



# Central School







## Home School Package

**Year : 2020**

**AGRICULTURE SCIENCE**  
**YEAR 7**

**CONTINUED**  
**WEEKS 6 ,7,8,9**  
**TEACHER MR RAM**

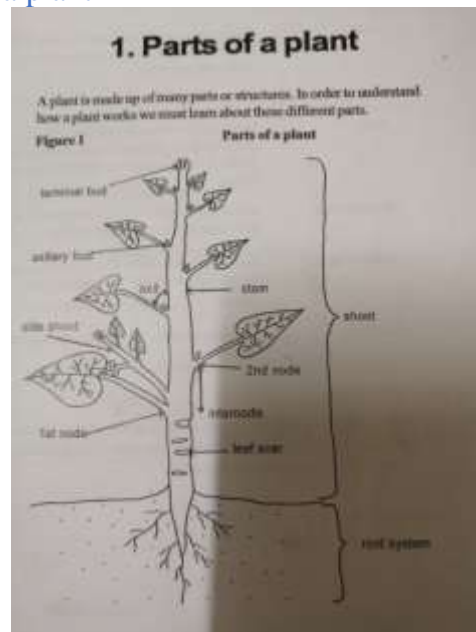
## LESSON Plan

 Teacher	Name :Mr Ram Subject :Agriculture
 Date & Week	Week : 1 Term 2
	Topic : Plant biology Lesson number : 1 Parts of a plant
 Learning outcomes	Objectives: At the end of this lesson students should be able to 1. draw a plant 2. label the parts 3. explain the functions of the parts
 Introduction	This is Unit Two. Students are to rule-off and indicate date before starting this topic. This topic is about plants and the parts. A plant consists of leaves, stems, roots, flowers and fruits. In this lesson we will learn about a plant parts and their functions.
	Phrase Keep our environment green








Learners notes

## Parts of a plant



### Functions of the parts of a tree

1. Shoot : consists of the stems, buds and leaves
2. Main shoot : first shoot
3. Side shoots : also known as lateral shoots. Known as branches
4. Axil : gap between a leaf and a stem
5. Node : position where a leaf joins the stem.
6. Internode : the gap between 2 nodes
7. Buds : they are the growing points for shoots, flowers and fruits.
8. Terminal buds : found at the top of main shoot. It makes the plant grow tall and straight
9. Axillary buds : they make the plants grow bushy by producing sideshoots
10. Leaf scar : mark on the stem showing from where a leaf has fallen

 Visual aids	Use blue or black pens to write notes  <b>Laptop,online materials</b>
 Exercises	Get a plant and study various parts
 Assignment	Write all notes and diagrams in your exercise books
 Assessment	1. Draw the diagram of a plant and label clearly 2. Give the functions of the parts of a plant
 References	Agriculture in Vanuatu. Plant Biology Pages 5and 6

Comment [RS1]:

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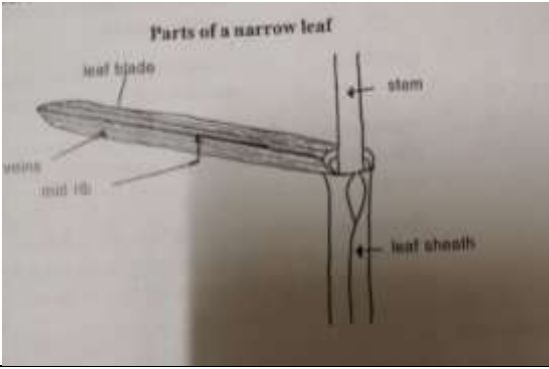
### WEEKLY CHECKLIST For Parents:

