

# Answer

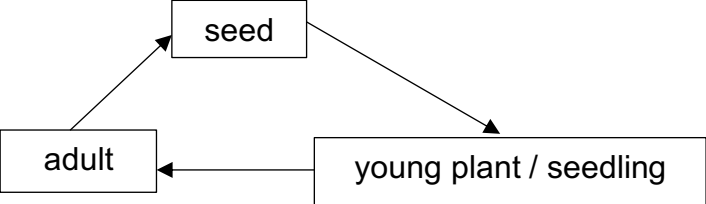


## 2024 Primary 5 Science Nanyang Primary School End - of - Year Exam

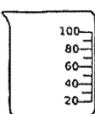
### Booklet B

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 29) | <p>a) Flower A : By animal / insect [0.5m]</p> <p>Reason : The <b><u>red petal attracts bees to visit the flower</u></b> [0.5m] to feed on the nectar, allowing pollination.</p> <p>Flower B : By Wind [0.5m]</p> <p>Reason : The <b><u>anthers are hanging out, so the wind can blow away more pollen grains</u></b>. / The stigma is feathery, greater exposed surface area to catch more pollen grains in the air. [0.5m]</p> <p>b) Fruit C has <b><u>split lines and a force will build up when dry, allowing the seeds inside to be thrown away further</u></b>. [1m]</p> <p>c) To ensure that the plants do not experience overcrowding and <b><u>will not compete for water, nutrients, space and sunlight to grow more healthily</u></b>. [1m]</p> |
| 30) | <p>a) Part A : gills, gills allow gaseous exchange to take place [1m]</p> <p>b) Leaves X and Y [1m]</p> <p>c) <b><u>Comparing leaves X and Y, more air bubbles are released from leaf X</u></b>. [1m]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 31) | <p>a) i) Respiratory system [0.5m]</p> <p>ii) Circulatory system [0.5m]</p> <p>b) Air from the surroundings enter the nose, down the windpipe <b><u>and the lungs breathe in oxygen whereby oxygen then enters the blood</u></b> [1m] which is carried to the heart. <b><u>The heart pumps blood high in oxygen to the legs</u></b> [1m] and oxygen enters the cells of the legs.</p>                                                                                                                                                                                                                                                                                                                                                                      |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |               |     |       |       |      |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------|-----|-------|-------|------|
|               | <p>c) If a person runs after a meal, there will be <b><u>less amount of blood transported per minute to the digestive system</u></b>. [0.5m] In the small intestine, <b><u>due to less amount of blood, less digested food is absorbed into the blood, decreasing rate of absorption</u></b>. [1m] Also, <b><u>the digestive system will digest food at a slower rate since there is less energy</u></b> [0.5m] release due to less blood transported per min.</p>                                                                                                                                                                                                                                                                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |               |     |       |       |      |
| 32)           | <p>a) Human Organ System P : Skeletal system [0.5m]<br/>Part X : Windpipe [0.5m]</p> <p>b) Bone protects the soft internal organs in the body from physical damage. [1m]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |               |     |       |       |      |
| 33)           | <p>a) Digestive system. [0.5m] Digestive system <b><u>ensures that food eaten are broken down into simple / simpler substances / digested food</u></b> [1m] which is <b><u>then absorbed into the blood</u></b> [0.5m] to be used.</p> <p>b) To find out <b><u>how the volume of substance J</u></b> affects the rate of digestion of food / the mass of food after 2 hours [1m]</p> <p>c) As the volume of substance J increased, the mass of food left after 2 hours decreased. [1m]</p>                                                                                                                                                                                                                                                                                                             |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |               |     |       |       |      |
| 34)           | <p>a) Living thing Y has 3 – stage life cycle while living thing Z has 4 – stage life cycle. [1m]</p> <p>b) 1 mark</p> <table border="1"><tr><td>Stage</td><td></td><td></td><td></td><td></td></tr><tr><td>Name of Stage</td><td>egg</td><td>adult</td><td>larva</td><td>pupa</td></tr></table> <p>c) During stage M, <b><u>living thing Z does not feed on any food</u></b> [1m] and is at pupa stage.</p> <p>d) Both have 4 - stage life cycle [1m]</p> | Stage                                                                               |  |  |  |  | Name of Stage | egg | adult | larva | pupa |
| Stage         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |                                                                                     |                                                                                     |               |     |       |       |      |
| Name of Stage | egg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | adult                                                                               | larva                                                                               | pupa                                                                                |                                                                                     |                                                                                     |               |     |       |       |      |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 35) | <p>a) As the temperature of surroundings increased, the length of one complete life cycle of the plant increased. [1m]</p> <p>b) To ensure that <b><u>the sample size is the same</u></b> [0.5m] so that only <b><u>different location that the pot of seed is placed will affect germination for fair test.</u></b> [0.5m]</p> <p>c) Repeat the experiment at least 3 times and calculate the average [1m]</p> <p>d) 1 mark</p>  <pre> graph TD     seed[seed] --&gt; adult[adult]     seed --&gt; young[young plant / seedling]     young --&gt; adult     </pre> |
| 36) | <p>a) Water gained heat from the flame and <b><u>boiled to form steam.</u></b> [0.5m]<br/> <b><u>Steam lost heat to the metal plate</u></b> [0.5m] and <b><u>condensed into water droplets</u></b> [1m] which dripped into the dish.</p> <p>b) After one hour, the <b><u>metal plate gained heat from the hot steam to become less cold.</u></b> [1m] Even though steam is still present due to boiling of sea water, <b><u>steam lost less heat</u></b> to the metal plate and <b><u>condense into less water droplets.</u></b> [1m]</p>                                                                                                            |
| 37) | <p>a) Temperature of an object is the measurement of its degree of hotness. [1m]</p> <p>b) Y. <b><u>Temperature of hot liquid S decreased at a slower rate, indicating Y is a poorer conductor of heat.</u></b> [1m] Using container made of Y, <b><u>the ice desserts gain heat slower from the warm surroundings outside.</u></b> [1m]</p>                                                                                                                                                                                                                                                                                                         |

