

Name: Hos

01.1 Organ

01.2

Palisade mesophyll → Contains the most chloroplasts

Spongy mesophyll → Contains many air spaces

01.3 Transpiration

01.4 Lignin

01.5 So light can get through to the palisade cells for photosynthesis.

01.6 The pores are called guard cells. The opening and closing is controlled by stomata.

01.7 Vacuole

01.8 Active transport

01.9 Mitochondria

02.1 It's a barrier that stops germs getting in.

02.2 63 / 210

02.3

pH1 killed = 187

pH5 killed = 31

How many more = 154

02.4 He did $63 - 23$ and got 40, which is close to 43.

03.1

Platelets → Help clot the blood where the vaccine was injected

White blood cells → Produce antibodies to the measles virus

03.2 1968

03.3 It went up from 1945, then it stayed high for a bit, then it went down a lot.

03.4 It went down.

03.5 Parents were worried their children would get condition X.

03.6 Have the research peer reviewed.

03.7 Because the guy who wrote it was paid.

04.1

For starch you add iodine. If starch is there it goes blue-black. If not it stays brown.
For sugar you add Benedicts solution and it will go red if there is sugar.

04.2

The enzyme is amylase.
It broke the starch into sugar.

04.3 The type of bread

04.4

1. White bread was the fastest to taste sweet.
2. Wholemeal was the slowest.

04.5 He did the experiment three times.

04.6 $(58 + 55 + 61) / 3 = 58$ seconds

04.7 So the results are more reliable.

05.1 Ionising radiation, Viruses

05.2 Mitosis

05.3

...the cell needs to grow.
...the DNA needs to replicate.

05.4 40%

05.5 Chromosomes are pulled to each end of the cell.

05.6 Cell membrane

05.7

$50 / 800 = 0.0625$ mm
 $0.0625 \times 1000 = 62.5$ um

05.8

...done using cells.
...tested on people.

05.9 Placebo

06.1

1. the size of the potato pieces
2. the amount of salt solution (100 cm³)

06.2 Wash it with water to get the salt off.

06.3 A weighing scale.

06.4 0.1 g

06.5 D

06.6 $1.1 / 6.0 \times 100 = 18.3\%$

06.7 Line graph

06.8

...lost water.

...called diffusion.

...is partially permeable.

06.9 0.2 mol/dm³

07.1 Arteries

07.2 It pushes blood around the body. To get oxygen to the cells.

07.3 To put oxygen into their lungs.

07.4 Statins

07.5 It unblocks the artery so more blood can flow to the heart.

07.6 Smoking increases your risk of getting all the diseases.

07.7

(Student correctly labels y-axis and adds a correct scale. They plot bars for F and H correctly but plot G at 30 instead of 29. They label the bars F, G, H).

07.8 Eating too much fatty food.

08.1 In the nucleus.

08.2 A, D and E

08.3

A person with CF has difficulty digesting food because their pancreas doesn't make enough enzymes like lipase. This means they can't break down fats. If the food isn't broken down, they can't absorb the nutrients. This means they don't get enough energy from their food so they find it hard to gain weight.

08.4

1. They have a massive surface area.
2. They have very thin walls.
3. They have a good blood supply.

08.5

If you have less oxygen, you can't do aerobic respiration as much. This means you have less energy. So you will feel tired all the time.

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