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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 that light can pass through it to reach the palisade layer for photosynthesis.

01.6 stomata, guard cells

01.7 Vacuole

01.8 Active transport

01.9 Mitochondria

02.1 The skin acts as a barrier to stop pathogens getting in.

02.2 $63/210 = 3/10$

02.3 pH1 killed = 187. pH5 killed = 31. Difference = 156.

02.4 He took the pH1 result (23) and added 20.

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 From 1945 it increases, then it stays the same at a peak, then it decreases after 1968.

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 sample size was too small.

04.1 Starch: add iodine solution. If it's there it goes blue-black, if not it stays brown.

Sugar: add Benedict's solution and heat it up. If it's there it goes from blue to green, yellow, or brick red. If not, it stays blue.

04.2 amylase, sugar

04.3 The type of bread

04.4 1. White bread digests fastest. 2. Wholemeal bread digests slowest.

04.5 He repeated the experiment three times for each bread and then calculated the mean.

04.6 $58+55+61 = 174$. $174 / 4 = 43.5$

04.7 Each person's sense of taste is different.

05.1 Ionising radiation, Viruses

05.2 Mitosis

05.3 grow, replicate

05.4 40%

05.5 The cell increases in size and mass.

05.6 cell membrane

05.7 $50 / 800 = 0.0625$ mm.

05.8 cells, people

05.9 Placebo

06.1 1. The type of potato used. 2. The concentration of the solution.

06.2 Blot them dry.

06.3 Weighing scale.

06.4 0.1 g

06.5 D

06.6 $1.1 / 6.0 \times 100 = 18.333$. Answer is 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 their organs.

07.3 To provide oxygen for respiration.

07.4 statin

07.5 The stent is a mesh tube that is put inside the artery. It is expanded to squash the fatty deposits and hold the artery open so more blood can flow.

07.6 1. Smoking increases your risk of getting all these diseases. 2. The risk for H is much higher than for the others.

07.7 [Graph drawn with correct labels and bars, but a non-linear scale on the y-axis, e.g. 0, 10, 15, 30, 70]

07.8 Lack of exercise.

08.1 In the nucleus.

08.2 A, D and E

08.3 Because of CF, enzymes from the pancreas can't get to the small intestine. So food isn't digested. Fats aren't broken down by lipase. This means they can't be absorbed so the person won't gain weight. They won't have energy.

08.4 Big surface area, good blood supply, thin walls.

08.5 If there's less oxygen, there's less aerobic respiration so less energy is released. The body might do more anaerobic respiration instead, which produces lactic acid and causes cramp.
