

Question 1

- 01.1 organ
- 01.2 (Lines drawn correctly)
- 01.3 transpiration
- 01.4 lignin
- 01.5 So light can get through for photosynthesis to happen in the palisade and spongy cells.
- 01.6 stomata, guard cells
- 01.7 permanent vacuole
- 01.8 active transport
- 01.9 mitochondria

Question 2

- 02.1 It acts as a barrier.
- 02.2 63 / 216 (Used wrong starting number)
- 02.3 pH1 killed 187, pH5 killed 31, more killed = 156.
- 02.4 He added the pH1 and pH3 numbers and divided by 2.

Question 3

- 03.1 (Lines drawn correctly)
- 03.2 1998 (read wrong graph)
- 03.3 increased, then plateaued, then decreased
- 03.4 decreased
- 03.5 (Parents were worried their children would get condition X - box ticked)
- 03.6 (Have the research peer reviewed - box ticked)
- 03.7 There was not enough evidence.

Question 4

- 04.1 Iodine test for starch, goes blue-black if present, stays orange if not. Benedict's test for sugar, heat it, goes brick-red if present, stays blue if not.
- 04.2 amylase, sugar
- 04.3 (The type of bread - box ticked)
- 04.4 White bread is digested quickest.
- 04.5 He repeated the investigation. He calculated a mean.
- 04.6 58
- 04.7 (Each person's sense of taste is different - box ticked)

Question 5

- 05.1 (Ionising radiation, Viruses - boxes ticked)
- 05.2 (Mitosis - box ticked)
- 05.3 grow, replicate
- 05.4 (40% - box ticked)
- 05.5 (The cell increases in size and mass - box ticked)
- 05.6 cell membrane

05.7 $50 / 800 = 0.0625$. Real width = $0.0625\mu\text{m}$ (forgot to convert mm to μm)

05.8 cells, plants (mistake)

05.9 placebo

Question 6

06.1 same size of potato piece, same volume of solution

06.2 dry the outside

06.3 a balance

06.4 (0.1 g - box ticked)

06.5 (D - box ticked)

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

06.7 (Line graph - box ticked)

06.8 water, osmosis, partially permeable

06.9 0.2

Question 7

07.1 (Capillaries - box ticked)

07.2 Pushes blood around the body, to get oxygen to the cells for respiration.

07.3 To get oxygen into their lungs.

07.4 statin

07.5 It widens the vessel. This lets more blood flow through.

07.6 Smoking increases your risk for all of them. Disease H has the biggest risk increase of 70%.

07.7 (y-axis labelled "Percentage increase", scale correct, bars plotted correctly, but forgot to label the bars F,G,H)

07.8 Having a bad diet with lots of fat.

Question 8

08.1 nucleus

08.2 (B, C and D - box ticked)

08.3 CF means the pancreas doesn't release enough lipase, protease and amylase. So fats, proteins and starch aren't broken down. This means they can't be absorbed, so the person gets less energy and building blocks for growth, so they don't gain mass.

08.4 They have a large surface area. The walls are one cell thick. They have a rich blood supply.

08.5 Less aerobic respiration can happen, so less energy is released in cells.