38) a) 1 mark

|                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |  |  |  |
| 100ml beaker                                                                      | liquid K                                                                          | digital scale                                                                     | plastic cup                                                                       | ruler                                                                              |
| ✓                                                                                 | ✓                                                                                 | ✓                                                                                 |                                                                                   |                                                                                    |

b) 2 marks

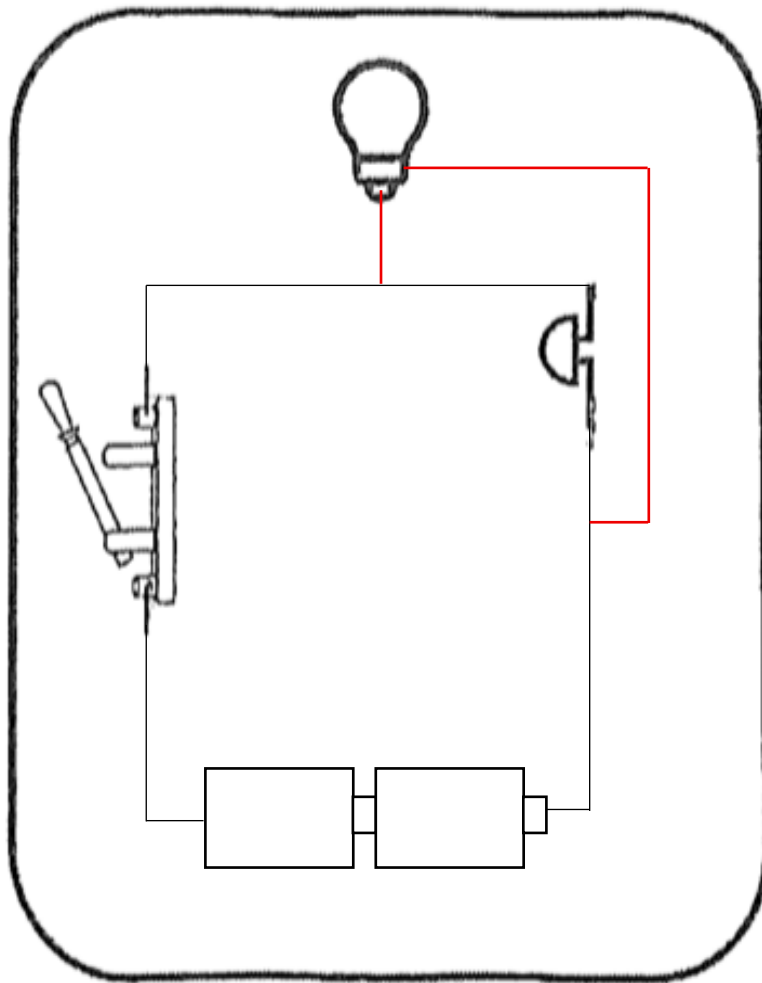
| Steps | Procedure                                                                                                   |
|-------|-------------------------------------------------------------------------------------------------------------|
| 1     | Turn on the digital scale.                                                                                  |
| 2     | Measure the mass of the empty 100ml beaker. [0.5m]                                                          |
| 3     | Pour 50ml of liquid K and measure the mass of liquid K with beaker. [0.5m]                                  |
| 4     | Subtract mass of liquid K with beaker and mass of empty 100ml beaker to get the mass of liquid K only. [1m] |

c) There are air spaces in between the solid candies, since **air occupies space and each candy has a definite shape**, [1m] they cannot be squeezed into the given volume.

39) a) The **circuit is closed, electric current flows through the iron bar to become electromagnet** [1m] which **attracts the steel plate of the door**, [1m] locking it.

b) No. Wood is a **non-magnetic material** [1m] and cannot be attracted.

- 40) a) 1 mark for parallel arrangement for bulb and buzzer  
1 mark for correct arrangement for batteries and switch



- b) **Add one more battery in series** [1m] to existing batteries. There is **more electric current flowing through the closed circuit,** [1m] so bulb J is brighter.