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Science

Quarter 2 – Module 4:
The Reproductive Parts in Plants and their Functions

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Quarter 2 – Module 4: The Reproductive Parts in Plants and their Functions
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Quarter 2 – Module 4:
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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answerthe post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests.And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

You can see different types of plants everywhere. As you can observe, they differ in size, shape, color, smell and even their mode of reproduction. Like animals, plants need to continuously reproduce themselves to sustain their species. Some reproduce through their seeds while some utilize other plant parts.

In this module, you will learn more about the reproductive part of the plant and their functions.

At the end of the lesson, you will be able to describe the reproductive part of plants and their functions.

Note: *All the answers of the activities should be written in a separate sheet of paper.*

What I Know

Directions: Identify the concept being described in each item. Choose your answer from the words inside the box below.

ovary	pistil	stamen	anther	plantlets
tubers	rhizomes	bulb	suckers	runners

1. It is the male reproductive organ of a flower.
2. It is the female organ of a flower.
3. It is a swollen structure at the end of the style.
4. It consists of two lobes that contains pollen.
5. These are the stems that grow horizontally above the ground.
6. The upright shoots that grow from buds seen at the base of stems of parent plants.
7. It contains an underground stem used for food storage.
8. It is a type of plant stem situated either at the soil surface or underground that bears nodes from which roots and shoots originate.
9. It is a swollen and modified root.
10. It is a plant part that is produced on the edge of the leaf.

What's In

A plant is made up of different parts, the roots, leaves, stem, and flower. Each part has a function to make the plant healthy. Plants play a very important role in our environment, so it is to our benefit to understand more about how they work and how they reproduce.

Directions: Match the concepts in column A with the words being described in column B. Choose the letter of the correct answer. Choices from column B can be repeated.

	COLUMN A	**COLUMN B**
1.	It contains chlorophyll which assists the plants in preparation for food.	a. roots
2.	It distributes the nutrients and minerals all the way from the roots to the leaves.	b. leaves
3.	This underground part plays a very important role in pulling the water and minerals so they can reach the plant.	c. stem
4.	It has brightly colored petals that attracts insects for pollination.	d. flower
5.	It stores food that binds the soil together.	

What's New

Let us find out how familiar you are by identifying the plant part being propagated, if it is through ***stem***, ***roots***, ***leaves,*** *or* ***flower***.

Directions: Write the answer in your paper according to the identified parts of the plant used for propagation.

1.

Camote plant

(Emma 2009)

2.

onion plant

("Onion" 2013)

3.

Kataka-taka plant

(Bikolano.2018)

4.

cassava plant

("File:Kerala Cassava Plant 1.Jpg - Wikimedia Commons" 2016)

5.

gumamela plant

(pinay06.2004)

What is It

From the previous activity, what parts of the plant are important in reproduction? Are you familiar with the different reproductive parts of a plant and its function?

Plants are one of the most important living organisms on earth. They provide benefits to both animals and human beings. They produce oxygen which is needed for the survival of living organisms. Overall, different parts of plants have different roles to perform. It's just equally essential to know how they are propagated. Let us know the different reproductive plant parts like flower, stem, roots, and leaf and its functions that are important in their reproduction.

