

**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** stomata, chloroplasts

**01.7** Vacuole

**01.8** Active transport

**01.9** Mitochondria

**02.1** It's a barrier.

**02.2** 63/210

**02.3** Killed at pH1 = 187. Killed at pH5 = 31. More killed = 156.

**02.4** Maybe he just guessed what was in the middle of 23 and 63.

**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 the same for a bit, then 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** The author was biased.

**04.1** For starch, you add iodine. If it's there it goes blue-black. If not it stays brown. For sugar, you add Benedict's solution and heat it. 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 the quickest to taste sweet. 2. Brown bread is faster than wholemeal bread.

**04.5** He did it three times and took an average.

**04.6**  $(58+55+61)/3 = 57$

**04.7** Each person's sense of taste is different.

**05.1** Ionising radiation, Salmonella

**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**  $50 / 800 = 0.0625$ . So  $0.0625\mu\text{m}$ .

**05.8** cells, people

**05.9** placebo

**06.1** The size of the potato. The volume of the solution.

**06.2** Dry it with a paper towel.

**06.3** a balance

**06.4** 0.1 g

**06.5** D

**06.6**  $1.1 / 6.0 \times 100 = 18.333\%$

**06.7** Line graph

**06.8** water, osmosis, permeable

**06.9**  $0.2 \text{ mol/dm}^3$

**07.1** Arteries

**07.2** It pumps the blood for them. So oxygen gets to the cells.

**07.3** It gives them oxygen.

**07.4** statins

**07.5** It's like a little cage that they put in the artery to hold it open so blood can get through easier.

**07.6** 1. Smoking makes you more likely to get heart disease. 2. Disease H is the most risky.

**07.7** *[Student correctly labels y-axis and plots bars for F, G and H, but forgets to add a scale to the y-axis and forgets to label the bars F, G, H]*

**07.8** Eating too much fatty food.

**08.1** nucleus

**08.2** A, D and E

**08.3** With CF the pancreas doesn't release enough enzymes. So food like fats and proteins isn't broken down. This means they can't be absorbed properly. If you can't absorb food you won't get the energy and materials to build new cells, so you can't gain weight. You would also have less glucose for respiration.

**08.4** 1. Big surface area. 2. Thin walls. 3. Moist.

**08.5** Less oxygen means less aerobic respiration. So less energy is released. You would feel tired all the time.

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