

GAUTENG PROVINCE

REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

PROVINCIAL EXAMINATION

JUNE 2019

GRADE 6

**NATURAL SCIENCES AND
TECHNOLOGY**

DISTRICT				
SCHOOL NAME				
EMIS NUMBER				
NAME & SURNAME				
GENDER	BOY		GIRL	

SECTIONS	A					B	C	TOTAL
Questions	1	2	3	4		5	6	
Mark allocation	10	5	5	5	25	18	7	50
Learner Marks								

TIME: 1 hour 30 minutes

MARKS: 50

8 pages

GAUTENG DEPARTMENT OF EDUCATION
PROVINCIAL EXAMINATION

NATURAL SCIENCES AND TECHNOLOGY

TIME: 1 hours 30 minutes

MARKS: 50

INSTRUCTIONS

1. Answer ALL three sections.
2. Write neatly and legibly.
3. Read the instructions of each question before answering.
4. All questions must be answered on the question paper.

CONTENT OF THE QUESTION PAPER

STRANDS

NATURAL SCIENCES	LIFE & LIVING , MATTER & MATERIALS
TECHNOLOGY	PROCESSING

GRID ANALYSIS

- The question paper consists of **SECTION A**, **SECTION B** and **SECTION C**

SECTION A: LOWER ORDER QUESTIONS / COGNITIVE LEVEL 1	SECTION B: MIDDLE ORDER QUESTIONS / COGNITIVE LEVELS 2 & 3	SECTION C: HIGHER ORDER QUESTIONS / COGNITIVE LEVEL 4, 5 & 6
Q 1 Photosynthesis; Nutrition, Nutrients in food groups; Food processing; Mixtures; Processes to purify water; Ecosystems and food webs; Solids; liquids and gases; Solutions as special mixtures.	Q 5 Solutions as special mixtures; Food processing; Processes to purify water	Q 6 Food processing; Solutions as special mixtures; Nutrition; Nutrients in food groups
Q 2 Solutions as special mixtures; Solids, liquids and gases; Dissolving; Processes to purify water; Food processing.		
Q 3 Nutrients in food groups; Nutrition; Ecosystems and food webs; Food Processing; Solutions as special mixtures.		
Q 4 Ecosystems and food webs.		
Total = 25	Total = 18	Total = 7

SECTION A

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

Make a **cross** over the letter of the correct answer.

1.1 **During photosynthesis plants release ...**

A	sunlight.	B	oxygen.
C	carbon dioxide.	D	water.

1.2 **Lack of water and fibre in a diet causes ...**

A	constipation.	B	anaemia.
C	rickets.	D	scurvy.

1.3 **Which food group provides protection to the body?**

A	Carbohydrates	B	Fats and oils
C	Proteins	D	Vitamins and Minerals

1.4 **Using bacteria or yeast to change food is called ...**

A	fermenting.	B	pickling.
C	salting.	D	drying.

1.5 **Bacteria and fungi are ...**

A	producers.	B	carnivores.
C	decomposers.	D	herbivores.

1.6 **The properties of liquids:**

A	keep their shape.	B	flows and can be poured.
C	do not take the shape of a container.	D	can be compressed.

1.7 The mixture in the picture below can be separated by...



(nuts and raisins)

A	hand sorting.	B	filtering.
C	decanting.	D	settling.

1.8 Which mixture is miscible?

A	Oil and water	B	Tea leaves and water
C	Vinegar and water	D	Rice and water

1.9 Method of cleaning water by heating it up to a very high temperature.

A	Sieving	B	Pasteurisation
C	Filtering	D	Boiling

1.10 ... affects the rate of dissolving.

A	Temperature	B	Time
C	Water	D	Taste

(10)

QUESTION 2

Match the *statements* in Column B with the correct *word* in Column A. Write the correct **LETTER** in Column C next to the number.

Column A	Column B	Column C
2.1 Processing	A When the solution can hold no more solute	2.1
2.2 Evaporation	B Method of separation with small holes that allows pieces of certain size to pass and can separate solid materials from liquids	2.2
2.3 Saturated	C Can separate liquid substances	2.3
2.4 Perishable	D Changing from a liquid to gas	2.4
2.5 Sieving	E Changing food to make it more edible or last longer	2.5
	F Covering food with salt to dry them	
	G Foods that spoil quickly	

QUESTION 3

Provide a **scientific name / term** for each of the following **statements** in the **ANSWER COLUMN**.

