

Answer



2024

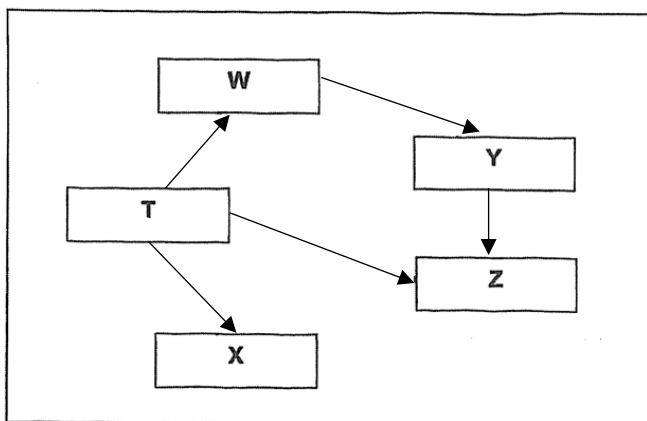
Raffles Girls' Primary School Prelim

Booklet B

29)	a) Yes. It has <u>six legs</u> [1m] and <u>three body parts</u>. [1m] b) Plant Y <u>responds to changes</u>. [1m]
30)	a) Fruit Y <u>traps air and can float on water</u>. [1m] The <u>outer covering of fruit Y is waterproof</u>. [1m] b) As the river is <u>flowing downstream, the fruits which are dispersed by water can only land at part P which is downstream</u> [1m] but not part Q which is upstream. c) The <u>animals need to depend directly or indirectly on the plants for food</u>. [1m]
31)	a) <u>Oxygen at L is higher</u> [1m] than M. b) <u>R needs to have more carbon dioxide</u> than P and Q, but lower than S [1m] Amount of carbon dioxide P Q R S Blood

c) P. When the person breathes in air, **oxygen from surrounding air enters the lungs** [1m] which then **enter the blood and flows towards the heart which is unused by the body** yet.[1m]

32) a) [1m]



b) Both organisms **W and X are herbivores, as they feed on different parts of plant T**, [1m] they do not need to compete.

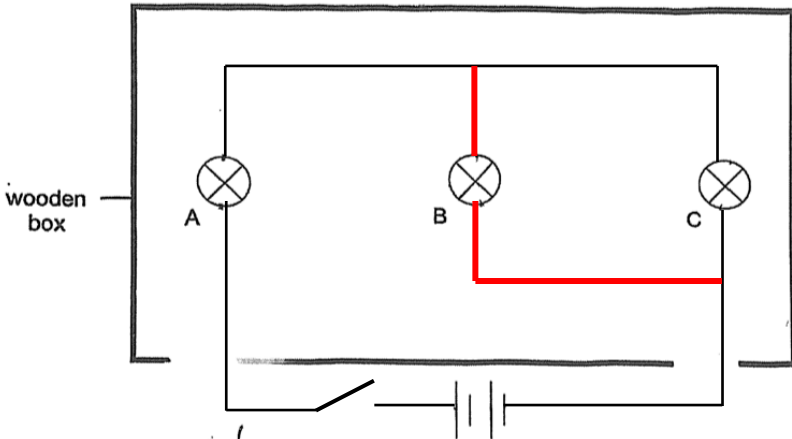
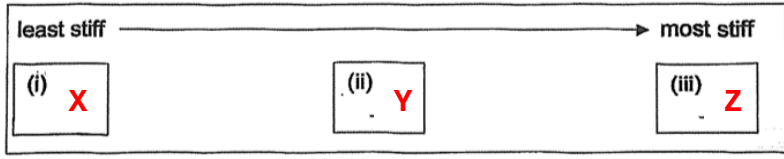
c) During photosynthesis, **plants take in carbon dioxide and gives out oxygen which is required by animals for respiration**. [1m]

33) a) Animal P. P has **flipper which increases the water resistance when it is swimming** [1m] , hence it can **swim and escape faster away from predators** [1m] so as not to be eaten up.

b) As the **temperature increases, the percentage of female being hatched decreases. This causes the reproduction rate to decrease**. [1m]

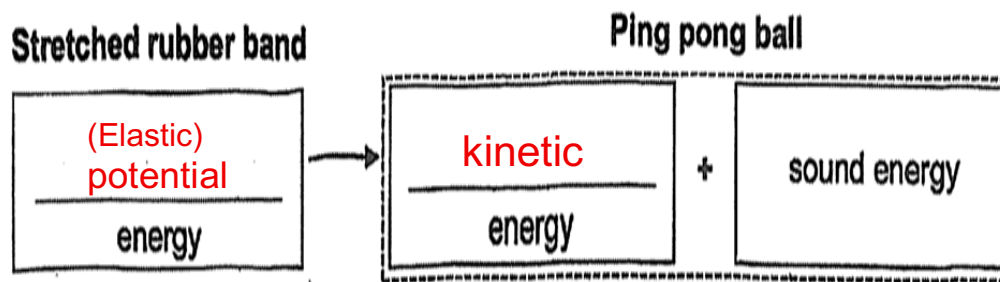
34) a) [1m]

Set-up	Time taken for all the water to flow into the flask (s)
(i) B	30
(ii) A	300

	b) In set-up A, there was no straw, <u>so air inside the conical flask was trapped and cannot escape.</u> [1m] <u>Water in the funnel flowed into the flask at a slower rate as air in the flask occupied the space,</u> [1m] hence taking more time.
35)	a) Water droplets. <u>Steam lost heat to the cool air</u> [1m] and <u>condensed to form water droplets.</u> [1m] b) <u>Water vapour lost more heat to the colder room and condensed more to form more water droplets.</u> [1m]
36)	a) [1m] for correct position of switch and light up bulbs A and C [1m] for parallel arrangement of bulb B with respect to A and C (red lines)  b) A and B / B and C / A and C * <i>*Any one of the combination warrants 1 mark as the amount of electric current that flows through each bulb is the same. (condition : all bulbs light up)</i>
37)	a) <u>As the mass of the load increased, the length of the spring increased.</u> [1m] b) [1m]  c) Given the <u>same mass hung, spring Z extends the least.</u> [1m]

38)	a) Set-ups P and R [1m] b) No. <u>Comparing set-ups P and Q, even when the surface area in contact with table changes, the amount of pulling force is still the same.</u> [1m] Hence, <u>area of contact of load with plank has no effect on the frictional force between the load and the plank.</u> [1m] c) Less. As the <u>applied force is with the same direction with gravitational force, less force is needed to go against frictional force between the load and the plank.</u> [1m]
39)	a) K. The <u>amount of light detected by light sensor is the least.</u> [0.5m] <u>Least amount of light that is reflected by residents can pass through glass filled with substance K,</u> [1m] hence the <u>people in the train cannot see the residents.</u> [0.5m] b) To ensure that <u>the light detected by the light sensor is only from the torch and not from any ambient / surrounding lights.</u> [1m]
40)	a) Temperature of an object is the measurement of its degree of hotness. [1m] b) The <u>steel track gained heat from the hot surroundings and expanded,</u> [1m] pushing against the ground to cause buckling. c) Yes. <u>With gap, there is sufficient space for the steel track to expand.</u> [1m] d) From 1100 to 1600 [1m]

41) a) 1 mark



b) All the (elastic) potential energy is converted to kinetic energy and sound energy. [1m] Gravitational force pulls the mass of the ping pong downwards, [1m] changing the direction of the moving ball. [1m]

c) 1 mark (red line)

