

**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** It is transparent so light can pass through to the palisade mesophyll cells to be used for photosynthesis.

**01.6 stomata, guard cells**

**01.7 Permanent vacuole**

**01.8 Active transport**

**01.9 Mitochondria**

**02.1** It forms a physical barrier to stop pathogens getting into the blood.

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

**02.3** At pH1, 187 bacteria were killed.

**02.4** It's the average number of bacteria for pH1 and pH3 after 24 hours.  $(23+63)/2 = 43$ .

**03.1** Platelets → Help clot the blood. White blood cells → Produce antibodies to the measles virus.

**03.2 1968**

**03.3** It went up and then it went down.

**03.4** It decreased from 92% to 80%.

**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, add iodine solution. A positive test is a blue-black colour.

For sugar, add Benedict's solution and heat. A positive test is a brick-red colour.

A negative test is no colour change.

**04.2 amylase, sugar**

**04.3 The type of bread**

**04.4** White bread becomes sweet the fastest.

**04.5** They repeated the investigation three times for each bread and calculated a mean.

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

**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**  $50mm / 800 = 0.0625mm$ .  $0.0625 \times 1000 = 62.5\mu m$ .

**05.8** cells, people

**05.9** placebo

**06.1** The size of the potato pieces was the same. The volume of solution was the same.

**06.2** Blot them dry.

**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, partially permeable

**06.9** 0.2 mol/dm<sup>3</sup>

**07.1** Arteries

**07.2** It helps to circulate blood containing oxygen around the body.

**07.3** It provides the person with oxygen.

**07.4** Statins

**07.5** A stent is a tube that holds an artery open, improving blood flow.

**07.6** Smoking increases your risk of cardiovascular disease, especially disease H.

**07.7** (Draws graph perfectly)

**07.8** A diet high in saturated fat.

**08.1** nucleus

**08.2** B, C and F

**08.3**

People with CF have difficulty digesting food as the pancreatic duct gets blocked by mucus, so fewer digestive enzymes (e.g. lipase) reach the small intestine. This means fat is not digested.

Because the food is not digested properly, the nutrients cannot be absorbed, so they don't provide energy for growth. That's why they struggle to gain body mass.

**08.4** 1. Large surface area. 2. Thin walls.

**08.5** Less oxygen means that cells cannot respire aerobically as much, so less energy is released. This can cause fatigue.

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