

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 cells underneath. For photosynthesis.

01.6 stomata, guard cells

01.7 Vacuole

01.8 Active transport

01.9 Mitochondria

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

02.2 $63/210 = 3/10$

02.3 Killed at pH1 = 187. Killed at pH5 = 31. Difference = 156.

02.4 He found the number in the middle of 23 and 63. $(23+63)/2 = 43$.

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, then stayed high for a bit, then it went down really fast.

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 He was paid to do it so he was biased.

04.1

Starch: Add iodine. If it's there it goes blue/black. If not it stays brown.

Sugar: Add Benedict's solution. If it's there it goes red. If not it stays blue.

04.2 amylase, sugar

04.3 The type of bread

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

04.5 He did it three times and worked out an average.

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

04.7 Each person's sense of taste is different.

05.1 Ionising radiation, Viruses. (Ticks both)

05.2 Mitosis

05.3 grow, 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

05.8 cells, people

05.9 placebo

06.1 1. same size potato pieces. 2. same amount of time.

06.2 Dry them with a paper towel.

06.3 a balance

06.4 0.1 g

06.5 D

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

06.7 Line graph

06.8 water, osmosis, permeable

06.9 0.2 mol/dm^3

07.1 Arteries

07.2 It pumps the blood for them. To get oxygen to the organs.

07.3 To give them oxygen.

07.4 Statins

07.5 It's a tube that holds the artery open so blood can get through.

07.6 1. Smoking makes all the diseases more likely. 2. Disease H is the most risky if you smoke.

07.7 (Draws graph correctly with correct labels and scale).

07.8 Having a bad diet with lots of fat.

08.1 nucleus

08.2 A, D and E

08.3

They have difficulty digesting because the enzymes from the pancreas are blocked. So lipase can't break down fat and protease can't break down protein. This means food isn't digested properly.

For gaining mass, because the food isn't broken down, it can't be absorbed. So they don't get the energy from it.

08.4 1. big surface area. 2. thin walls. 3. good blood supply.

08.5 Less oxygen means less respiration. This means you don't have enough energy and feel tired. It can also cause muscle cramps.