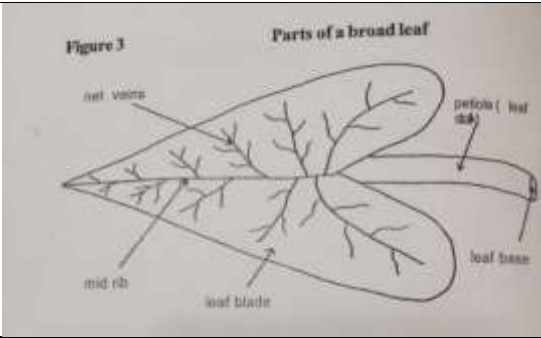





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 Date & Week	Week : 1 Term 2
	Lesson : 2  Topic :PLANT BIOLOGY Sub topic : Leaves
 Learning outcomes	Objectives: At the end of this lesson students should be able to: 1. List the function of leaves 2. Name 2 types of leaves 3. Explain 2 types of leaves 4. List the functions of Narrow and Broad leaves 5. Draw and label the parts of narrow and broad leaves
 Introduction	The leaf is one of the major parts of a plant. It has a number of functions. It is very important that we must understand the functions of both narrow and broad leaves.

	<p>Catch phrase for the lesson Plants cannot make food without leaves</p>
  Learners notes	<p>NOTES</p> <ol style="list-style-type: none"> <li>1. The main function of leaves is to catch sunlight and make carbohydrates byPhotosynthesis. There are 2 types of leaves</li> <li>1. Narrow leaves : these are normally monocots. They have straight parallel veins and a leaf sheath Eg : corn leaves and grasses</li> <li>2. Broad leaves ; they have branching veins called netveins they are normally dicots.eg : taro and hibiscus.</li> <li>3. Leaf veins : carry water, nutrients, and plant food through leaves. The main vein in the centre of the leafis called the midrib</li> <li>4. Leaf blade : its flat and thin to allow it to catch plenty of sunlight</li> <li>5. Leaves contain a green sustance called chlorophylll It helps to trap sunlight.</li> <li>6. Stomata : the stomata is located at the bottom of the leaf blade. Its function is to catch sunlight.</li> </ol> <p>Parts of a narrow and a broad leaf</p> 




		 <p>Figure 3 Parts of a broad leaf</p> <p>petiole (leaf stalk) leaf base leaf blade mid rib leaf veins</p>
 Visual aids	Use only blue or red pen	
 Exercises	Get 2 leaves narrow and broad . Study them and see the differences	
 Assignment	<u>Write the notes in your exercise books and draw appropriate diagrams</u>	
 Assessment	1. Name 2 types of leaves 2. What are the functions of leaf veins and the leaf blade 3. Draw and label the parts of a narrow and a broad leaf	
 References	PLANT BIOLOGY pages 7 and 8	






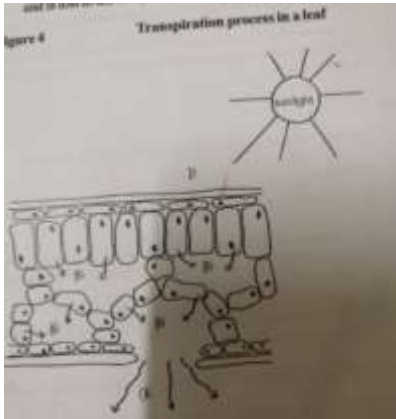
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 Date & Week	Week : 1 Term 2 Lesson 3
	Topic Plant Biology Sub topic : Transpiration
 Learning outcomes	Objectives: At the end of this lesson students should be able to: 1. Define transpiration 2. Explain the process of transpiration 3. List and briefly explain 3 conditions which speed up transpiration



	4. Explain transpiration demonstration.
 Introduction	Transpiration is the process by which water is lost from leaves. Importance of transpiration is that it helps to keep plant leaves cool. We will do this experiment once classes become normal.
 PHRASE Transpiration is the loss of water from leaves.	
 Learners notes	<p>Definition : transpiration is the loss of water from leaves.</p> <p>The transpiration process</p> <ol style="list-style-type: none"> <li>Sunlight falls on plant</li> <li>Water vapour moves out from the cells</li> <li>Water vapour is lost through the stomata into the atmosphere by evaporation.</li> </ol> <p>Diagram</p>  <p>Three conditions which speed up transpiration</p> <ol style="list-style-type: none"> <li>1. Sunlight : heats the water inside the leaves</li> <li>2. Wind : increases the rate of evaporation</li> <li>3. Dry atmosphere : does not contain moisture</li> </ol> <p>Diagram to show transpiration</p>




