

## Year 8 assessment December 2022

### Section 1 – Organisms (Breathing and digestion)

Q1.a. Controls the activities of the cell. [1]

b. Vacuole [1]

c. Sperm cell → Fertilises an egg cell [1]

Root hair cell → Absorb water [1]

Red blood cell → Carry oxygen around the body [1]

Q2. a. Stomach [1]

Small intestine [1]

b. Any two from: *[Maximum 2 marks]*

- To make it easier to swallow/ so you do not choke

- To break it into smaller pieces

- To soften the food

c. Iodine → Starch [1]

Benedicts → Glucose [1]

Biuret → Protein [1]

Q3. a. Oxygen [1]

Carbon dioxide [1]

Q4. When marking this question, you must first give the students a level of response. Once this is decided a mark within that level is awarded. The indicative content is a list of possible answers that could be included is not a exhaustive list students may include other relevant Scientific knowledge. The indicative content should not be used as a list of marking points to award a mark out of 6.

|                                |   |
|--------------------------------|---|
| <b>0</b>                       | <b>No relevant content</b>  |
| <b>Level 1<br/>(1-2 marks)</b> | Points are identified and stated simply, but their relevance is not clear and there is no attempt at logical linking.                   |
| <b>Level 2<br/>(3-4 marks)</b> | Relevant points (reasons / causes) are identified, and there are attempts at logical linking. The resulting account is not fully clear. |
| <b>Level 3<br/>(5-6 marks)</b> | Relevant points (reasons / causes) are identified, given in detail, and logically linked to form a clear account.                       |

### Indicative content

Stopping smoking will improve health because:

- smoking is a risk factor for cardiovascular disease
- raises blood pressure
- increases cholesterol and / or lowers HDL
- increases the risk of blood clots forming
- increases risk of stroke
  
- smoking is a risk factor for lung cancer
- as it can cause mutations
- caused by carcinogenic chemicals in smoke (tar)
- leading to uncontrolled growth of cells
  
- smoking damages alveoli
- causing the surface area of the alveoli to decrease
- causes emphysema / COPD
- causes shortness of breath **or** reduces gas exchange
  
- chemicals / tar / nicotine in the smoke irritate / inflame the bronchi / lung / bronchioles
- which damage the cilia
- causes goblet cells to secrete more mucus
- causes shortness of breath **or** reduces gas exchange
- causing chronic bronchitis **or** increases risk of infections
- carbon monoxide is produced
- which is toxic / poisonous
- binds / attaches to haemoglobin / Hb
- so oxygen carrying capacity of blood is decreased

**Total for this section: 20 marks**

## Section 2 – Matter (elements and the periodic table)

Q5. a. Change of state 1 – Melting [1]

Change of state 2 – Evaporation [1]

Change of state 3 – Condensation [1]

Change of state 4 – Freezing [1]

b. The gas particles are far apart [1]

With lots of empty space between the particles [1]

Q6. Elements [1]

Identical [1]

Different [1]

Colour [1]

*In this order only*

Q7. a. Oxygen [1]

b. Sensible safety precaution suggested. E.g. Wear goggles, tie long hair back. [1]

c. (Top pan) balance [1]

d. Lead [1]

Q8. a. C [1]

b. A [1]

c. Left gaps [1]

Q9. a. Brass does not bend as easily as copper [1]

b. Iron [1]

c. Mercury [1]

**Total for this section: 20 marks**

### Section 3 – Electricity and Magnetism

Q10. a. Iron [1]

Nickel [1]

b. An electromagnet can be switched off [1]

Q11. a. One mark for each of the following: **Maximum of 4 marks**

Suitable (even) scale starting at zero on the y axis [1]

X and Y axis labelled correctly (X = Metal, Y = Resistance/ Ohms) [1]

2/3 bars plotted correctly (within 1/2 mm) [1]

OR

All bars plotted correctly [2]

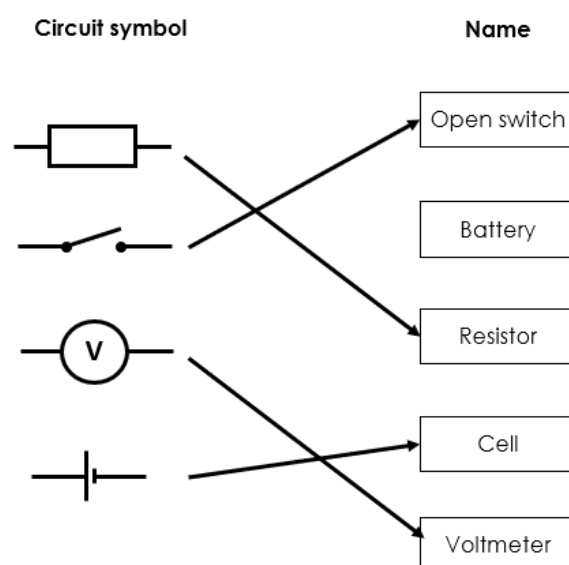
b. (type of) metal [1]

c. Resistance [1]

d. Nickel has the highest resistance or Copper has the lowest resistance [1]

e. Repeat the investigation [1]

Q12. a. One mark for each correct line, **Maximum 4 marks**



b. [1]

|           | Series | Parallel |
|-----------|--------|----------|
| Circuit 1 | X      |          |
| Circuit 2 |        | X        |

*Both circuits correct required for one mark*

c. It would stay lit [1]

Q13. a. =  $0.5 \times 8$  [1]

4 [1]

c. Volts [1]

**Total for this section: 20 marks**