach receives less oxygen for food to be broken down into simpler substances (½) cause indigestion (½) *[Meaning of indigestion: difficulty in digesting food]* not enough energy to digest food (½) take a longer time to digest (½)	1	0m for first part of answer: a small amount of blood not enough blood very little blood less blood carried to small intestine not much blood is carried to stomach 0m for second part of ans: food is not digested food is not digested yet does not help digestion less energy is produced no time to digest food

32a	**LO – Identify the changed variable in an experiment.** The (amount of) surface area of the meat (that is in contact with liquid X). (1) OR Area of meat cube exposed to liquid X (1)	1	Area of meat cube (0) Exposed surface area (0) Size of meat cube (0)
32b	**LO – Show an understanding how chewing food aids digestion.** This <u>increases the surface area / greater surface area</u> **<u>in contact with digestive juices</u>** (1) to break down the food so that the <u>digestion rate is increased</u>. (1) OR <u>First part</u>: Smaller pieces exposed to more digestive juices (1) <u>Second part</u>: Food broken down at a faster rate (1) help/faster/easier to digest (1) rate of absorption of simpler substances increase (1)	2	The chewing of food breaks food up into smaller pieces (0) Stomach works hard to digest food (0) Rate of absorption increases (0)
33a	**LO – Understand that the roots emerge first during germination** Line J. The root grows / emerges <u>first</u> (1/2) in order to <u>take in water</u> (1/2) during germination.	1	
33 b(i)	**LO – Draw a graph to show the relationship between two variables** 	1	Graph shows decreasing trend (1)

33 b(ii)	**LO - Recognise that seedlings obtain food from seed leaves** As the seedling / young plant develops into an adult plant, it uses the food stored (1) in the seed leaves and the mass decreases. OR Seed leaves provide the plant with food (1) Seedling absorbs/take in food from seed leaves (1) The plant uses up the seed leaves (1) The plant starts to grow leaves to make food (1) and does not need to seed leaves	1	The seed uses the seed leaves (½) *[seed does not need food from seed leaves, should be plant/seedling/baby plant]* Consume/feed/eats up seed leaves (½) *[as the plant is not an animal]*
34ai	**LO - To interpret experimental data results** 2	1	
34aii	**LO - To list property of material and explain its use to given context** Waterproof [1/2] so that Material Z will not become wet and tears [1/2] OR Flexible [1/2] so that material Z can be bent to wrap the bottle [1/2]	1	Flexible so material Z can wrap around the bottle [1] **Do not accept** smooth [0] strong [0]
34b	**LO – Infer and apply the property of light in a given scenario** The car blocks light (from the light source) from reaching the light sensor, causing the indicator to turn red [1]. When the lot is unoccupied, the light (from the light) source can reach the light sensor, causing the indicator to turn green [1].	2	Students must mention the sensor. If not, ½ m will be deducted. **Do not accept** datalogger
35a	**LO – Interpret the melting points of substances based on their state of matter**	1	No partial marks

	L, J, K		
35b	**LO – Show an understanding of difference between melting and evaporation** Melting takes place at a fixed temperature (1/2) but evaporation can take place at any temperature (1/2) OR Melting involves a change of state from solid to liquid (1/2) and evaporation involves a change of state from liquid to gas (1/2). OR Melting takes place in solid state of water (1/2) and evaporation takes place at liquid sate of water (1/2).	1	**Accept** Melting takes place at certain temperature Melting takes place at 0^0C [0] but evaporation takes place at any temperature[½] **Do not accept** Melting is when ice changes into water. Evaporation is when water changes into water vapour. [0]
35c	**LO – Show an understanding of factor leading to higher rate of condensation** The temperature in the room with cup A was higher / Greater temperature difference between room temperature and temperature of water (1). **More** (warmer) water vapour condenses (1/2) on the cooler surface of cup A (1/2) to form more water droplets. OR Rate of condensation was faster (1).	2	**Do not accept** air condenses (0m) Many students missed out on **MORE** water vapour condenses..[-½]
36a	**LO – Understand that a current can only flow in a closed circuit** Flip one battery over so that the negative terminal is facing the positive terminal of the other battery [1/2] Accept circuit diagram symbol for battery if it is drawn correctly, Accept battery with + indicated but metal tip missing. Connect one wire to the bulb's casing and one wire to the bulb's tip. [½] Mark independently even though the bulb will not light up due to the wrong arrangement of the	1	

