

**GRADE 8**  
**TIME: 1 HOUR**

**NATURAL SCIENCES**

**MARCH 2019**  
**MARKS: 50**

**MEMORANDUM**

**SECTION A**

**QUESTION 1**

1.1.1 C✓

1.1.2 C✓

1.1.3 A✓

1.1.4 D✓

1.1.5 C✓

**[5]**

1.2.1 C✓

1.2.2 D✓

1.2.3 E✓

1.2.4 F✓

1.2.5 B✓

**[5]**

**Section A: [10]**

**SECTION B**

**QUESTION 2**

2.1 Learner - dependent answer (Use your discretion during marking)

(1 mark for arrows pointing in the correct direction, 2 marks for correct sequencing, 1 mark for food chain of at least 4 links )

Eg..

Blueberry bush → Caterpillar → Frog → Snake → Eagle **OR**

Blueberry bush → Butterfly → Frog → Eagle **OR**

Blueberry bush → Small bird → Snake → Eagle **(Any other correct)** (4)

- 2.2 Carnivore✓ The snake eats other animals✓ (Eg. Frogs / Small Birds) (2)
- 2.3.1 Blueberry bush✓ (1)
- 2.3.2 Caterpillar **OR** Butterfly **OR** Squirrel✓ (1)
- 2.4.1 Do green leaves✓ produce starch?✓  
**OR**  
Is sunlight✓ essential for photosynthesis?✓  
**OR**  
Do photosynthesizing leaves✓ produce starch?✓ (2)
- 2.4.2 Boiling the leave in water breaks down the cell walls.  
**OR**  
Boiling stops the chemical reactions in the cell (kills the leave).✓ (1)
- 2.4.3 Pale green / yellow / white/ translucent.✓ (1)
- 2.4.4 Boiling the leave in ethanol (alcohol) removes✓ (extracts) the chlorophyll from the leaf which is responsible for the green colour✓ of the leaf. (2)
- 2.4.5 Blue / Black / Purple✓ (1)
- 2.4.6 Green leaves produce starch/Starch was present in the leaf✓  
**OR**  
Sunlight is essential for photosynthesis.✓ (1)
- 2.5.1  $x = \text{Glucose}$ ✓ and  $y = \text{Oxygen}$ ✓ (2)
- 2.5.2 Photosynthesis✓ (1)
- 2.5.3 Oxygen which is produced during photosynthesis is used by humans for respiration.✓ (1)

**[20]**

**QUESTION 3**

- 3.1.1 Trophic level 1.✓ (1)
- 3.1.2 10%✓ (1)
- 3.1.3 The energy is used for the life processes✓ **OR** anyone of the following: (movement, respiration, sensitivity, growth, reproduction, excretion and nutrition)✓**OR** rotting, for e.g. leaves.✓ (1)
- 3.1.4 Bacteria✓ and fungi✓ (2)

- 2.2.1 The plant has thickened fleshy leaves and stems to store water. ✓  
The leaves are covered in thorns to protect it from animals that want to eat it for water. ✓ The leaves are covered in a thick layer of wax. ✓  
(any 2 relevant answers) (2)
- 2.2.2 The spotted fur of the cheetah helps it to blend into its surroundings so that it can stalk and hunt its prey more effectively. (Camouflage) ✓  
The cheetah has a light streamlined body with strong legs which enables it to run very fast ✓ The cheetah has a tail for balance to turn sharp corners while chasing it's prey. ✓ (Any 2 relevant answers) (2)
- [9]**

#### QUESTION 4

- 4.1.1 Large scale agriculture activities are depriving bees of food sources ✓ and is exposing bees to toxic chemicals ✓ ✓ (2)
- 4.1.2 Herbivore ✓ Bees receive all their nutrients (food) from plants ✓ (2)
- 4.1.3 They pollinate the majority of plants in the world. ✓ (1)
- 4.1.4 84% ✓ (1)
- 4.2 An ecosystem consists of two or more populations of species working and interacting with one another and with the environment. ✓ Therefore, as a city consists of more than one population interacting with one another. (Pigeons, butterflies, trees etc. do in fact interact with each other and rely on one another in a City) ✓ therefore a City does count as an ecosystem. ✓ (3)
- 4.3 Tornadoes  
Forest fires  
Landslides  
Droughts  
Floods  
Any two ✓ ✓ (2)
- [11]**

**SECTION A = 10**  
**SECTION B = 40**  
**TOTAL = [50]**