		
 Visual aids	<a href="#">Only use blue or black pen</a>	
 Exercises	<u>Take 2 clear dry plastic bags. With one tie a branch with a lot of leaves and from another branch remove all leaves and tie the plastic on a sunny day. See the two plastics the next day.</u>	
 Assignment	<u>Write the notes and draw diagrams in your exercise books</u>	
 Assessment	To be done in class	
 References	AGRICULTURE IN VANUATU  PLANT BIOLOGY pages 9, 10 and 11	




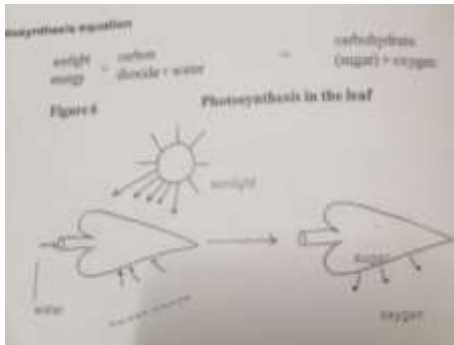


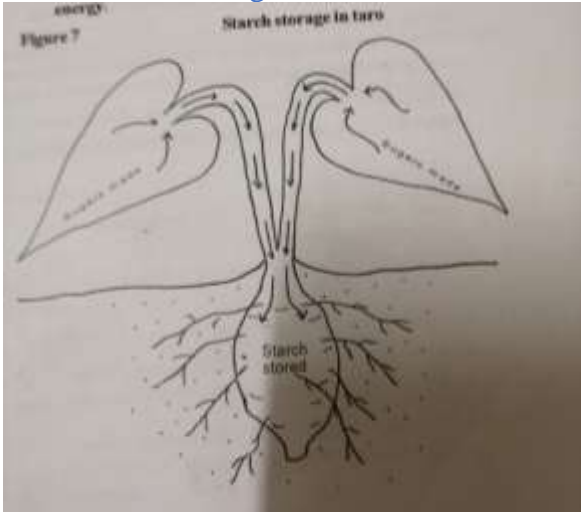




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 Date & Week	Week : 2 Term 2
	Lesson no :1 Topic : Plant Biology Sub topic : Photosynthesis
	Objectives:At the end of this lesson students should be able to: 1. Define photosynthesis 2. Describe the process of photosynthesis

Learning outcomes	<p>3. Write the photosynthesis equation</p> <p>4. Explain how starch is stored</p>
 <p>Introduction</p>	<p>In his class students will learn the process of photosynthesis and be able to explain how it occurs.</p>
	<p><b>Catch phrase for the lesson</b></p> <p>Photosynthesis is a process by which plants make starch using sunlight, carbondioxide and water</p>
 <p>Learners notes</p>	<p><b>NOTES</b></p> <p>Definition : Photosynthesis is a process by which plants use sunlight, carbondioxide and water to make starch and carbohydrates.</p> <p>Photosynthesis process</p> <ol style="list-style-type: none"> <li>1. Sunlight is absorbed by chlorophyll</li> <li>2. Carbondioxide enters the leaf through the stomata</li> <li>3. Water enters the leaf through the veins</li> </ol> <p>The Photosynthesis equation</p> <p>Sunlight energy+ carbondioxide+ water= sugars or carbohydrates + oxygen</p> <p>Photosynthesis in the leaf</p>  <p>Oxygen moves out into the air through the stomata</p> <p>Sugars produced by photosynthesis can be used in 2 ways :</p> <ol style="list-style-type: none"> <li>1. Gives energy to plants to grow.</li> </ol>

