



GRADE 8
TIME: 1½ HOUR

NATURAL SCIENCES

JUNE 2018
MARKS: 70

MEMORANDUM

SECTION A

QUESTION 1.1

1.1.1 C✓

1.1.2 A ✓

1.1.3 B✓

1.1.4 D✓

1.1.5 B✓

1.1.6 C✓

1.1.7 C✓

1.1.8 B✓

1.1.9 C ✓

1.1.10 D✓

[10]

QUESTION 1.2

1.2.1 Respiration✓

1.2.2 Trophic level(s)✓

1.2.3 Micro-organism(s)✓

1.2.4 Proton(s)✓

1.2.5 Particle model of matter✓

[5]

TOTAL SECTION A: 15

SECTION B**QUESTION 2**

- 2.1 Plants (green / contain chlorophyll) use carbon dioxide (from the air), water (from the soil) and energy from the Sun✓ (in a series of chemical reactions) to produce glucose (food).✓ (2)
- 2.2 glucose + oxygen✓ → energy + carbon dioxide + water✓ (2)
- 2.3.1 Respiration✓ (1)
- 2.3.2 Both✓ (1)
- 2.4 Plants change glucose into starch. ✓
OR
Starch is a more complex form of glucose. ✓
OR
Many glucose molecules form a starch molecule. ✓ (1)
- [7]**

QUESTION 3

- 3.1 Producers make their own food.✓
Consumers obtain food from plants,✓ either directly (herbivores) or indirectly (carnivores). (2)
- 3.2.1 Grass **OR** Shrubs✓ (1)
- 3.2.2 Hawk **OR** Fox ✓ (1)
- 3.2.3 Thrush ✓ (1)
- 3.2.4 Hawk **OR** Fox **OR** Weasel✓ (1)
- 3.3 The prey population will explode.✓ When prey become scarcer, the predator population declines until the prey is again more abundant.✓ Therefore, the two balance each other. ✓
OR
If the hawk is removed, the number of birds, rabbits, squirrels and mice will increase.✓ This will result in the numbers of caterpillars to reduce as well as the amount of grass and shrubs.✓ If there is no food for the primary consumers they will starve and can die out (become extinct). ✓ (3)
- 3.4.1 Structural✓ (1)
- 3.4.2 Functional **OR** Structural✓ (1)
- 3.4.3 Structural✓ (1)
- 3.4.4 Functional✓ (1)

- 3.5 The environment changes continuously✓ and if organisms do not adapt to these changes, they will become extinct.✓ (2)
[15]

QUESTION 4

- 4.1 HIV **OR** HI-virus **OR** Human Immunodeficiency Virus✓ (1)
4.2 yoghurt / cheese / bread / beer ✓ (1)
4.3 penicillin✓ (1)
4.4 Louis Pasteur✓ (1)
[4]

TOTAL SECTION B: 26**SECTION C****QUESTION 5**

- 5.1.1 C✓ (1)
5.1.2 A✓ (1)
5.1.3 D✓ (1)
5.1.4. E✓ (1)
5.2 In a gas, the particles...
 - have no particular arrangement. ✓
 - move very fast. ✓
 - have extremely weak forces between them. ✓
 - have very big spaces between them✓ compared to solids and liquids. (4)
5.3.1 Diffusion is a process in which particles in liquids and gases move (separate and spread) from a highly-concentrated area✓ to an area with a lower concentration of those particles.✓ (2)
5.3.2 Diffusion in liquids occurs slower than diffusion in gases.
OR
Diffusion in gases occurs faster than diffusion in liquids. ✓ (1)
5.3.3 Particles in solids do not move around, they only vibrate on the spot.✓
Thus it is not possible for the particles to travel from a place of high density to a place of lower density. ✓ (2)
[13]

QUESTION 6

6.1.1 The density of a material describes the amount of mass✓ in a given volume of that material. ✓ (2)

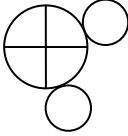
6.1.2 ice✓ water✓ sand ✓ (MUST be this order) (3)

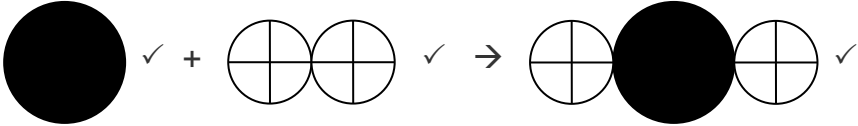
6.2.1 Iron✓ (1)

6.2.2 The ship is filled with air.✓ The (average) density of the ship is lower than the density of the water✓ and can float on the water. (2)

6.3 More air particles are pumped into the tin✓ which causes more collisions✓ with the lid and the sides of the tin. That will increase the pressure✓ inside the tin and the lid will pop off. (3)
[11]

QUESTION 7

7.1.1  One oxygen atom ✓
Two hydrogen atoms ✓ (2)

7.1.2  (3)
[5]

SECTION C 29

TOTAL SECTION B: 56
GRAND TOTAL: 70