	batteries/ bulb which caused an open circuit.  		
36bi	**LO – Draw a circuit diagram consisting of bulbs arranged in parallel** Parallel circuit with no gaps [2] 	2	
36bii	**LO – List advantage of bulbs arranged in a parallel circuit** Both bulbs are brighter than one bulb/ two bulbs arranged in series. [1] Both bulbs are brighter because they do not have to share voltage/ electric current. [1] Even adding the second bulb, the two bulbs will maintain the same brightness. [1]	1	**<u>Do not accept</u>** Both bulbs are equally bright. [0] (Reason: Both bulbs in series will also be of same brightness). The bulb will remain lit for a longer period of time. [0] (Shorter period instead as each bulb gaining voltage from the two batteries)
37a	**LO – Identify the different types of forces.** <u>Gravity / Gravitational Force</u> (1/2) <u>Friction / Frictional Force</u> (1/2).	1	Elastic spring force [0]

37b	**LO – Investigate the effects of frictional force on the movement of objects.** The surfaces have different texture so they produce different amount of frictional force / the amount of frictional force between the wooden block and the different surfaces is different. (1)	1	No partial marks The surfaces are smooth or rough/ have different types of texture/ smoothness.
37c	**LO – Investigate the effects of frictional force on the movement of objects.** Surface Z, as It took the longest amount of time for the wooden block to travel distance D [1] so it produced the most amount of friction for the car to slow down/ stop just before the traffic light.	2	Surface Z is the roughest and will cause the car to slow down and prevent accident. [0]
38a	**LO – Identify the different forms of energy.** Potential energy Kinetic energy Kinetic energy Heat energy + Sound Energy	2	(1/2 marks each)
38b	**LO – Understand the effect of mass on gravitational potential energy.** The distance moved will be longer (1/2) as cart P will have more mass (1/2), increasing the gravitational potential energy (1/2) which will be converted to more kinetic energy (1/2).	2	More gravitational force will act on cart P to push cart Q with a greater impact.
38c	**LO – Understand the conversion of energy from one form to another.** It will slow down or stop. The kinetic energy of Cart Q is converted to heat and sound energy (1).	1	No partial marks
39a	**LO – Interpret the results and communicate findings from the experiment.** They reached room /surrounding temperature. They both reached the same temperature. Temperature of water in Y decreased faster and reached room temperature faster than X.	1	Remain constant or remain the same (0) Their temperature decrease (1/2)
39b	**LO – Identify good and poor conductors of heat.** Material B is a better conductor of heat (1/2) so more heat is lost / heat loss is faster (1/2). or allows heat to pass through quickly / conducts more heat away from the water / water lose more heat	1	

	Material B gains more heat / heat faster from the water		
39c	**LO – Recognise that air is a poor conductor of heat and its uses in our daily lives.** Air is a poor conductor of heat (1/2) therefore it slows down heat gain from the surrounding to the frozen food. (1/2) or allow less heat to pass through / allow heat to pass through slower or Food conducts heat from the surrounding slower / conducts less heat from the surrounding	1	
40a	**LO – Understand the effects of magnetic force.** Object A is a magnet (1/2) and it attracted the steel ball to prevent it from bouncing back (1/2].	1	Magnetic material (0) no marks for attracted the steel ball.
40b	**LO – Understand the elastic spring force.** The greater/ more elastic spring force, the greater/ further the distance moved by the ball.	1	No partial marks
40c	**LO – Understand the elastic spring force.** Spring X. The ball travelled a longer distance (1/2) when the springs were pulled back the same distance (1/2) , AND Spring X has more (elastic) potential energy (1/2) converted to more kinetic energy of the rocket (1/2). OR Spring X has more elastic spring force (1) so it pushes the rocket further.	2	The ball travelled further when the spring was pulled back further (0) Ignore the use of more or less elastic