The Reproductive Parts of a Flower

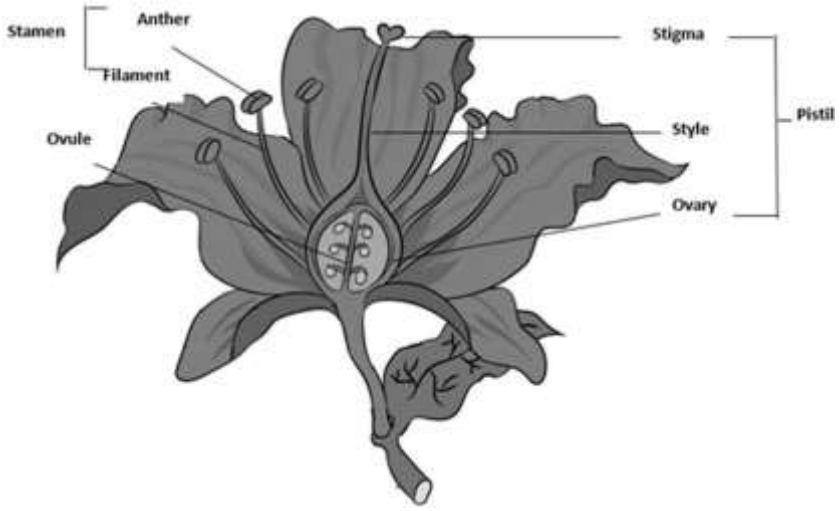

Figure A
(Dignos,n.d)

The important parts of a flower, which are the reproductive structures, are the *stamen* and the *pistil* (also called carpel). The **pistil** is the female organ of the flower. It has three parts: the stigma, the style, and the ovary. The **stigma** is the swollen structure at the end of the style. The **style** is a long, sticky, slender tube. The **ovary** is the enlarged basal portion of the pistil which contains the ovules. The **stamen** is the male organ of the flower. It has two parts: the anther and the filament. The **anther** is made up of two lobes that contain the pollen sacs. The **filament** holds the anther in a position tall enough to release the pollen.

Do you know that some plants have varied ways of propagation? Let's take a look at the gumamela plant, aside from reproducing naturally through its flower, it can also be propagated through its stems by simply cutting a mature part of the gumamela plant and putting it in a container/plant box with soil. After several days of maintaining its moisture, a new plant will immerse from it.

The Reproductive Parts of a Stem, Root, and Leaf

Natural vegetative propagation is a method where a portion of the plant gets separated from the body of the mother plant and grows into an independent plant. The parts may be **stem**, **root**, and **leaf**.

Figure 1. Runners (Dignos.nd)

Runners are stems that grow horizontally above the ground. They have nodes where buds are formed. These buds grow into a new plant. Examples are peppermint and strawberries.

Figure 2. Suckers (Dignos.n.d)

Suckers are upright shoots that grow from buds found at the base of stems of parent plants. The banana, bamboo, and pineapple are some examples of plants that can reproduce from suckers.

Figure 3. Bulb (Dignos.n.d)

A **bulb** contains an underground stem. Leaves are attached to the stem. These leaves contain much stored food. At the center of the bulb is an apical bud. Also attached are lateral buds. The apical bud will produce leaves and a flower while the lateral buds will produce new shoots. As the plant grows and develops, it will form a new bulb underground. Examples are onions, tulips, and garlic.

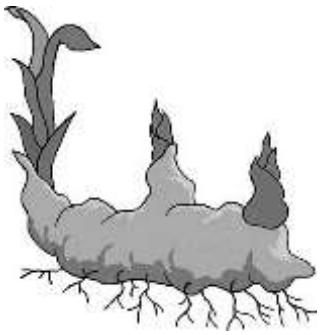

Figure 4. Rhizome (Dignos.n.d)

A **rhizome** (also known as rootstocks) is a type of plant stem situated either at the soil surface or underground that contains nodes from which roots and shoots originate. When separated, each piece of a rhizome is capable of producing a new plant. Examples are ginger and crabgrass.

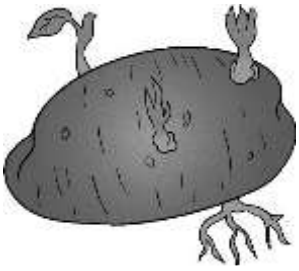

Figure 5. Tubers (Dignos.n.d)

New plants will grow out of swollen, modified roots called **tubers**. Buds develop at the base of the stem and then grow into new plants. Examples are potato, cassava, and sweet potato.

Figure 6.Plantlets (Dignos.n.d)

Leaves of some plants grow into a new plant if they become detached from the parent plant. Other plants grow small plants on the edge of their leaves. These small plants are called **plantlets**. One example is Kataka-taka.

