YEAR 7 AGRICULTURE SCIENCE MR RAM

TOPIC SOIL SCIENCE

STUDY GUIDE

WEEK 8 LESSON 1 OBJECTIVES

OBJECTIVES

At the end of this lesson students should be able to

1. define soil structure

2. differentiate between soils with and poor soil structures and good soil structures

3. explain reasons why soils should have good structure

4. explain how soil structures could be improved or damaged

ACTIVITIES OR EXERCISES

Take down notes and

1. Briefly describe soil structure and give an example

2. List 4 differences between sand and clay soils

3. List 4 ways by which you can improve soil texture

4. List 4 ways by which soil structure may be damaged.

LESSON 2

OBJECTIVES

At the end of this lesson students should be able to:

1. describe the term soil organisms

2. differentiate between micro and macro soil organisms

3. list the advantages and disadvantages of soil micro organisms

ACTIVITIES

Take down lesson notes

1.define soil organisms

2. list 4 importance of earthworms in agriculture

3. list 3 disadvantages of soil organisms

LESSON 3

OBJECTIVES

At the end of the lesson students should be able to:

1. distinguish between soil air and soil water

2. explain how soil air and soil water helps sand and clay soils

3. define the term waterlogging

4.explain 5 methods of soil water movement

ACTIVITIES

Take down notes and answer these questions

1.explain the importance of soil air and soil water in agriculture

2. draw a simple diagram to show how water moves in the soil

3 define these terms: transpiration, evaporation, absorption, capillary and gravity water

WEEK 9

LESSON 1

OBJECTIVES

At the end of this lesson students should be able to:

1. differentiate between Major and Trace nutrients

2. name to sources of nutrients in the soil

3. list the functions of major nutrients

4. list two nutrient deficiencies of Nitrogen, phosphorus and potassium

5.name two reasons for nutrient deficiencies

ACTIVITIES

Write down notes provided on pp22 and 23 soils book and answer these questions

1. Name 3 minor and 3 major nutrients.

2. list 2 functions of the Major nutrients. Nitrogen, Phosphorus and Potassium

3. list 2 deficiency symptoms of N, P and K

4.give 2 reasons for nutrient deficiencies

LESSON 2

OBJECTIVES

At the end of this lesson students should be able to :

1. define the term shifting cultivation

2. list 6 types of Organic fertilizers (natural) and briefly explain each

3. name 3 Artificial fertilizers (man-made) fertilizers

ACTIVITIES

Take down notes pp24 n 25 soils and answer these questions

1. Explain the meaning of shifting cultivation

2. Name 2 types of organic fertilizers that can be added to poor soils

LESSON 3

OBJECTIVES

At the end of this lesson students should be able to:

1. name and briefly explain 3 Artificial fertilizers

2. explain what is a compound fertilizer

3. list the reasons for using artificial fertilizers

ACTIVITIES. Take down notes pp28 and answer these questions

1.List the importance of Urea, Superphosphate and Potash

2. Find the amounts of Urea, Superphosphate and Potash in a bag containing 150kg of fertilizer with a ratio of 10:10:20

WEEK 10

LESSON 1

OBJECTIVES

At the end of this lesson students should be able to:

1. draw the nutrient cycle and label.

2.describe using the diagram how nutrients enter the soil

ACTIVITIES

Take down the diagram pp29 soils and answer these questions

1. List 4 ways by which nutrients can enter the soil

1.list 4 ways byhich nutrients can leave the soil

LESSON 2 and 3

OBJECTIVES

At the end of this lesson students should be able to:

Take down the list of bibliography

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TERM 2 TOPIC PLANT BIOLOGY

WEEK 1

LESSON 1 OBJECTIVES

At the end of this lesson students should be able to:

1. draw a plant and label the parts clearly

2. briefly describe the parts of a tree and their functions

Activities

Take down lesson notes from pp5 n6

1. Draw a tree and label its parts

2. Practical see if you can find the various parts labelled on a tree

LESSON 2 OBJECTIVES

At the end of this lesson students should be able to:

