

**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 get through to the palisade cells for photosynthesis.

**01.6 stomata, guard cells**

**01.7 Vacuole**

**01.8 Active transport**

**01.9 Mitochondria**

**02.1** It is a barrier stopping pathogens entering.

**02.2**  $63/210 = 3/10$

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

**02.4** It's the midpoint between the pH1 and pH3 results.  $(23+63)/2=43$ .

**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 increases from 1945, then plateaus around 1956-1968, then it decreases.

**03.4** It decreased.

**03.5** The measles pathogen did not exist in the UK anymore.

**03.6** Have the research peer reviewed.

**03.7** small sample size

**04.1**

Starch test: add iodine. Blue/black means starch is there.

Sugar test: add Benedict's reagent and heat. Goes red means sugar is there.

If no starch/sugar, the colour doesn't change from the original.

**04.2** amylase, sugar

**04.3** The temperature of the mouth

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

**04.5** They repeated the experiment. They calculated a mean.

**04.6**  $58+55+61 = 174$ .  $174/3 = 58$ .

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

**05.1** Ionising radiation, Salmonella (Ticks these two)

**05.2** Mitosis

**05.3** grow, replicate

**05.4** 40%

**05.5** The cell increases in size and mass.

**05.6** cell wall

**05.7**  $50 / 800 = 0.0625$  mm.  $0.0625 \times 1000 = 62.5$  um.

**05.8** cells, people

**05.9** Placebo

**06.1** 1. same size potato. 2. same concentration of salt solution.

**06.2** Dab them dry.

**06.3** a weighing scale

**06.4** 0.1 g

**06.5** D

**06.6**  $(1.1/6.0) \times 100 = 18.33$ . So 18.3%

**06.7** Line graph

**06.8** water, osmosis, partially permeable

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

**07.1** Arteries

**07.2** It pushes blood around the body to deliver oxygen.

**07.3** to get oxygen into their lungs.

**07.4** Statins

**07.5** It widens the artery and keeps it open so blood can flow.

**07.6** 1. Smoking increases risk for all of them. 2. Risk for H is much bigger than the others.

**07.7** (Draws graph perfectly)

**07.8** a diet high in cholesterol and saturated fat.

**08.1** Nucleus

**08.2** A, D and E

**08.3**

In CF, thick mucus stops enzymes like lipase getting from the pancreas to the small intestine. So fat in food is not digested into fatty acids and glycerol. This makes digesting food difficult.

Because the fat and other nutrients are not digested, they can't be absorbed. This means the person doesn't get the energy and building materials from their food, so they struggle to gain body mass and might lose weight. They also get less glucose for respiration.

**08.4** 1. Large SA. 2. Thin walls. 3. Good blood supply.

**08.5** Less oxygen means less aerobic respiration. This means less energy is released for the body to use. So the person would feel tired and weak.

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