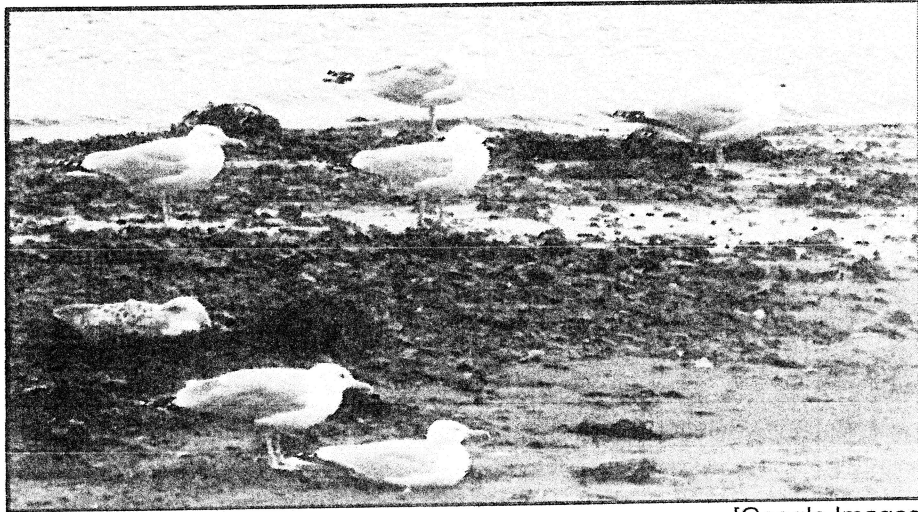
Statements	Answers
3.1 Processing food to prevent or slow down the spoiling of food.	
3.2 System in the body that protects it from germs and diseases.	
3.3 The ability of a substance to dissolve into a liquid.	
3.4 The process whereby all germs and harmful substances are removed from water so that people can drink it.	
3.5 A dissolved substance is changed into solid crystals.	

(5)

QUESTION 4

Study the picture depicting an ecosystem below, and then answer the questions that follow.

(3)



[Google Images]

4.1 Identify THREE (3) non-living things that are important to this ecosystem.

4.1.1 _____

4.1.2 _____

4.1.3 _____

(3)

4.2 Identify a PRODUCER in this ecosystem.

(1)

4.3 Identify ONE LIVING THING that may use this ecosystem as its habitat.

(1)

(5)

SECTION B

QUESTION 5

5.1 Compare the mixtures by completing the table below.

Mixtures	What type of a mixture is it?	What is the appearance of the mixture?	Is the mixture soluble or insoluble?	How can the mixture be separated ?
Soil and water	5.1.1	5.1.3	5.1.5	5.1.7
Salt and water	5.1.2	5.1.4	5.1.6	5.1.8

(8)

5.2 Arrange the steps below on how to process biltong, by writing the letter of the correct step next to the step number.

Steps in wrong order		Steps in correct order (Use LETTERS only)
A	Hang the meat in a cool, dry place.	Step 1:
B	Taste after 4 – 5 days to determine if your biltong is dry or still moist.	Step 2:
C	Cover it up with a net to keep the bugs and flies away.	Step 3:
D	Pack it in containers for future use.	Step 4:
E	Cut or slice the meat into thin strips.	Step 5:
F	Mix up the salt and spices with vinegar to form a rubbing mixture.	Step 6:
G	Rub the spice mixture into the strips of meat.	Step 7:

(7)

5.3 How is **pickling** different from **drying**?

5.3.1 **Pickling** _____

5.3.2 **Drying / Dehydrated:** _____ (2)

5.4 What is ONE advantage of the disinfection process in the treatment of water? (1)
(18)

SECTION C

QUESTION 6

6.1 Diseases related to diet:

Supply the causes of the disease or infection and the symptoms in the column below.

Disease or infection	Causes	Symptoms
e.g. Diabetes	High level of sugar present in the blood.	Brain damage, eyes and kidneys affected.
Anaemia	6.1.1	6.1.2
Rickets	6.1.3	6.1.4

(4)

6.2 Give ONE reason why food like glucose is important for an athlete.

(1)

6.3 Predict what could happen if you add more solvent to a saturated solution.

(1)

6.4 What causes water pollution?

(1)

[7]

TOTAL: 50