1. draw a narrow leaf and label the parts

2.draw a broad leaf and label the parts

ACTIVITIES

TAKE DOWN NOTES Pages 7and 8

Practical get the leaf a grass and taro and see the differences

LESSON 3 OBJECTIVES

At the end of this lesson students should be able to

1. explain the process of transpiration

2.list and describe 3 conditions which speeds up the transpiration process

ACTIVITIES

PRACTICAL – choose 2 branches from a tree .From one remove all leaves and tie a clear plastic bag. On the other branch leave all leaves and tie a clear plastic. After 2 to 3 hours observe.

WEEK 2.

LESSON 1 OBJECTIVES

At the end of lesson students should be able to:

1. define the term photosynthesis

2. explain the process of photosynthesis

3. draw a diagram to show how sugars are stored

ACTIVITIES

Take down notes on pp 12, 13 and 14

1. Write the photosynthesis equation.

2. know the process of photosynthesis

LESSON 2. OBJECTIVES

At the end of this lesson students should be able to:

1. briefly describe the process of transpiration

2. learn the respiration equation

ACTIVITIES

Write down notes on page 15 only.

Practical work to be done

LESSON 3 OBJECTIVES

At the end of lesson student should be able to;

1. list and briefly describe the 3 main functions of stems.

2. Draw a diagram to show how water, nutrients and sugars move in a stem.

ACTIVITIES

Take down notes on page 17 and draw the diagram

Practical work

WEEK 3

LESSON 1 OBJECTIVES

At the end of this lesson students should be able to:

1. draw a stem tuber and a rhizome

2. briefly define these terms

ACTIVITIES

TAKE DOWN NOTES ON PAGE 18 AND PRACTICE DRAWINGS

LESSON 2 OBJECTIVES

At the end of lesson students should be able to;

1. draw a corm and a stolon

2. briefly describe each of these terms

ACTIVITIES

Take down notes on page 19 practical once return to school

LESSON 3 OBJECTIVES

At the end of this lesson students should be able to:

1. list 2 functions of roots

2. draw and locate the position of root hairs

3. using a diagram show how root hairs absorb nutrients and water

ACTIVITIES

TKE DOWN NOTES AND DIAGRAMS ON PAGE 21

WEEK 4

LESSON 1 OBJECTIVES

At the end of this lesson students should be able to:

1. describe tap root system and fibrous root system

2. draw diagrams of both systems and label

3. briefly explain how food is stored in roots

ACTIVITIES

Take down notes and diagram on page 22

Look for these two types of root systems and study

LESSON 2 OBJECTIVES

At the end of this lesson students should be able to:

1. differentiate between swollen taproots and root tubers

2. be able to draw diagrams of both

ACTIVITIES

Take down notes on page 23

Be able to know the difference between swollen taproots and root tubers with examples

LESSON 3 OBJECTIVES

At the end of this lesson students should be able to:

1. draw the diagram of an insect pollinated flower

2. label and learn the parts numbered

ACTIVITIES

Take down notes and diagram provided on page 24

Get a hibiscus flower and study the various parts as labelled in the diagram

WEEK 5

LESSON 1 OBJECTIVES

At the end of this lesson students should be able to:

1. list all the parts of a flower and learn the functions

ACTIVITIES

Take down notes provided on page number 25

Practical work. Look at different types of flowers in the gardens.

LESSON 2 OBJECTIVES

At the end of this lesson students should be able to:

1. distinguish between self-pollinated and cross-pollinated flowers

2. describe self-pollination and cross- pollination

3. describe how pollen moves in an insect and wind pollinated flowers

ACTIVITIES

1. Take down notes on page 26

2. find 3 examples of insect –pollinated and self- pollinated flowers

LESSON 3

At the end of lesson students should be able to:

1. briefly describe how fertilization takes place

2. draw the diagrams of fertilization in flowers and label the parts

ACTIVITIES

Take down notes and diagrams provided on page 27

Collect flowers offruits and observe the stages of fruit formation.