YEW TEE PRIMARY SCHOOL
PSLE PRACTICE PAPER SET 5
PRIMARY 6 SCIENCE
MARK SCHEME

Booklet A (2m each – Total 56 marks)

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

Booklet B (Total – 44 marks)

Notes to markers:

- Award marks for responses that show conceptual understanding in the context of the question.
- Do not penalise marks for spelling errors (unless otherwise stated), provided the misspelt word is not another word with contradicting meaning.
- Words/phrases shown in brackets are optional.

Question No.	Possible Answers	Mark Allocation	Remarks* *(*include answers that are not acceptable and important notes pertaining to the question)*
29	**Process skill: Comparing** (a) Animal A does not have wings and does not live in water / lives on land.	**1** ½ ½	
	Process skill: Comparing (b) Both animals have wings.	**1**	
	Concept: Characteristics of a fish	**1**	

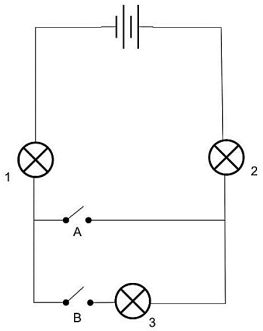
	(c) Fish		Award 0m for "Marine animals/ amphibians/ reptiles"
30	**Process skill: Analysing** (a) As the amount of oxygen in the air decreases, Grace's heart rate increases. Other acceptable answer: Grace's heart rate increases as the amount of oxygen in the air decreases.	**1**	
	Concept: Heart rate increases when the body does not get enough oxygen (b) As the height of the mountain increases, the amount of oxygen in the air decreases. Hence, Grace's heart has to pump faster to transport more / the same amount of oxygen carried in her blood to the rest of her body.	**2** *1* *1*	Response must relate the lower amount of oxygen to the increased altitude, and describe how the body respond as a result. Deduct ½ m if response does not indicate oxygen is carried in blood
31	**Concept: Exchange of gases takes place in the lungs** (a) Y	**1**	
	Concept: Nose hairs filter out dust particles from inhaled air (b) The nose hairs remove/ trap/ filter out dust particles (from inhaled air / the air we breathed in). Other acceptable answer: cleared out/ blocked/ stopped/ obstructed by/ traps all dust	**1**	
	Concept: A narrow airway reduces the amount of air flowing to the lungs (c) The airway becomes narrower/ has less space/ shrunk/ smaller tube/ partially blocked/ passageway,	**1** *½* *½*	Response must show clearly how the narrow airway (cause) affects the amount of gas intake (effect).

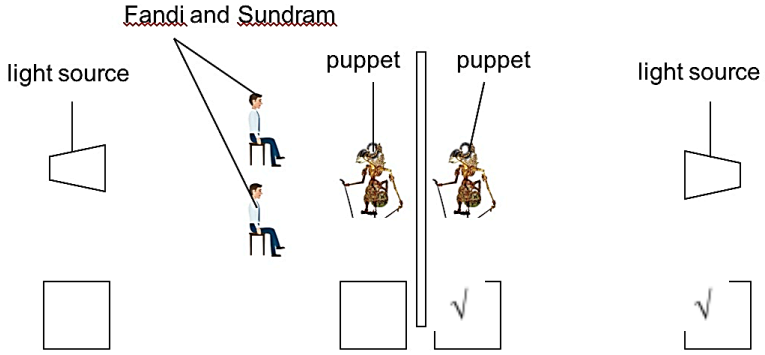
	resulting in less air/ oxygen taken in (after each breath)/ slows rate of exchange of gases/ more breaths taken to get sufficient oxygen		Award 0m for "Airway is blocked/ becomes smaller surface area"
32	**Concept: Parts of a flower needed for pollination/ fertilisation**	**2**	
	(a) X and Y.	*1*	No partial marks.
	Both flowers do not have ovary/ovule which is needed for fertilisation.	½ ½	Independent marking
	Other acceptable answer: Both flowers do not have stigma which is needed for pollination.	 ½ ½	
	Concept: Characteristics of a wind-pollinated flower	**1**	
	(b) Flower W.	-	
	Its stigma is exposed / sticking out of / above its petals/flower	½	Responses include both the observation (evidence) and the interpretation (scientific reason)
	so that it can easily receive pollen grains (carried by the wind).	½	
	Other acceptable answers: ● It has a long stigma. ● It has dull-coloured petals that does not help to attract animals/insects (pollinators).	 ½ ½ ½	
	Concept: Characteristics of fruits dispersed by animals	**1**	
	(c) Its seeds are small / cannot be digested. OR The fruit is sweet/ juicy/ fleshy.		Accept responses that show the idea of the fruit being attractive to be eaten.
	Concept: Characteristics of fruits dispersed by animals	**1**	
	(d) The fruit has hooks / hook-like structures	½	Award ½ m for identifying the characteristic and ½ m for explaining the mechanism.
	that can stick/ cling/ hook onto the fur/ hair/ body of the (moving) animal.	½	

33	**Concept: Oxygen is taken in during respiration but given off during photosynthesis** (a) There is less (dissolved) oxygen/air in P because oxygen in P is taken in by the snail. There is more (dissolved) oxygen in Q because the water plants give off oxygen during photosynthesis / when making food.	**2** *1* *1*	Responses must explain the cause and effect on the level of oxygen.
	Concept: Purpose of a control set-up (b) To compare the results and confirm that the amount of oxygen present in the water was only affected by the (presence of) living things. <u>Other acceptable answer</u>: To ensure that the differences in the amount of oxygen is caused only by living things (water snail / plants) in the beaker.	**1**	Award ½m for only stating *"To compare and confirm the results"*. Deduct ½ m if responses mention either snail or plants <u>only</u>
	Concept: Plants give out oxygen for animals to survive (c) The snail in beaker R had (enough dissolved) oxygen given out by the water plants (during photosynthesis).	**1**	Response must clearly show how the snail benefitted from the plants' production of oxygen.

