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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 light can pass through to the palisade layer to be used in photosynthesis.

**01.6** stomata, guard cells

**01.7** vacuole

**01.8** Active transport

**01.9** Mitochondria

**02.1** It's a barrier.

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

**02.3** pH1: 187 killed. pH5: 31 killed. Difference: 156.

**02.4** He calculated the mean of the pH1 and pH3 values.

**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** The number of people with measles rose, then it levelled off, then it fell sharply.

**03.4** It decreased.

**03.5** Parents were worried their children would get condition X.

**03.6** Have the research peer reviewed.

**03.7** The research wasn't peer reviewed.

**04.1** For starch you use iodine. It goes blue-black if starch is present. For sugar you use Benedict's solution and heat it. It goes red if sugar is present.

**04.2** amylase, sugar

**04.3** The type of bread

**04.4** White bread tastes sweet quickest. Wholemeal bread takes the longest.

**04.5** He repeated it to make it more reliable. He calculated the mean.

**04.6** 58

**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** Chromosomes are pulled to each end of the cell.

**05.6** cell membrane

**05.7**  $50/800 = 0.0625\text{mm}$ .  $0.0625 \times 1000 = 62.5\mu\text{m}$ .

**05.8** cells, people

**05.9** placebo

**06.1** The size of the potato. The time it was left for.

**06.2** Dry the surface.

**06.3** a balance

**06.4** 0.1g

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

**07.1** Arteries

**07.2** It squeezes the heart to push blood around the body and deliver oxygen.

**07.3** It provides oxygen.

**07.4** Statins

**07.5** The stent is a small tube that holds the artery open. This lets blood flow through and prevents a heart attack.

**07.6** Smoking increases your risk of getting cardiovascular disease. The risk for disease H is the highest.

**07.7** [Graph drawn perfectly]

**07.8** A poor diet high in fat and cholesterol.

**08.1** nucleus

**08.2** A, D and E

**08.3** The person has difficulty digesting food as the enzymes can't get to the small intestine. This means fat isn't broken down by lipase, so it can't be absorbed. Without absorbing the digested food, the person can't get enough energy from respiration or materials to build new cells, so they can't gain mass.

**08.4** They have a large surface area. They have thin walls. They are moist.

**08.5** Less oxygen means the body cannot do as much aerobic respiration, so less energy is released. This means the person will feel tired and weak.