Science Practice Paper 1 Booklet B

Answer Key

31.

(a) The plastic bag will be filled with air.

The plastic bag will be inflated.

The plastic bag will have air.

(b) The air from the soccer ball escaped and filled the plastic bag

(answer must show that the air came from the soccer ball)

(c) To prevent air from escaping.

32.

(a) Frog / Toad / Salamander / Dragonfly (any kind of birds are not accepted because all birds look like the adult. Only the young of amphibians and a few 3 stage insects do not look like their adult.)

(b) Both their young do not look like the adult.

(NOTE: some students miss out the word “their young” and write they both do not look like the adult. This is **WRONG**)

33. Light Question (NOT TESTED)

34.

Changed Variable = The temperature of surroundings (A)

Observed result = The number of seeds germinated (B)

So, the answer is put in this structure “ **To find out if** \_\_\_A\_\_\_ **affects** \_\_B\_\_\_

(a) **To find out if** the temperature of surroundings(changed variable)

**affects** the number of seeds germinated.(Observed result)

**DO not accept** if student writes “affects the growth of plants” or the “growth of seeds”

(b) There was not enough water for all the seeds. / the water in the petri dishes had dried up.

**Do not accept** if the student writes “there was not enough air” or “The seeds were boiled”.

(c) 17 oC (this is the ONLY acceptable answer because the least number of seeds germinated at this temperature)

35.

(a) Adult 🡪 Egg 🡪 Larva 🡪 Pupa

(b) 14 + 4 = 18 days ( Key word : **After the eggs are hatched.** Therefore, we do not count the egg stage, but just the pupa and larva stage.)

(c) Mosquito ( this is the only insect that we learnt that lays its eggs in water, spends most of its stages in water, 4 stages)

Some students write dragonfly. This cannot be as the dragonfly has only 3 stages. Egg , Nymph, Adult and not 4 stages. It has no larva and pupa.

36.

(a) X , Z , W and Y ( seed always produces ROOT FIRST, then SHOOT, then it receives nourishment from the seed leaves before producing green leaves to make food)

(b) Seed leaves

Some very intelligent students write “cotyledon” but this word is only learnt in secondary school.

37. Light Question (NOT TESTED)

38.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Gas** | **Liquid** | **Solid** |
| **(a) Volume** | No definite volume | Definite Volume | Definite Volume |
| **(b) Shape** | No Definite Shape | No Definite Shape | Definite Shape |
| **(c) ability to be compressed** | Can be compressed | Can be compressed | Cannot be compressed |

**Students must remember this:**

**If matter has definite volume, it cannot be compressed (be made to take up a smaller space)**

Solids 🡪 Definite shape and volume

Liquids 🡪 No Definite shape, but has definite volume.

Gases 🡪 No definite shape and volume.

39.

(a)(i) The water overflowed

The water could not fill the cylinder and came out

The water spilled over

(accept any answers that show that the water was not able to stay in the cylinder – BUT DO NOT ACCEPT the water leaked out. Leaking means there is a hole or crack in the cylinder. Different from overflowing)

(ii) The water flowed in and filled the spaces/gap in between the marbles.

(do not accept – The water filled the cylinder, the water stayed in the cylinder, the water managed to not spill, the water did not overflow – DO NOT ACCEPT any answer that does not show that water filled in between the gaps/spaces between the marbles)

(b) The Solid wax in Cylinder A had no spaces in between for water to take up space, so when water is poured in, there is no more space for it and it overflows. However, Cylinder B has spaces between the marbles which could be filled up by water. So when water is poured in, it did not overflow but filled the gaps between the marbles. (a bit lengthy for a 1 mark answer but this is the most complete answer)

A simple answer perhaps which might be accepted is:

Cylinder A had no air spaces within the wax for water to fill but Cylinder B had air spaces between the marbles for water to fill.

40.

(a) Cup A (filled with water) Cup B (filled with ice)

(b) The liquid water in Cup A is able to flow around and take the shape of the contain in whatever way it is tilted. But the solid in Cup B is frozen in the shape of the cup, and as a solid, does not change its shape when the cup is tilted.

NOTE: Students will be awarded the marks if they show an understanding that water is liquid and can flow around and take the shape of the container, and if they show that ice is solid and cannot flow around or change shape.

41.

(a) Material A and C are both flexible.

(material A and C are both not hard is not so appropriate because we are talking about the property that both materials have, not the properties that they do not have.)

(b) Material C. Material C is Flexible and strong.

(The question requires that we explain using the properties that the material has. So, if students write, the grocery bag must be flexible and strong, they are talking about the bag not the material. Marks will NOT be awarded for this.)

42.

(a) Lives in Pond

(b) Light-coloured body

(c) Light-coloured body

(d) Dark-coloured body

(e) Z

(f) Y

Question is very straightforward…

43.

(a)(i) The metal poles support the swing by holding it upright

The metal poles carry up the chains of the swing.

The metal poles hold the chains up.

Any answer suggesting support or hold up the chains is accepted.

Do not accept answers that sound way off,

Eg. To hold the swing in the air. 🡨 cannot have a floating swing. The swing refers to the whole thing including the metal poles.

(a)(ii) The chains hold on to the seat of the swing.

The chains support the weight of the person sitting on the seat.

The chains connect the metal poles to the seat.

Accept any answer that is similar to the above.

Do not accept answers such as “to tie the metal pole and seat together. (it is not tied together) , to swing here and there.

(b) (Answer must be in relation to the function mentioned in part (i) and show the direct effect of having the poles broken.

Eg. The swing will not be upright anymore

The swing will not be able to carry up the chains properly.

The swing is unable to hold up the chains of the swing.

Do not accept – The swing cannot function properly/is spoilt/broken/cannot work.

44.

(a) Accept the variables except the amount of water given (changed variable)

Type of plant

Type of Soil

Amount of soil

Size of plant

Height of plant

Size of pot

Etc…

(b) To hold the plant upright

(only applicable to plants that stand upright. If the question shows a plant that climbs on a support or creeps along the ground, this cannot be used.)

**OR**

To transport water from the roots to the leaves and food from the leaves to the roots.

(c) Chlorophyll

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