	<p>2. Can be moved to another part of a plant and changed into starch.eg : yams, taro, manioc, and kumala</p> <p>Diagram of starch storage</p> 
 Visual aids	<a href="#">LAPTOP</a>
 Exercises	<p><u>1. Define photosynthesis</u></p> <p><u>2. Explain the process of photosynthesis</u></p> <p><u>3. Explain how starch is stored in plant roots</u></p> <p>-</p>
 Assignment	<p><u>Write notes and draw diagrams in your exercise books</u></p>
 Assessment	<p>To be done in class</p>
	<p>AGRICULTURE IN VANUATU</p> <p>PLANT BIOLOGY pages 13 and 14</p>

	
References	








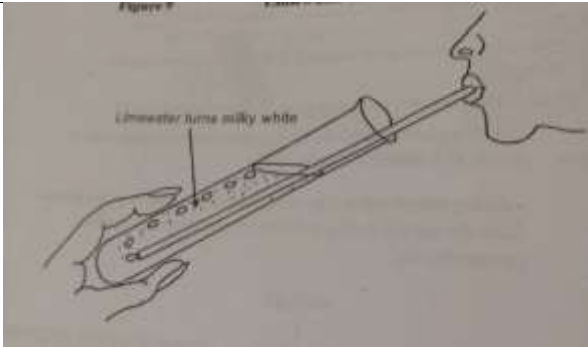





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	Week : 2 Term 2
Date & Week	

	<p>Lesson no :2 Topic : Plant Biology Sub topic : Respiration</p>
 Learning outcomes	<p>Objectives: At the end of lesson students should be able to:</p> <ol style="list-style-type: none"> <li>1. Define respiration</li> <li>2. Explain the respiration process</li> <li>3. Write the respiration equation</li> </ol>
 Introduction	<p>In this class students will learn about respiration. This is a breakdown process. Respiration involves all the processes for growth, movement and other processes.</p>
	<p>Catch phrase for the lesson Respiration is a breaking down process</p>
 Learners notes	<p>Definition of respiration : it is a process by which all plants and animals use energy from simple foods for growth, movements and other processes.</p> <p>The respiration process</p> <ol style="list-style-type: none"> <li>1. Carbohydrates is made plants through photosynthesis</li> <li>2. Oxygen is taken from the air through the stomata</li> </ol> <p>During respiration, carbohydrates is broken down to release energy.</p> <p>The respiration equation</p> $\text{Oxygen} + \text{Carbohydrates} = \text{Energy} + \text{water} + \text{carbondioxide}$ <p>Remember respiration is the opposite of photosynthesis.</p> <p>Limewater test for carbondioxide</p>

	
 Visual aids	Only use blue or black pen to write
 Exercises	<u>The experiment will be done with the teacher</u> -
 Assignment	<u>Write all notes and draw diagrams in your exercise books</u>
 Assessment	<ol style="list-style-type: none"> <li>1. Define respiration</li> <li>2. Write down the respiration equation</li> <li>3. What is the test for carbondioxide</li> </ol>
 References	<p>AGRICULTURE IN VANUATU</p> <p>PLANT BIOLOGY pages 15 and 16</p>











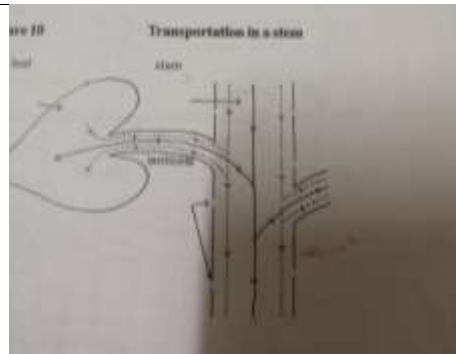
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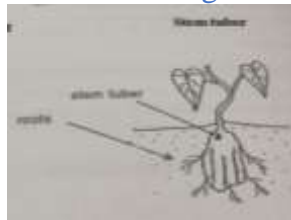
 Date & Week	Week : 2 Term 2
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	<p>Lesson no : 3 Topic : Plant Biology Sub topic : Stems</p>
 Learning outcomes	<p>Objectives: At the end of this lesson students should be able to:</p> <ol style="list-style-type: none"> <li>1. List and briefly describe three functions of stems</li> <li>2. Draw and label transportation in stems</li> <li>3. Draw diagrams and briefly explain stem tubers, rhizomes, corms and stolons.</li> </ol>
 Introduction	<p>In this class students will learn about stems of plants. They will learn how water, nutrients and sugars move in a plant. They will study how sugars are stored.</p>
	<p>Catch phrase for the lesson Stems hold the plant upright</p>
 Learners notes	<p>Functions of stems</p> <ol style="list-style-type: none"> <li>1. Support : stems hold other parts of a plant above the soil</li> <li>2. Transport <ol style="list-style-type: none"> <li>a. Water and nutrients move upwards through the centre of the stem.</li> <li>b. Sugars move downwards from the leaves through the outside of the stem.</li> </ol> </li> <li>3. Food storage : foods are stored as starch or sugars or carbohydrates</li> </ol> <p>Transportation in stem</p>

