Jurong West Secondary School
MYE 2018

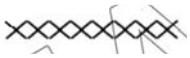
S1E SCIENCE MARK SCHEME

Section A

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B	C	B	A	C	D	C	D	A	D
A11	**A12**	**A13**	**A14**	**A15**	**A16**	**A17**	**A18**	**A19**	**A20**
C	A	D	D	B	C	C	B	B	C

Section B

B1 (a)

	filter funnel
	wire gauze
	conical flask

All correct – 2 mks
2 correct – 1 mk

(b)

	irritant
	health hazard

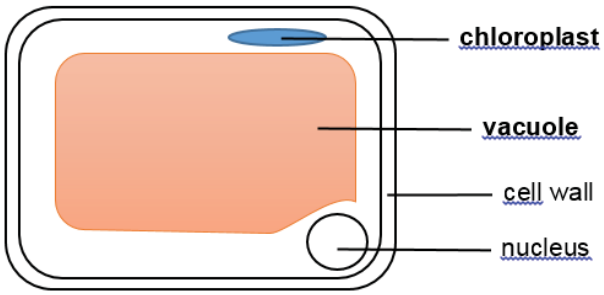
1 mk for each correct answer

B2 **(a)** ribosomes [1]

(b) **(i)** nucleus [1]
controls cell activities [1]

(ii) cell cannot function properly OR cell cannot reproduce [1]

B3 **(a)**



Both correct [1]

(b) controls substances entering or leaving the cell [1]

(c) rain tree has plant cells which have cell walls to provide support [1]
animal cells in elephant do not have cell walls so cannot provide support [1]

(d) disagree [1]
those cells that do not receive sunlight need not have chlorophyll [1]

B4 **(a)** closely packed [1]
regular / orderly arrangement [1]

(b) **(i)** heat energy is required to overcome the forces of attraction between the particles [1]
so that the particles break free from their fixed positions OR until they can slide past each other [1]

(ii) particles become far apart [1]
orderly arrangement changes to disorderly [1]

B5 **(a)** water vapour in air condenses on cup [1]
by losing heat to the cup [1]

(b) forces of attraction between particles are very weak in water vapour [1]
they become stronger when water is formed [1]

B6 **(a)** sugar solution (no marks for sugar) [1]

(b) rate is slower [1]
surface area in contact with water is reduced when in cube form [1]

(c) Donald's suggestion does not work as increasing volume does not affect rate of dissolving [1]

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Daisy's suggestion will work as increasing temperature speeds up rate of dissolving [1]

B7 **(a)** substance formed when two or more elements are chemically joined together [1]

(b) A – atom, B – molecule, C – molecule all correct [1]
B – element, C – compound, D – element all correct [1]

(c) liquid [1]

(d) compound formed [1]
product colour is different OR heat is given out [1]

Section C

C1 **(a)** **(i)** bar at caesium to correct value of 30 [1]
(ii) lithium and sodium [1]
(iii) The lower the metal's position in group 1, [1]
the lower the melting point [1]

(b) **(i)** correct axis labels with units for both [1]
at least 5 correct plots [1]
best-fit straight line [1]

(ii) When mass increases, length the spring is stretched increases [1]

(iii) answer based on dotted line correctly drawn [1]

(iv) take reading at eye-level to avoid parallax error OR bring ruler nearer to the spring to reduce chance of parallax error [1]

C2 **(a)** reluctance to change object's state of rest or motion [1]

(b) shorter time [1]
empty means smaller mass so smaller inertia [1]

(c) **(i)** evidence of m = 79.2 g and V = 36 cm^3 [1]
D = m/V [1]
= 2.2 g/cm^3 [1]

(ii) evidence of m = 21.5 g and V = 27 cm^3 [1]
D = 0.796 g/cm^3 [1]

(iii) wooden block is less dense than water so it floats on water [1]
stone is needed to make the wooden block completely sink in water to measure its total volume [1]

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