



**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

**GAUTENG DEPARTMENT OF EDUCATION  
PROVINCIAL EXAMINATION  
JUNE 2016  
GRADE 6**

**NATURAL SCIENCE AND TECHNOLOGY**

<b>DISTRICT</b>	
<b>SCHOOL NAME</b>	
<b>EMIS NUMBER</b>	
<b>CLASS (e.g. 6A)</b>	
<b>SURNAME</b>	
<b>NAME</b>	

**GENDER:**

<b>BOY</b>		<b>GIRL</b>	
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**TIME: 1 hour 30 minutes**

**MARKS: 50**

**9 pages**

**GAUTENG DEPARTMENT OF EDUCATION  
PROVINCIAL EXAMINATION**

**NATURAL SCIENCE AND TECHNOLOGY**

**TIME: 1 hour 30 minutes**

**MARKS: 50 marks**

## 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.

### CONTENTS OF THE QUESTION PAPER

#### STRANDS

<b>NATURAL SCIENCE</b>	LIFE & LIVING, MATTER & MATERIALS
<b>TECHNOLOGY</b>	PROCESSING

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

<b>SECTION A : LOW ORDER QUESTIONS/ COGNITIVE LEVEL 1</b>	<b>SECTION B : MIDDLE ORDER QUESTIONS/ COGNITIVE LEVEL 2</b>	<b>SECTION C : HIGH ORDER QUESTIONS/ COGNITIVE LEVEL 3</b>
<b>Q1:</b> Nutrients in food and mixtures	<b>Q6:</b> Nutrition and food processing	<b>Q8:</b> Food processing, mixtures and water resources and dissolving
<b>Q2:</b> Nutrition and solutions as special mixtures	<b>Q7:</b> Mixtures, dissolving and processes to purify water	
<b>Q3:</b> Food processing and solutions as special mixtures		
<b>Q4:</b> Photosynthesis, solids, liquids and gases		
<b>Q5:</b> Ecosystems and food webs		
<b>Total = 25</b>	<b>Total = 18</b>	<b>Total = 7</b>

**SECTION A****QUESTION 1****MULTIPLE-CHOICE QUESTIONS**

Draw a **circle** around the letter (A – D) of the correct answer.

- 1.1 Which food helps to provide energy?
- A Meat
  - B Eggs
  - C Potatoes
  - D Carrots
- (1)
- 1.2 Milk is food for growth and repair, it contains ...
- A carbohydrates.
  - B protein.
  - C fats and oil.
  - D vitamins.
- (1)
- 1.3 A mineral that makes our teeth and bones strong
- A Calcium
  - B Iron
  - C Zinc
  - D Sodium
- (1)
- 1.4 Vitamin C prevents a disease called ...
- A diabetes.
  - B rickets.
  - C scurvy.
  - D anaemia.
- (1)
- 1.5 The best method to separate peanuts and dried beans is ...
- A sieving.
  - B settling.
  - C filtering.
  - D hand sorting.
- (1)

**[5]**

**QUESTION 2****MATCHING ITEMS**

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

Example: 2.6 Solid that dissolves in liquid \_\_\_\_\_ **2.6=G (solute)**

<b>Column A</b>	<b>Column B</b>	<b>Column C</b>
2.1 The correct amount of food from different food groups	A. Solvent	2.1 =
2.2 Difficulty in passing solid waste out of the body	B. Solution	2.2 =
2.3 Mixture in which solid particles dissolve in liquid particles and disappear	C. Balanced diet	2.3 =
2.4 A dissolved substance changing into solid crystals again	D. Fibre	2.4 =
2.5 Prevents you from suffering from constipation	E. Constipation	2.5 =
	F. Crystallisation	

[5]