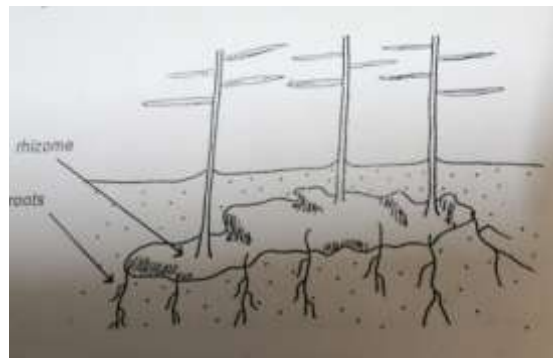


Types of food storage

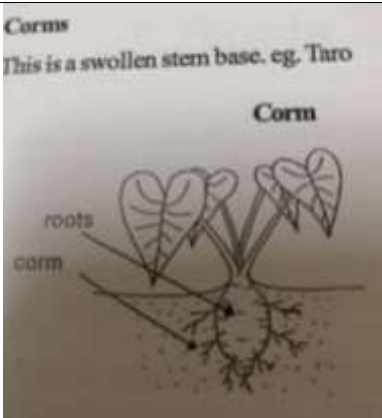
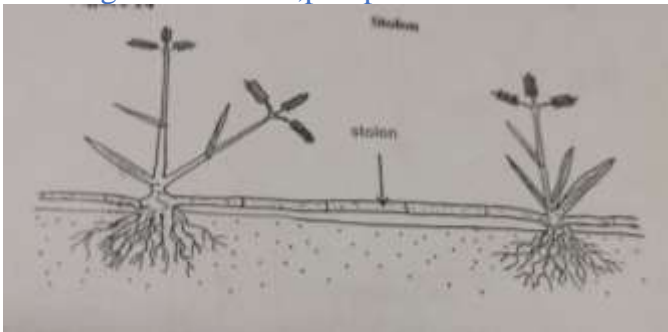




1. Stem tubers : swollen underground stems eg. Yam




2. Rhizomes : swollen underground stems which are horizontal.



3. Corms : swollen stem base eg. Taro

	<p><b>Corms</b> This is a swollen stem base. eg. Taro</p>  <p>4. Stolons ; Horizontal stems which grow just above the soil eg watermelons,pumpkin</p> 
 Visual aids	<p><u>Only use blue or black pen to write</u></p>
 Exercises	<p>1. <u>List 2 functions of stems</u>            2. <u>List how food is stored in stem tubers,rhizomes,corms and stolons</u>            3 . <u>Draw the diagrams of stem tubers,rhizomes,corms and stolons</u></p>
 Assignment	<p><u>Write down all notes and draw diagrams in your exercise books</u></p>
	







Assessment	
 <p>References</p>	<p>AGRICULTURE IN VANUATU</p> <p>PLANT BIOLOGY pages 17, 18 &amp; 19</p>

