Year 7 December assessment 2019

Section 1: working scientifically

Q1.a.

A Conical flask (1)

B Beaker (1)

C Test tube (accept boiling tube) (1)

D Measuring cylinder (1)

E Balance (1)

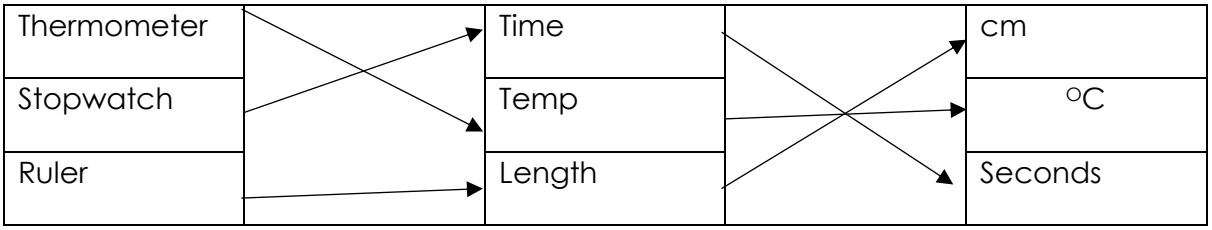
F Bunsen burner (1)

b. E (1)

c. D (1)

d. **Correct equipment to measurement (1) All 3 needed for the mark**

Correct measurement to unit (1) *All 3 needed for mark (but do not have to have achieved first mark for equipment to measurement)*



e. C (1)

It has the smallest scale/ it has 20 marked on the scale (1)

Q2. a. Mass of salt added (1)

b. Temperature at which the water boils (1)

c. ***One mark for sensible risk (1)***

One mark for suitable precaution to risk stated (1)

e.g. Risk = Bunsen burner (1), Precaution = tie long hair back (1)

Risk = Boiling water (1), Precaution = Don't work near the edge of the table (1)

Q3. a. Size of the tablet (1)

b. Time taken for the tablet to dissolve (1)

c. Volume of water 100cm^3 (1)

Starting mass of the tablet (1)

Temperature of the water (1)

Maximum of 2 marks

d. The bigger tablet takes longer to dissolve (1)

OR The smaller/ crushed tablet takes less time to dissolve (1)

Maximum of 1 mark

e. Suitable (even) scale on the x and y axis (1)

Labelled axis x = temperature of water/ ^oc y= Time taken to dissolve/ seconds (1)

Points plotted correctly (1)

Line of best fit (1)

Section 2: Organisms

Q1.a.

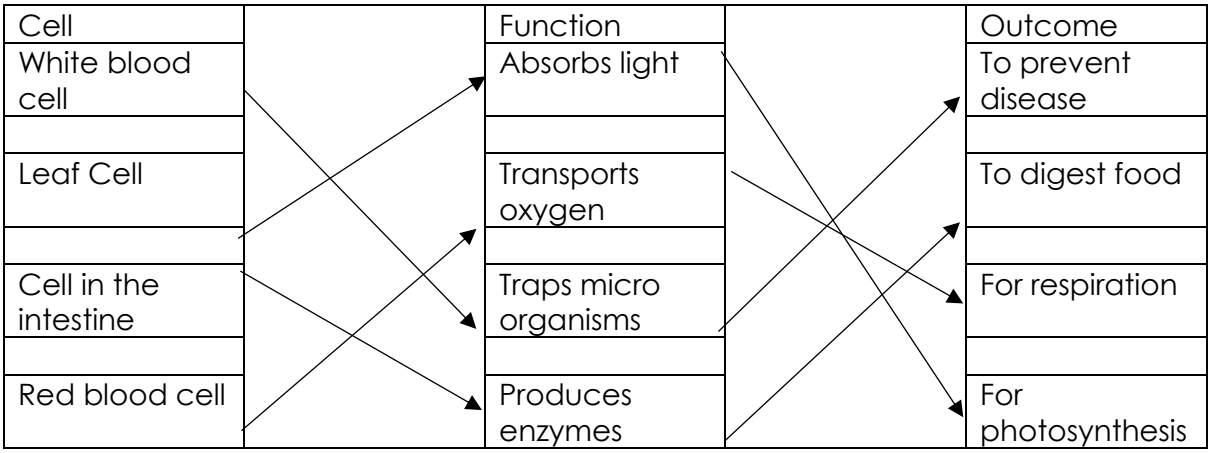
Part of cell	Function
VACUOLE (1)	Contains cell sap
MITOCHONDRIA (1)	Carries out respiration
CHLOROPLAST (1)	Carries out photosynthesis
NUCLEUS (1)	Contains DNA, Controls the cell
CELL WALL (1)	Keeps the cell rigid
CYTOPLASM (1)	Jelly like substance, is the site of chemical reactions
CELL MEMBRANE (1)	Allows substances into and out of the cell

b. One cell, function and outcome correct (1)

