

**2020 Mendaki PSLE Standard Science
Answer Key**

Section A (2 marks each)

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

Section B

(Accept other reasonable/sensible answers.)

29. Transparent To allow light to pass through so that the rider can see clearly.
 Strong To protect the rider's eyes/face should anything hard fly at him.
 Waterproof To prevent water from entering and ensuring a safe ride.
 [1m for each correct pair i.e. property and reason must "match". If the property given is correct, but the reason given is incorrect/not reasonable, do **not** award the mark.]
30. (a) His predictions are wrong. Copper is non-magnetic [$\frac{1}{2}$] and can never be turned into a temporary magnet [$\frac{1}{2}$].
 (b) Wrap/Coil metal wire [$\frac{1}{2}$] around the nail and pass it through an electric current [$\frac{1}{2}$].
31. (a) To find out if the colour of light affects how much water a plant absorbs. [no $\frac{1}{2}$ m for partial answer]
 (b) Set-ups C and D [no $\frac{1}{2}$ m for partial answer]
32. (a) F, E, G
 (b) The temperature of the water inside the beaker and the room temperature is the same/equal [1]. Since there is no temperature difference [$\frac{1}{2}$], condensation did not take place [$\frac{1}{2}$] and no water droplets were formed.
33. (a) $\frac{1}{2}$ m for each correct \checkmark

	Variable to be kept the same	
(i)	Size of towels	\checkmark
(ii)	Material of towels	\checkmark
(iii)	Location of experiment	\checkmark
(iv)	Duration of experiment	\checkmark
(v)	Mass of towels after the experiment	
(vi)	Exposed surface area of both towels	

- (b) Amount of water each towel is soaked in. / Mass of towels before the experiment.

34. (a) I agree. The cell has chloroplasts to help it make its own food.
 (b)(i) The flagellum
 (b)(ii) It needs the light to help it make food.
 (c) The nucleus of the cell is responsible for cell division/growth of the new tail.
35. (a) [anywhere within either Fallopian tube]
 (b) [anywhere on any of the three uterus walls]
 (c) Yes, she will still be able to. For fertilisation to take place, only one egg cell needs to fuse with a sperm cell [$\frac{1}{2}$]. Since both ovaries are capable of producing eggs, and her other Fallopian tube is functioning well [$\frac{1}{2}$], fertilisation can still take place.
 (d) The mother provides oxygen and digested food to the foetus/baby [1], while the foetus/baby sends carbon dioxide and waste materials [1] back to the mother. [MUST be complete for each 1m i.e. if student wrote "carbon dioxide" only, zero marks to be awarded.]
36. Omar: This is a wind-pollinated flower [1]. The feathery stigma will help trap the wind-blown pollen [1]. Its anthers are also sticking out of the flower, making it easier for the wind to carry away its pollen [1]. [do **not** award marks if student uses "dull-coloured petals" or "no nectar" as reasons]
 Hannah: This flower's ovary only has one ovule. After fertilisation occurs, this one ovule will develop into only one seed.
37. (a) The gill filaments increase the surface area of the gills [1] to allow the fish to obtain more oxygen/increase the rate of gaseous exchange [1].
 (b) stomata
 (c) It narrows the airways [1] and prevents the patient from receiving enough oxygen [1].
38. (a) To prevent surface water in the beaker from being evaporated
 (b) B and C: Plants absorb water through its roots.
 A and C: The more leaves a plant has, the more water it will absorb.

39. [$\frac{1}{2}$ m for each correct \checkmark]

Conductors of electricity	Yes	No	Not possible to tell
W	\checkmark		
X	\checkmark		
Y		\checkmark	
Z			\checkmark

40. (a) C, A, B
 (b) Gravitational Potential ---> Kinetic ---> Sound + Heat [$\frac{1}{2}$ m each]
 (c) Swing the wrecking from a higher point/faster

41. (a) As the surface area of a block increases, the force needed to pull it increases.
- (b) The strips increase friction between the wheels of the car and the surface of the road [$\frac{1}{2}$], causing the car to move slower [$\frac{1}{2}$].
- (c) As the vehicle moves forward during an accident or collision, the seat belt exerts a force in the opposite direction [1], pulling the occupant back to his seat [1] and preventing him from being flung out.