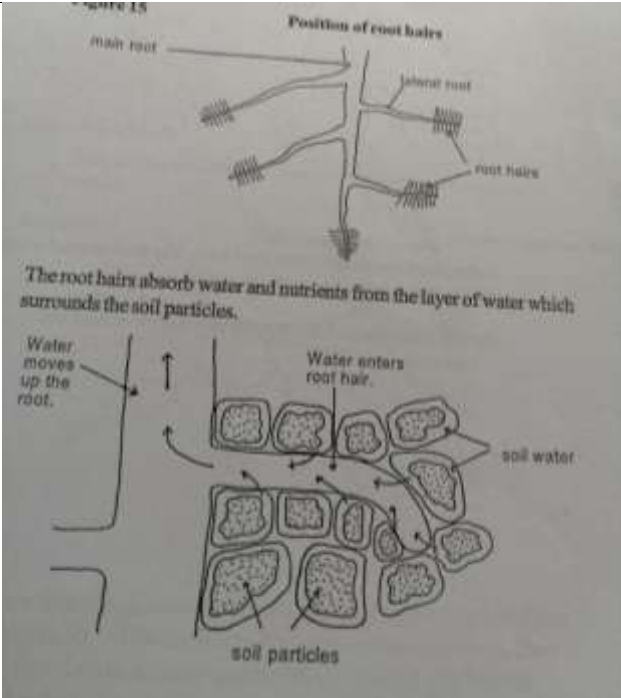







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 Date & Week	Week 3 Term 2  Lesson 1
	Title Plant Biology Sub title : Roots
 Learning outcomes	At the end of this lesson students should be able to ; 1. list 2 functions of roots 2. Draw the position of root hairs 3. Draw the diagram to show how roots absorb minerals and water.
 Introduction	Roots are the most important part of any plant for uptake of minerals and water.lets look at roots of some plants.
	Roots hold plants
 Learners notes	The two main functions of roots are : 1. Anchorage : they hold plants firmly in the soil 2. Absorption : they absorb water and nutrients from the soil. This is done by the root hairs. These are small and can be easily damaged.  Diagrams to show position of root hairs and how water and nutrients are absorbed.


	 <p>The root hairs absorb water and nutrients from the layer of water which surrounds the soil particles.</p>
 Visual aids	
 Exercises	1. Name 2 functions of roots 2. Draw a diagram to show the root hairs 3. What is the function of root hairs?
 Assignment	Complete all notes and diagrams in your exercise books
 Assessment	To be done in class
 References	AGRICULTURE IN VANUATU PLANT BIOLOGY Page 21








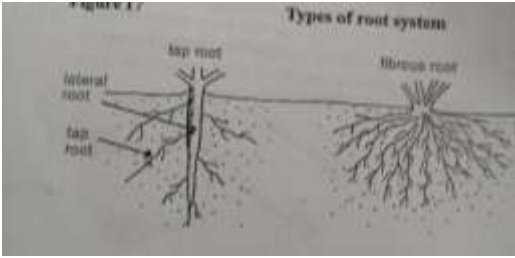
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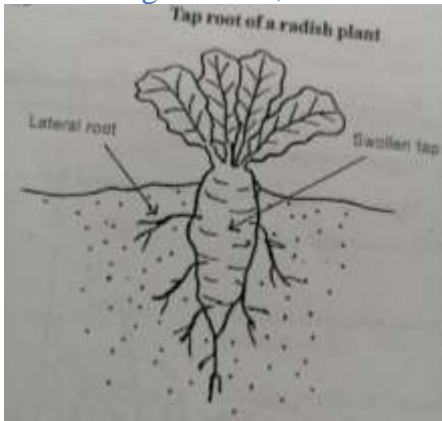
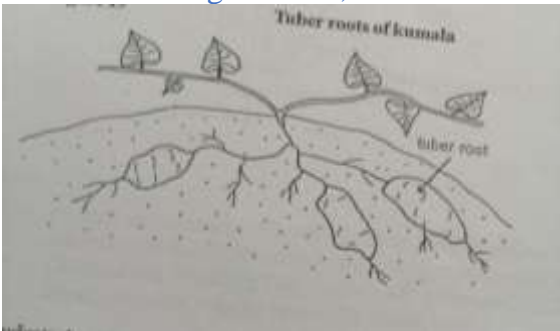