34	**Concept: Increased surface contact area leads to faster rate of heat transfer.** (a) Kettle Z. The metal plate (which kettle Z was resting on) had the least surface area in contact with the kettle. Hence water gained heat slowest/ metal plate conducted heat slowest to the water.	**1** - ½ ½	
	Concept: Decrease in surface contact area leads to slower rate of heat transfer. (b) There is less surface area of contact between her hand and the cup. Hence less heat is transferred from the hot coffee to her hand. <u>Other acceptable answer</u>: Air that is trapped in the corrugated cup sleeve conducts heat slower from the hot coffee to her hand. Cardboard is a poor conductor of heat so it cannot conduct heat easily/quickly from the hot coffee to her hand.	**1** ½ ½ ½ ½ ½ ½	
	Concept: Poor conductors of heat loses heat slower. (c) Plastic is a poor conductor of heat Hence heat is lost slower (slowly) from the hot coffee to the surroundings.	**1** ½ ½	Response must clearly show how the property of plastic affects the rate of heat loss (focus is on heat loss, not heat gain).
35	**Concept: Condensation of steam**	**2**	

	(a) Steam/ Hot water vapour from the boiling water/ kettle came into contact with/lost heat to the cooler surface of dish X, and condensed to form water droplets (that fell into glass A). <u>Other acceptable answer</u>: Water vapour around the glass lost heat to the cooler surface of dish X (1m)	*1* *1*	For the 1st mark, response must clearly show the 'source' and 'interaction'. For the 2nd mark, response must clearly show the 'process' and 'result'.
	Concept: Condenstation would be slower on a less cool surface. (b) Dish Y. Dish Y had lost heat faster to the ice and resulted in a higher/increased rate of condensation.	**1** - ½ ½	Response must show clearly that Y loses heat faster, leading to a higher rate of condensation.
	Concept: Water vapour condenses into water droplets when in contact with a cooler surface. (c) The (warm) water vapour in the paper bag would be able to escape and not condense into water droplets on the paper bag that would drip onto the chicken wings / make the chicken wings wet/soggy. <u>Other acceptable answer</u>: The (warm) water vapour in the paper bag would be able to escape and not condense into water droplets on the cooler chicken wings after the chicken wings lost heat to the surrounding / had cooled down.	**2** *1* ½ ½ 1 1	For the other acceptable answer, response must indicate that the chicken wings had become cooler due to its eventual heat loss to the surrounding.

36	**Concept: Identify electrical conductors and insulators** (a) R	**1**	
	Process Skill: Constructing circuit diagram (b)  	**2**	Credit should be given for any possible circuit design that fulfils the criteria set in the question. Award 0m for: ● any deliberate gap between components ● any wrong circuit design ● missing switch(es) ● any short circuits Deduct ½ m for any missing label(s) switch(es) Accept: Do Not Accept: 
37	**Process Skill: Comparing magnets, magnetic materials and non-magnets** (a) W, Y and Z. They repel one other OR Only magnets can repel each other.	**2** *1* *1*	 No partial marks. Independent marking
	Concept: Gravitational force increases when mass increases. (b) The distance would decrease. The combined weight of the iron ring and ring W increased. <u>Other acceptable answer</u>: The top part is too heavy (½m)	**1** ½ ½	 Response to show idea of increased weight/mass (i.e. comparison to be made)
	Concept: Unlike poles of magnets attract each other (c) Unlike poles of the magnets in parts A and B are facing/attracting each other.	**1**	 Award ½ m for “Magnets attract each other.”
38	**Concept: Repeated trials increase reliability of experiment results** (a) He wanted to ensure that the results are (consistent and) reliable.	**1**	 Award ½ m for responses that only state about ‘accuracy’.

	Concept: Analysing (b) The larger the mass of the object placed on the spring, the shorter the length of the spring (until it cannot be compressed further).	**1**	Response must show clearly the cause (mass) and effect (length).
	Concept: Conversion of energy from one form to another (c) (elastic) potential □ kinetic □ (gravitational) potential	**1**	No partial marks. Award 0m for "Gravity"
	Concept: Conversion of energy from one form to another (d) More (elastic) potential energy in the (compressed) spring could be converted into more kinetic energy in Rashford.	**1**	Deduct ½ m for not stating where the energy is possessed.
39	**Concept: A shadow is formed when light is blocked.** (a)  	**1**	No partial marks
39 (cont'd)	**Concept: Formation of a shadow** (b) When light is blocked (a shadow is formed on the screen)	**1**	

	Concept: *Variables that affect size of shadow*	**1**	
	(c) Move the puppet (further) away from the screen / nearer to the light source.		Response should be about moving the puppet, not the screen or light source.
	Concept: A shadow is formed when light is blocked by an opaque object.	**1**	
	(d) Cardboard.	-	
	Cardboard does not allow light to pass through.	*1*	
40	**Concept: Object possess less potential energy at a lower height**	**1**	
	(a) Ball B.	-	
	Ball B was released from a lower height and thus	½	
	it would store less (gravitational) potential energy that could be converted to less kinetic energy (causing a smaller impact and creating a hole with a smaller depth).	½	
	Concept: Object possess more potential energy at a greater height	**2**	
	(b) Potted plant X.	*1*	
	Potted plant X fell from a greater height and thus	½	Independent marking
	it would store more (gravitational) potential energy that could be converted to more kinetic energy (causing a greater impact / injury when it landed on a person).	½	

End of Answer Key