**QUESTION 3****TERMINOLOGY IN QUESTIONS**

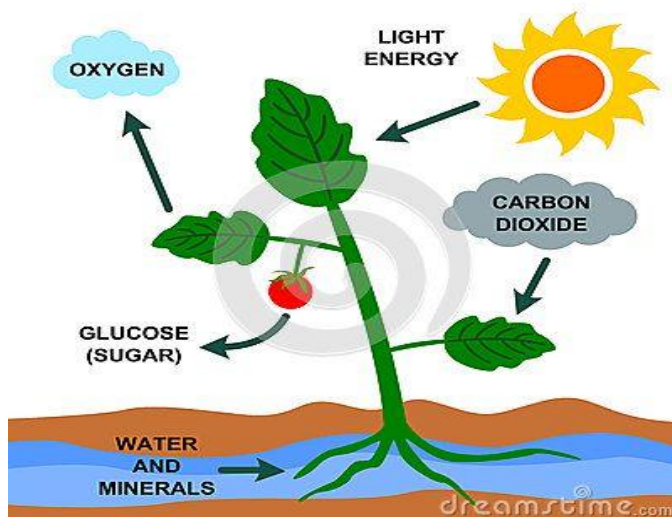
Read the statements below and give ONE WORD to explain it.

<b>Statements</b>	<b>Answers</b>
3.1 Using vinegar or salt water to make food last longer	
3.2 To make food last longer and not go bad	
3.3 When a substance can dissolve in water to form a solution	
3.4 When the solution can hold no more solute	
3.5 Liquid in which a substance dissolves	

[5]

**QUESTION 4**  
**NAMING AND LABELLING STRUCTURES**

4.1 Study the structure on how photosynthesis takes place. Write your answers in the spaces provided below the picture.



4.1.1 \_\_\_\_\_ is released. (1)

4.1.2 Leaves make \_\_\_\_\_ . (1)

4.1.3 \_\_\_\_\_ is taken in. (1)

4.2 Provide the correct name of the phases below.


## Defining Phases of Matter



**A**



**B**



**C**

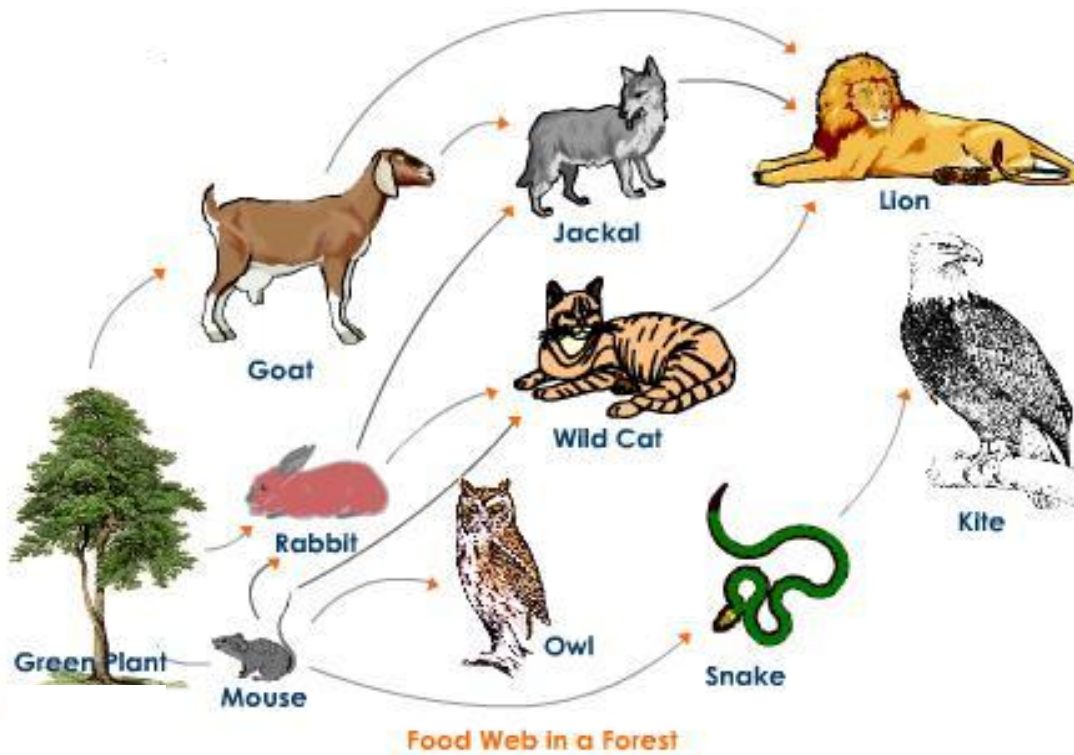
4.2.1 Phase A: \_\_\_\_\_ (1)