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 <p>Date &amp; Week</p>	<p>Week 3 Term 2 Lesson 2</p>
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	<p>Title : Plant Biology Sub title : Root systems</p>
 Learning outcomes	<p>At the end of this lesson students should be able to:</p> <ol style="list-style-type: none"> <li>1. name and briefly describe 2 main types of roots</li> <li>2. state how food is stored in roots</li> <li>3. Draw the diagrams of swollen taproots and taproots</li> </ol>
 Introduction	<p>Two main types of root systems are tap roots and fibrous roots .We will see how food is stored in each case.</p>
	<p>Roots anchor plants</p>
 Learners notes	<p>Two Types of Root Systems</p> <ol style="list-style-type: none"> <li>1. Taproot systems : it has one main root which grows down deep . Smaller roots called lateral roots branch out from it.</li> <li>2. Fibrous roots : also known as adventitious roots. Roots grow from the base at same size and length</li> </ol> <div data-bbox="491 1312 1008 1568" data-label="Image">  </div> <p>Food storage in roots Food is stored as starch, carbohydrates or energy food.</p> <p>Swollen taproots : the taproot of the plant becomes</p>

	<p>swollen with starcheg : carrots, radish</p>  <p>Root tubers : parts of the root system become swollen with starch eg :kumala,manioc</p> 
 Visual aids	Laptop, online materials, and agr notes
 Exercises	1. Name 2 types of roots 2. Explain how food is stored in roots
 Assignment	
 Assessment	To be done in class



References

AGRICULTURE IN VANUATU  
PLANT BIOLOGY  
Pages 22-23








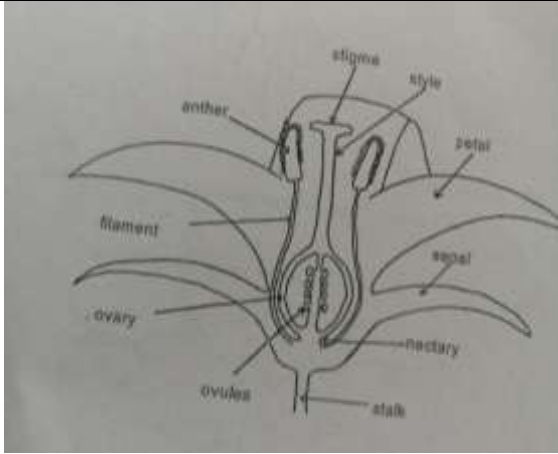
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Week 3  
Term2  
Lesson :3

Date & Week	
	<b>Plant Biology</b> <b>Sub title : Flowers</b>
 <b>Learning outcomes</b>	At the end of this lesson students should be able to: 1. give the functions of the flower 2. draw the flower and label the parts 3. explain the functions of flower parts
 <b>Introduction</b>	Flowers are in many colours ,shapes and sizes. Most contain male and female parts but some are haemaphrodites eg pawpaw
	<b>Flowers are beautiful</b>
 <b>Learners notes</b>	 <p>Functions of the parts</p> <ol style="list-style-type: none"> <li>1. Sepals : protect the flower</li> <li>2. Stalk : supports the flower and transports water and minerals</li> <li>3. Petals : brightly coloured to attract insects</li> <li>4. stigma : collects pollen</li> </ol>

	<p>5. Style : supports the stigma, and pollen grows on it</p> <p>6. Ovary : contains the ovules and becomes the fruit</p> <p>7. Ovules : become the seeds</p> <p>8. Anther : male part produces pollen</p> <p>9 Filament : supports the anther</p> <p>10. Nectary : sweets sugary substance attracts insects.</p>
 Visual aids	Laptop
 Exercises	<p>1. Draw the diagram of a flower and label its parts</p> <p>2. Explain the functions of the parts of a flower drawn above.</p>
 Assignment	<u>Take down the notes and diagrams</u>
 Assessment	To be done in class
 References	<p>AGRICULTURE IN VANUATU</p> <p>PLANT BIOLOGY</p> <p>Pages 24_ 25</p>



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