2/3 cell, function and outcome correct (2)

All 4 cell, function and outcome correct (3)

Maximum mark for this is 3 marks.



c.i. Movement (1)

ii. Rib cage/ Ribs (1)

iii. Mandible/ Jaw (1)

d.

Circulatory	D
Respiratory	C
Digestive	B
Skeleton	A
Nervous	E

0 correct – no marks

1- 2 correct - 1 mark

3-4 correct - 2 marks

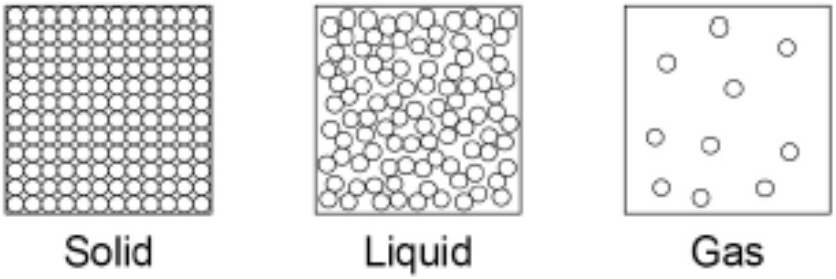
5 correct – 3 marks ***(maximum 3 marks)***

Section 3: Matter

1a. Solid particles drawn appropriately (1)

Liquid particles drawn At least 50% of box filled and at least 50% of particles touching each other (1)

Gas particles drawn (1)



b.

C = Evaporation (1)

D = Melting (1)

A = Condensing (1)

B = Freezing (1)

Must be in this order

Q2a. Gas (1)

Liquid (1)

Solid (1)

Must be in this order

b. As the amount of salt increases the temperature that the ice cube melts at decreases (1)

The more salt and the temperature decreases.

Less salt and the temperature the ice melts at increases.

(Maximum 1 mark)

c.

☐ Salt makes the roads white.	☐ Salt dissolves in water.
☐ Salt makes water freeze.	☒ Sand increases friction between car tyres and the road.
☒ Salt makes the ice melt.	☐ Sand makes water freeze.

Q3a. Filtration (1)

b. Sand (1)

c. Filter paper (1)

Q4a. Pale blue, Yellow, Red (1)

All 3 needed for 1 mark

b. Three (1)

Because there are 3 dots on the paper/ You can see there is pale blue, pink and red (1)

Section 4: Energy

Q1a. ***Maximum 6 marks***

Level 3 (5 -6 marks): The method would lead to the production of a valid outcome. All key steps are identified and logically sequenced.

Level 2 (3 – 4 marks) : The method would not necessarily lead to a valid outcome. Most steps are identified, but the method is not fully logically sequenced.

Level 1 (1 – 2 marks) : The method would not lead to a valid outcome. Some relevant steps are identified, but links are not made clear.

No relevant content – 0 marks

Indicative content

- Independent variable, type of food
- Dependent variable, temperature change of the water
- Control variable, mass of food (same amount of food burnt each time), same amount of water in test tube, same starting temperature of the water in the test tube, same distance between the burning food and the test tube.
- Sensible safety precautions, wear goggle, don't work too close to the edge of the desk, keep the equipment on a heat proof mat.
- Set up the equipment, measure the start temperature of the water (with a thermometer)
- Set the food on fire and use the food to heat up the water
- Measure the temperature of the water after all the food has burnt away.
- Work out the temperature change, the food with the biggest difference would contain the most energy.

b. Less than (1)

c. Crisp A has more fibre than crisp B (1)

Crisp A has less fat than crisp B (1)

Crisp A has more protein than crisp B (1)

Maximum 2 marks

Q2. i. Chemical (1)
ii. Electrical (1)
iii. Light (1)
Thermal (heat) (1)
Must be in this order

b.

Appliance	% Useful energy	% Wasted energy
Kettle	95%	**5**
Light bulb	20	80%
Radio	50%	50
Television	60	40%

0- 1 correct – no marks

2-3 correct - 1 mark

4 correct - 2 marks ***(maximum 2 marks)***