

Name: Meh

My Answers

Question 1

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 the light can get through to the palisade cells underneath, so they can do photosynthesis.

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

01.7 Cytoplasm

01.8 Diffusion

01.9 Mitochondria

Question 2

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

02.2 Fraction surviving = 63/210

02.3

Number of bacteria killed at pH1: 187

Number of bacteria killed at pH5: 31

How many more were killed: 156

02.4 He probably found the average of the numbers for pH1 and pH3.

Question 3

03.1 Platelets → Help clot the blood where the vaccine was injected

White blood cells → Produce antibodies to the measles virus

03.2 1960

03.3 First it went up from 1945, then it stayed high for a while until about 1968, and 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 The person who wrote it was paid, so he might be biased.

Question 4

04.1 For starch, you add iodine. If it's there, it goes blue-black. For sugar, you add Benedict's solution and heat it. If sugar is there, it will turn from blue to red.

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 bread was the slowest.

04.5 He repeated the test and used the mean.

04.6 X = 58 seconds

04.7 Each person's sense of taste is different.

Question 5

05.1 Ionising radiation and Viruses.

05.2 Mitosis

05.3 Before a cell divides, it needs to grow. The DNA needs to replicate.

05.4 40%

05.5 The cell increases in size and mass.

05.6 Cell membrane.

05.7 $50 / 800 = 0.0625$ mm.

$0.0625 \times 1000 = 62.5$ μm .

Real width of cell = $62.5 \mu\text{m}$

05.9 A sugar pill.

Question 6

06.1 1. The pieces of potato were cut to the same size.

2. They were left for the same amount of time.

06.2 You should dry them with a paper towel.

06.3 A digital balance.

06.4 0.1 g

06.5 C

06.6 $1.1 / 6.0 \times 100 = 18.333$. So 18.33%

06.7 Line graph

06.8 The potato cells lost water. This process is called osmosis. The structure surrounding each cell is the cell wall.

06.9 Concentration = 0.1 mol/dm^3

Question 7

07.1 Arteries

07.2 It helps them breathe and gets oxygen in the blood.

07.3 It gives their lungs oxygen.

07.4 Statins

07.5 A stent is like a small tube that props the artery open. This lets the blood flow through properly to the heart.

07.6 1. Smoking increases your risk for all these diseases.

2. You have the biggest risk of getting disease H if you smoke.

07.7 (Student would draw a graph where the y-axis is labelled 'Risk', the scale is correct, the bars for F and H are plotted correctly but G is slightly off, and the bars are labelled F, G, H).

07.8 Eating lots of fatty food.

Question 8

08.1 In the nucleus.

08.2 A, D and E

08.3 People with CF have problems because the enzymes from the pancreas don't get to the small intestine properly. This means they can't break down food like fats and proteins very well. If the food isn't broken down, it can't be absorbed into the blood. If you don't absorb your food, you don't get the nutrients or the energy, so it's hard to gain weight or build muscle.

08.4 1. They have a very big surface area.

2. The walls are really thin, only one cell thick.

3. They have a good blood supply.

08.5 If there's less oxygen in the blood, then your cells can't do as much aerobic respiration. This means less energy is released. You would probably feel very tired all the time and get out of breath easily.