

PSLE SCIENCE
Answer Key

BOOKLET A

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

BOOKLET B

29 (a). **No. Part Y does not control the movement of Substance A in or out of the cell. (1m)/ X controls the movement of iodine in or out of the cell but not Part Y. (1m)**
Note: No marks awarded even pupils managed to answer “No”. Answer must be accompanied by the correct reason given.

(b) Part X: Cell membrane (½m)
 Part Y: Cell wall (½m)
Note: No marks awarded for spelling mistake.

30. (a) **The lit candle heated/warmed the surrounding air above it. The air gains heat and rose causing the Spiral spin and move. (1m) / The lit candle heated/warmed the surrounding air above it. Kinetic energy from the hot/warm air caused the Spiral to spin. (1m)**

(b) Chemical potential energy → Heat energy + Light energy → Kinetic energy

31. (a) A: Evaporation / Boiling (½m)
 B: Condensation (½m)

(b) Water gained heat and evaporated into water vapour. (1/2m) The water vapour then touched the cooler surface of the plastic tray. The water vapour lost heat, condensed into water droplets which then dripped down and collected in the test tube. (1/2m)

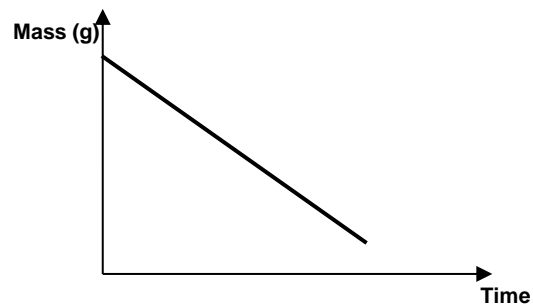
(c) The volume of water collected in the test tube would be **lesser**. Since the ice cubes were removed, the plastic tray would not be as cool as before. Thus, **the rate of condensation would be slower** ($\frac{1}{2}m$) and **lesser water vapour would condense on the plastic tray** ($\frac{1}{2}m$). Hence, less water droplets would drip into the test tube.

32. (a) The root appears first to help anchor the **seedling** firmly to the soil. (1m)

Do not accept

The root appears first to help anchor the **plant** firmly to the soil.

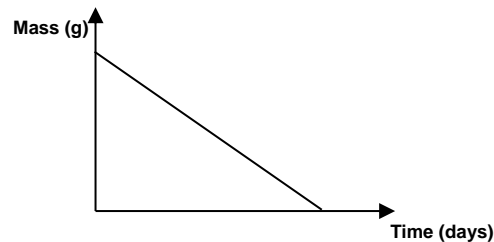
(b)



Note

As long as it is a downward graph, marks will be awarded.

$\frac{1}{2}m$ deducted if the following is drawn



(c) Part X is the **seed leaf**.

The **growing shoot / seedling obtain food from the seed leaves to grow, so the mass of Part X decreased as the seedling grew** (1m).

Note

No marks awarded even pupils managed to identify Part X. Part X must be correctly identified and must be accompanied by the correct reason given.

Do not accept

The seed leaf **produces** food for the seedling.

The **plant** obtains food from the seed leaf.

33. (a) He should conduct the experiment **at least 3 times for each lubricant** and find the average reading.

He should conduct the experiment at least 3 times (1m)

He should conduct the experiment at least 3 times and take an average (1/2m)

(b) Y, Z, W, X

(c) 1m (1/2m each)

Release the toy car from the **same** starting point on the ramp.

Use the **same** toy car

Use the **same** ramp

Use the **same** floor

Put the **same amount of lubricants** on the floor.

34. (a) Prevent / deter animals from **climbing up**(1/2m) to **eat the leaves, flowers or fruits** (1/2m).

(b) The nice scent is meant to **attract** animals (1/2m) to **help in pollination**(1/2m) **Or** Attract pollinators (1)

(c) Animal F gets to camouflage to prevent being spotted by predators (1m); or

Animal F gets protection/shelter from the thorns against predators (1m); or

Tree gets protected against the insects crawling up the tree, since the animal is an insect eater (1m).

35. (a) **Any of the answers below (1m).**
- Water the plants and the soil.

- Wet the soil.
- Spray some water
- Any indication of having water in the terrarium.

- (b) It should be placed at a place where there is sunlight. (1m)
- (c) The plants used the carbon dioxide (1/2) produced during respiration to photosynthesize (1/2).
In turn, the plant uses oxygen (1/2) produced during photosynthesis to carry out life processes (1/2).

Please note :

Pupils have to mention the gas produced, the process involved and what the gas produced is used for.

36. (a) S (1m). The plants that are **dispersed by splitting of fruits grow near the parent plants / grow close to each other / grow in a cluster / group together / close together / crowd together / tiny spot / near each other / not so far from original plant / not fly far / small distance.** (1m)

(b) R [1]. It has **hooks / hook-like structures / stiff hairs [1/2m]** that will **hook or cling onto or catch on or stuck on (the fur of) animals / clothes (1/2m)**

37. (a) To ensure a reliable/ consistent reading.

(b) The longer the length of the elastic band, the greater the distance moved by object W./ The shorter the length of the elastic band, the lesser the distance moved by object W. / As the length of the stretched elastic band increases, the distance move by object W increases too. (1m)

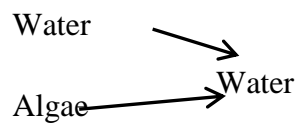
(c) Any distance greater than 10.7 cm.

38. (a) She wanted to make sure that the woodlice had equal chances of moving to the 4 different sections. (1m)/ The starting point must be at the centre to ensure a fair test. (1m)

- (b) Woodlice preferred dark and moist environment (1m). Dark environment is cooler and moist environment provides source of water for the woodlice to survive. (1m)
- (c) (i) Living things respond to changes around them. (1/2m)
(ii) Living things move by themselves. (1/2m)

39. (a) **The water plant is the food for the water snail** while the **snail's dropping act as fertilizer** for the plant to grow healthily. (1m)

(b) (1m)



(c) The **water snail population continued to increase as it had abundant of food supply / more food / had another food source** (water plant and algae). The **algae covered the glass and prevent the sunlight from passing through it. This prevented the water plant from making food** which resulted in their decline. (1m)

40. (a) The **iron nail** and the **steel paper clip** are **magnetic objects**. (1m)
Hence, she was able to attract them by putting a magnet on the top of the box. (1m)

(b) **No.** The aluminium foil and plastic straw are **not magnetic materials** (1m) and **would not be attracted to the magnet**. (1m)

41. (a) As the temperature increases, the amount of bubbles produced by the plant increases up to 40°C(1/2m). When the temperature is more than 40°C, the number of gas bubbles produced decreases. (1/2m)

(b) The lamp gave out heat energy, causing the water to gain heat and increase in temperature. (1m)

(c) Oxygen (1m)

(d) During hotter months, the water gains heat (1/2m). When the water was too hot, water plants in the water produced lesser oxygen (1/2m). With lesser dissolved oxygen, the fish have to compete (1/2m) for it and many of them die of suffocation. (1/2m)