

Answer

2024 Red Swastika School Prelim

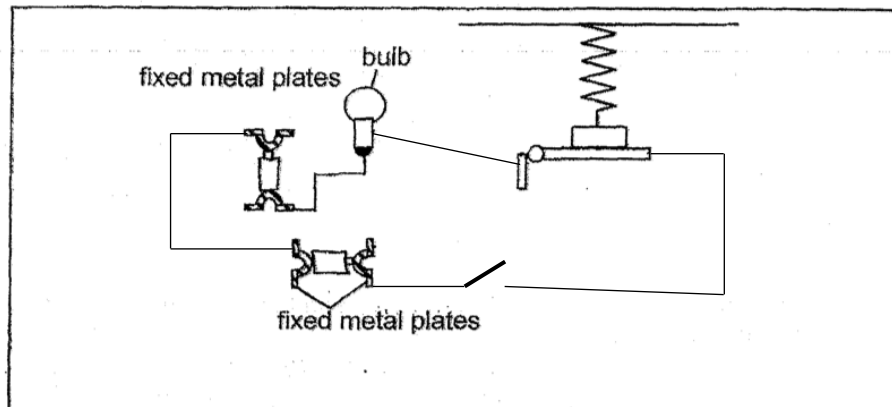


Booklet B

29)	a) Process : pollination [1m] Substance G : pollen grains b) Flower H. As the flower <u>is brightly-coloured and has larger petals, more bees will be attracted to visit it to feed on the nectar.</u> [1m] Also, since the <u>stigma and anther are hidden within the petal, flower H is pollinated by animals / insects.</u> [1m]
30)	a) Polar bears <u>have lungs which is not able to breathe dissolved oxygen</u> [1m] in water. b) The female Polar bears have mammary glands. / Polar bears have fur [1m] c) As the <u>temperature of the surroundings increased from 0°C to 40°C, the number of organism A increased.</u> [0.5m] As <u>the temperature of surroundings increased from 40°C to 50°C, the number of organism A decreased.</u> [0.5m] d) <u>At 36 °C, organism A can reproduce at a faster rate,</u> [1m] hence more A will cause Inuka's fur to be green.
31)	a) Stomata [1m] b) It is made up of <u>water-carrying tubes and food-carrying tubes.</u> [1m] c) When <u>the food-carrying tubes are removed,</u> [0.5m] <u>food made by the leaves cannot be transported downwards pass position X.</u> [1m] <u>Excess food will then be stored at X,</u> [0.5m] causing the swelling.

32)	a) <u>When animal B sights its predators, B will hide inside the hard shell.</u> [1m] The predators <u>will not be able to crack open the hard shell, hence B will not be eaten.</u> [1m] b) Animal B will <u>be carried to more places as the whale moves, hence B can feed on more food.</u> [1m] c) streamlined-body shape [1m] d) When <u>the number of ships increased, there will be less whales who surface to the top to breathe in oxygen</u> [0.5m] as the whales are afraid of being hunted by human. This caused <u>more whales to drown and die in the ocean.</u>[0.5m]
33)	a) During photosynthesis, L produces oxygen which organism N can breathe in. [1m] b) Increase. <u>Since P feeds on M and N, there will be less M and N in the community.</u> [0.5m] <u>With less M feeding on L, there will be more organism L for organism O to feed on.</u> [1m] This caused <u>the birth rate of O to increase.</u> [0.5m]
34)	a) The amount of oxygen in M decreased. Due to the black container, no light can pass through and hence <u>the tiny organism cannot carry out photosynthesis. Oxygen will be taken in for respiration.</u> [1m] b) Yes. Comparing L and M, in <u>the presence of light, the tiny organism carry out photosynthesis where carbon dioxide is taken in and oxygen is produced.</u> [1m] This is supported by <u>the increase of oxygen in the tank of L.</u>[1m]
35)	a) Electrical conductor. The tray allows <u>electric current to flows through in a closed circuit.</u> [1m]

- b) 1 mark for correct arrangement of batteries in series
1 mark for correct arrangement of wires to tip and casing of light bulb.



- c) **Electric current flows through the closed circuit to light up the bulb.**
[1m]

- 36) a) The **air lost heat to the frozen fries to become cold air.** [0.5m] **Warm water vapour in the surroundings lost heat to the cold air** [0.5m] and **condensed into water droplets.** [1m]

- b) The **mist gained heat and evaporated into water vapour.** [1m]

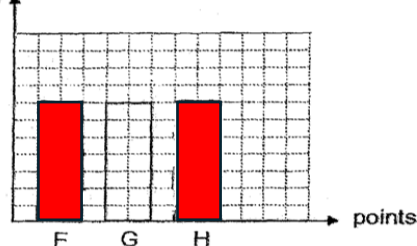
- c) Pour water to fill to the brim of the container and then transfer the water into measuring cylinder to find the volume.

- d) There are **air spaces between the lego blocks as the blocks have definite shape.** [1m]

- 37) a) Arthur's toy has **greater mass, so more potential energy is converted to more kinetic energy** [1m] as his toy is rolling downwards.

- b) 1 mark

amount of gravitational force
(units)



38)	a) Like poles of 2 magnets repelled each other. [1m] b) Magnet P has a greater mass than object X. [1m] c) The rod will tilt towards the right side where the iron rod will move downwards more. [0.5m] The iron rod is attracted by magnet Q. [0.5m] d) Steel [1m]
39)	a) Angle X has no effect on the time taken for one complete swing. [1m] b) As the metal ball is swinging, <u>some of the kinetic energy is converted to heat and sound energy due to friction</u>, [1m] hence there is less kinetic energy being converted to less potential energy. c) Repeat the experiment at least 3 times and calculate the average [1m]
40)	a) Temperature of an object is the measurement of its degree of hotness. [1m] b) 20 minutes [1m] c) Bowl H. There is <u>less volume / mass of hot soup in H, so it contained less heat which will lose heat faster to surroundings</u>. [1m] d) Glass is a poor conductor of heat. The <u>top glass gained heat faster and expands more, due to uneven expansion</u>, [1m] it cracked.