



EXAMINATION COUNCIL OF ESWATINI
Eswatini Primary Certificate

Science

513/02

PAPER 2

2020

Confidential

MARK SCHEME

{513/02}

This document consists **6** printed pages.

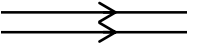
GENERAL NOTES

Mark Schemes will use these abbreviations:

- ; separates marking points
- / separates alternatives for a marking
- R reject
- A accept (for answers correctly cued by the question, or
- AW alternative wording (where responses vary more than usual)
- MP mark point- used in guidance notes when referring to numbered marking points
- ORA or reverse argument/reasoning
- OWTTE or words to that effect
- I ignore/irrelevant – this response gains no mark, but any following correct answers can gain marks
- () the word/ phrase in brackets is not required to gain marks but sets context of response for credit. e.g. (waxy) cuticle. Waxy not needed but if it was described as cellulose cuticle then no mark.
- small underlined words- this word only (grammatical variants excepted)
- D, L, T, Q quality of drawing/ labelling/ table / writing as indicated by mark scheme
- max indicates the maximum number of marks that can be given
- AVP Any Valid Point

SECTION A

- 1 (a) oxygen/ O₂; [1]
- (b) (i) limewater; [1]
- (ii) the air contains carbon dioxide; [1]
- (iii) tube not in solution;
carbon dioxide/ breathed out air will not mix with liquid; [2]
- (c) (i) melting; [1]
- (ii) put it in the fridge/ freezer in a bowl (container) with very cold water; [1]
- (d) (i) partly cloudy; [1]
- (ii) rain coat/ rain boots; [1]
- (iii) do not touch water/ metals;
avoid standing under tall trees/ be at your shortest/ OWTTE;
do not use cell phones/ telephones/ named electronic gadgets;
AVP; R covering mirrors or glass any two [2]
- [Total: 10]**
- 2 (a) dicot/ dicotyledon;
broad leaves;
branching/ netted/ network of veins/ lateral veins; [3]
- (b) H- excretion/ produce; R defeacation
I- reproduction/ havng young ones; [2]
- (c) (i) seed coat/ testa; [1]
- (ii) absorb water/ (dissolved) nutrients; A mineral ions or named; [1]
- (iii) oxygen/ suitable temperature/ moisture; R air, warmth
A water for moisture [1]
- (iv) slows plant growth/ stops plant growth;
photosynthesis will not occur/ plant will not make food/no food for
the plant; [2]
- [Total: 10]**

- 3 (a) (i)  ; [1]
(ii) sun; star(s); lightening; fireflies; any two [2]
- (b) (i) ball on table – potential;
ball falling – kinetic (and potential); [2]
(ii) energy can neither be created nor destroyed; [1]
- (c) light only rooms that are occupied;
use energy savers/ boil only enough water in a jug; AVP; [2]
- (d) (i) electric bell/ (loud) speakers/ moving heavy loads/ telephone
earpieces/ computer hard drives/ AVP; [1]
(ii) reduce the number of turns in coil/ reduce the number cells; [1]
- [Total: 10]**
- 4 (a) (i) left ventricle; [1]
(ii) thick (muscular) wall;
narrow lumen/ passage/ opening; [2]
- (b) (i) gullet + stomach;
small intestine + large intestine; [2]
(ii) amino acids; [1]
(iii) absorbed in the small intestines (into blood stream);
transported to all parts of the body; [2]
(iv) calcium/ vitamin D; [1]
(v) named fruit/ vegetable; [1]
- [Total: 10]**
- 5 (a) (i) the change is irreversible/ AW;
a new substance is formed/ different properties from milk; [2]
(ii) put (universal indicator paper) into sour milk;
ref to change to red/orange/ yellow;
sour milk is acidic; [3]
- (b) (i) liquid (substance);
in which a solid/solute dissolves; [2]

- (ii) thinners; [1]
 (iii) solution; [1]
 (iv) (simple) distillation; R – fractional distillation [1]

[Total: 10]

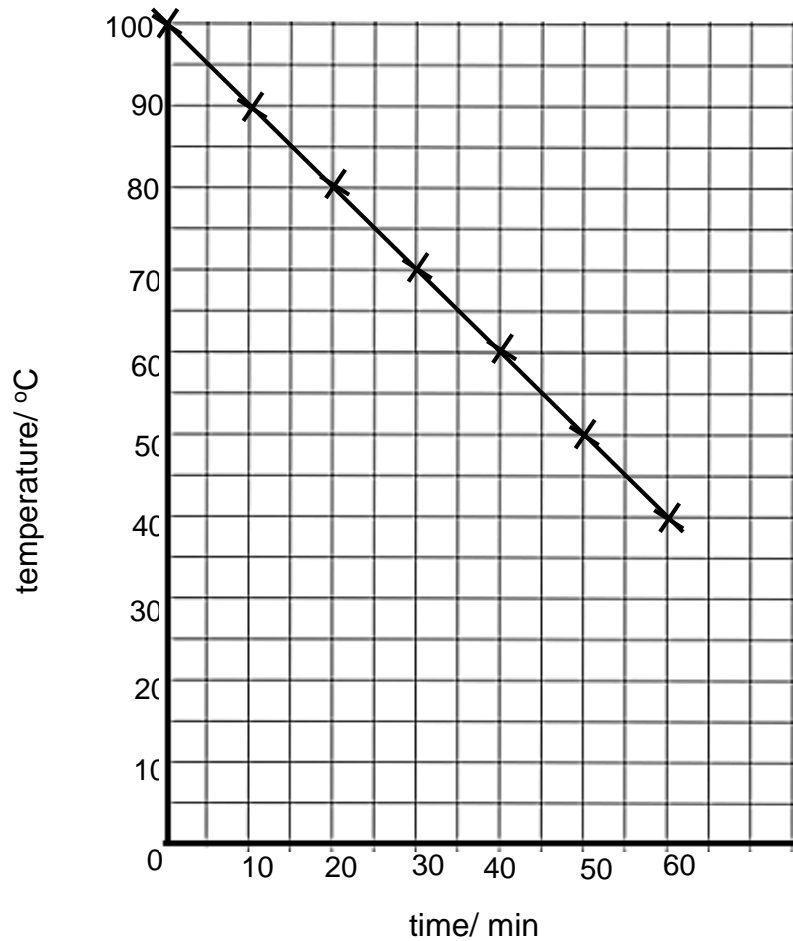
SECTION B

- 6 (a) (i) cup anemometer; [1]
 (ii) measures wind direction; [1]
 (iii) to prevent water from splashing into the instrument (rain gauge);
 which give wrong volume/ increase volume /OWTTE; [2]
- (b) (i) connect (two) conducting wires to cell;
 wind another conducting wire around the steel rod;
 connect the conducting wires connected to the cells to the one
 wound around the steel rod;; [4]
- (ii) move electromagnet towards pins;
 Pins should be attracted to electromagnet; [2]

[Total: 10]

- 7 (a) (i) correct labelling of axis + correct units;
all points correctly plotted;
points joined with a straight line;

[3]



- (ii) 65 °C; [1]
- (iii) thermometer; R- clinical thermometer [1]
- (iv) cools at constant/ uniform rate; [1]
- (b) (i) repel/ move away from each other;
same charge; [2]
- (ii) **static:** charge is transferred from one object to another (due to friction);
current: flow of charge (in a circuit); [2]

[Total: 10]