4.2.2 Phase B: \_\_\_\_\_ (1)

**[5]**

**QUESTION 5  
IDENTIFYING THINGS**

5. Study the food web below and answer questions that follow.



- 5.1 Name a producer in the food web. \_\_\_\_\_ (1)
  - 5.2 Name ONE (1) herbivore in the food web. \_\_\_\_\_ (1)
  - 5.3 Name ONE (1) animal that feeds on rabbits. \_\_\_\_\_ (1)
  - 5.4 The name of a tertiary consumer in the food web. \_\_\_\_\_ (1)
  - 5.5 Name the environment where the food web is taking place. \_\_\_\_\_ (1)
- [5]**

**TOTAL SECTION A: 25**

**SECTION B****QUESTION 6****UNDERSTANDING AND APPLYING SCIENCE AND TECHNOLOGY**

- 6.1 Explain TWO ways in which young people can change their eating habits to lose weight.

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(2)

- 6.2 Read the case study below on how cassava is processed and answer the question that follows.

Cassava is a staple food in Angola. The people of Angola process the cassava root to use as a stored food source in times of drought and food shortages. To make cassava meal, the women and children first peel the cassava root and soak it in water. Next they chop and grate the root into small pieces. They then dry it in the sun and grate it again to make it into a fine meal. The men then roast the meal on a fire on flat metal trays and store it in bags. The cassava root can also be fermented and made into a paste, which is wrapped in banana leaves and cooked.

Arrange the steps on how people in Angola process cassava, in the correct order.

<b>Steps not in the right order</b>	<b>Steps in the right order (USE LETTERS ONLY)</b>
A. Grate dry pieces of cassava to make fine meal	STEP 1:
B. Roast cassava meal	STEP 2:
C. Store meal in bags	STEP 3:
D. Chop and grate cassava into small pieces	STEP 4:
E. Peel and soak cassava	STEP 5:
F. Dry cassava pieces in the sun	STEP 6:

(6)

**[8]**

**QUESTION 7**

**COMPARING MIXTURES**

7.1 Compare the mixtures of salt and water with oil and water by completing the table below. (6)

<b>MIXTURES</b>	Phases of matter (2) <b>(Solid, liquid or gas)</b>	Soluble / insoluble (2)	Is a mixture a solution? (2) <b>(Yes/No)</b>
<b>SALT AND WATER</b>	_____ (½) and _____ (½)		
<b>OIL AND WATER</b>	_____ (½) and _____ (½)		

7.2 Give TWO (2) factors that can affect the rate of dissolving.

\_\_\_\_\_ (1)

\_\_\_\_\_ (1)

7.3 Explain how you can destroy germs that may be in water, to make the water clean.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (2)

**[10]**

**TOTAL SECTION B: 18**



## SECTION C

## QUESTION 8

## EVALUATING AND ANALYSING

8.1 Suggest ONE (1) reason why we process food. (1)

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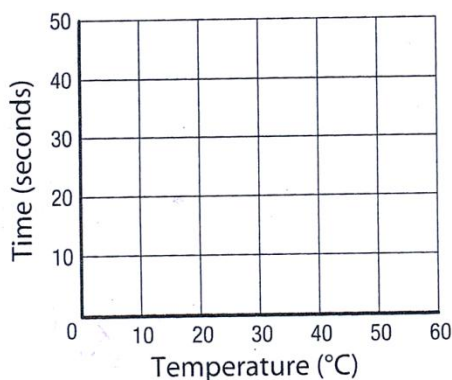
8.2 Suggest ONE (1) reason why wetlands are important in natural ecosystems. (1)

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8.3 Study the table below which tells us about the rate of dissolving at different temperatures.

Temperature (°C)	10	20	30	40
Time (S)	50	30	20	10

8.3.1 Use a pencil to construct a **line graph** using the information from the table above. Do it on the grid below. (4)



8.3.2 Identify the independent variable from the graph.

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(1)  
[7]

**TOTAL SECTION C: 7**

**TOTAL: 50**

**END**