

Answer

2024

Nanyang Primary School Prelim



Booklet B

29) a) The eggs will be hidden from the sight of the predators, so that they will not be eaten up. [1m]

b) Plant P will covered the surface of the pond, hence less light from the Sun can pass through. [0.5m] With insufficient light, plant S is unable to carry out photosynthesis, causing S to die. [1m] As plant Q is still floating on the surface, Q can still make food and carry out its life processes. [0.5m]

c) i) X : amphibian [0.5m]
W : fish [0.5m]

ii) Animal X is able to migrate / move to another pond habitat where X can find food to feed on [1m] while animal W will be trapped in the pond with no food sources.

30) a) [1m] for T(producer)
[0.5m] for P, Q (plant-eater)
[0.5m] for S, R (animal-eater)

Producer	Plant-eater	Animal-eater
T	P, Q	S, R

b) There is a disease outbreak that cause organism R to die. [1m]

31)	a) Insect W will <u>think that the spots on the male animal F legs are the eggs are start biting it while leaving the real eggs safe</u>. [1m] Then, the <u>male animal F will jump high and far away from the real eggs, attracting insect W away from the eggs</u>. [1m] b) Graph Q. For <u>animal F, the number of days stayed in egg stage is longer</u>. [1m] Also, due to <u>animal Z requiring less days to hatch, it will hatch faster and have more time to feed on the eggs</u> [1m] of animal F.
32)	a) Tiny openings allows gaseous exchange to take place. [1m] b) <u>Leaf R is a positive control to show that R has the highest rate of water loss</u>. [0.5m] Comparing leaf P and Q, <u>volume of water loss in leaf Q is higher</u> [0.5m] and since the <u>upper surface is not covered with oil, it indicates that there are more tiny openings in the upper surface which allow more water from leaf Q to be lost</u> [1m] to the surroundings.
33)	a) Carbon dioxide [1m] b) Blood and blood vessels [1m]
34)	a) <u>Digested food from the small intestine is absorbed into the blood</u>. [0.5m] The <u>heart pumps blood high in digested food from the small intestine to be circulated to all parts of the body</u>. [1m] <u>Blood containing oxygen and digested food will be carried to the digestive organs to release energy</u> [0.5m] for them to carry out digestion. b) Since the meat is not chewed, <u>the exposed surface area to digestive juices will be smaller, hence the rate of digestion is slower</u>. [1m]

35)	a) Wind from the fan [1m] b) i) <u>Not all the kinetic energy is converted to heat and sound energy due to friction, the toy boat still has some kinetic energy.</u> [1m] ii) <u>All of the kinetic energy is converted to heat and sound energy due to friction, hence the toy car does not possess kinetic energy.</u> [1m] c) Suggestion : Decrease the distance between the fan and the sail [1m] Reason : When the fan is <u>nearer, more kinetic energy of the wind is transferred / converted to more kinetic energy of the moving sail toy,</u> [1m] allowing the toy to move further.												
36)	a) As the <u>number of strips increased, the time taken for ball the reach the bottom of the ramp increased.</u> [1m] b) Gravitational force, frictional force [1m] c) There is <u>more frictional force between the floor and Trisha's shoes to go against her motion,</u> [1m] hence slowing down her speed. d) She should <u>repeat at least 3 times and calculate the average.</u> [1m]												
37)	a) [1m] <table border="1"> <tr> <td></td><th colspan="2">Did the bulb light up?</th></tr> <tr> <td></td><th>Yes</th><th>No</th></tr> <tr> <td>Bulb P</td><td style="text-align: center;">✓</td><td></td></tr> <tr> <td>Bulb Q</td><td></td><td style="text-align: center;">✓</td></tr> </table> b) i) Bulb P will light up <u>brighter. There is more electric current flowing from more batteries through bulb P.</u> [1m] ii) Bulb Q will <u>light up. There is a closed circuit for electric current to flow through.</u>		Did the bulb light up?			Yes	No	Bulb P	✓		Bulb Q		✓
	Did the bulb light up?												
	Yes	No											
Bulb P	✓												
Bulb Q		✓											

38)	a) <u>Light can be reflected by objects.</u> [1m] b) When <u>light travels in a straight line and is blocked by an (opaque) object to form a shadow.</u> [1m] c) Object Y. <u>Least light from the torch is being blocked by object Y, hence forming the smallest shadow.</u> [1m] d) Move the torch nearer to all the objects. / Move the screen further from all the objects. [1m]
39)	a) Magnetic material [1m] b) At C : south-pole [1m] At D : north-pole c) As <u>both the south-poles of the bar magnets are facing and double-stroking steel bar EF</u> [1m], the <u>polarity of EF will not be arranged in a north-south direction,</u> [1m] hence EF will not be a temporary magnet.
40)	a) To <u>find out how different types of materials F, G, H affects the time taken for all the ice cubes to melt.</u> [1m] b) To ensure that <u>the mass of the ice cubes is the same</u> [0.5m] and <u>there is only one changed variable, the different materials</u> [0.5m] that affect the rate of melting of ice cubes while the rest of the variables are constant for fair test. c) Material H as it takes the <u>longest time for all ice cubes to melt.</u> [0.5m] Since material H is <u>the poorest conductor of heat,</u> [0.5m] the <u>hot soup will lose heat at the slowest rate to the cooler surroundings.</u> [1m]