What's More

Activity 1

Directions: Describe the parts of the plant listed below and give its description or function by choosing letter of your answer from the given choices.

1. Bulb
2. Pistil
3. Suckers
4. Stamen
5. Rhizomes

a. It is the female organ of the flower.
b. It contains an underground stem.
c. It is a part of a flower which composed of anther and filament.
d. It is the upright shoots that grow from buds found at the base of stems of parent plants.
e. A type of plant stem situated either at the soil surface or underground that contains nodes from which roots and shoots originate.

Activity 2

Directions: Study each picture below. Identify its reproductive part (based also on the jumbled letter), then describe its function. Use the table below as your guide in giving your answers.

1.

("File:Pothos Epipremnum Aureus.Jpg - Wikimedia Commons" 2009)

2.

(Boeckel.2019)

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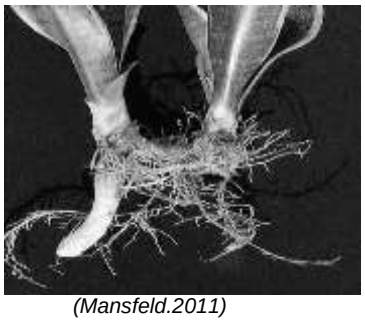
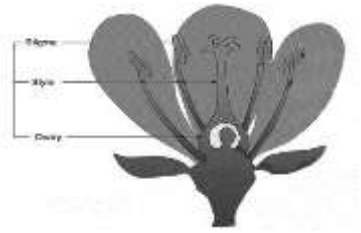
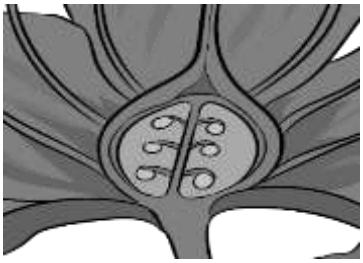
3. 

(Mansfeld.2011)

4. 

("File:Parts-Of-A-Flower.Png - Wikimedia Commons" 2016)

5. 

(Dignos.n.d)

Reproductive Part	Description/Function
1. N E R R U N S	
2. L U B B	
3. S H I R M O Z E	
4. L I S P I T	
5. V O R A Y	

Activity 3

Directions: Write True if the statement correctly describes the reproductive part of a plant and False if the statement is wrong.

1. The pistil is the female organ of the flower.

2. The anther consists of two lobes that contain the pollen sacs.

3. Suckers are upright shoots that grow from buds found at the base of stems of parent plants.

4. The tubers hold the anther in a position tall enough to release the pollen.

5. Rhizome are stems that grow horizontally above the ground. They have nodes where buds are formed.

What I Have Learned

Directions: Fill in the blanks with the correct word or words that will correctly complete each sentence.

1. The essential reproductive parts of a flower are the (a)_____, and (b)_____.
2. The (a)_____is the female reproductive part of a flower which has three parts, the (b)_____, (c)_____and (d)_____.
3. The (a)_____is the male reproductive part of the flower which consists of (b) _____and (c)_____specific parts.
4. The part of the plant that grows through their stems are (a)_____, (b)_____, (c)_____, (d)_____.
5. New plants will grow out of swollen, modified roots called (a)_____and other plants grow small plants called (b) _____on the edge of their leaves.

What I Can Do

Do you think plants need to reproduce? Why? Give at least three (3) reasons. Use the rubrics below as your guide you on the essay that you will write.

Rubrics for the Essay Output

Criteria	4	3	2	1
Organization	Follows a correct arrangement of ideas. It is easy to understand,	Follows a correct arrangement of ideas. It is easy to understand,	It is easy to understand, neat, and presentable.	It is unorganized, difficult to understand and follow.

	follow, and clear to read; visually appealing and relevant to the discussed ideas.	follow, and clear to read.		
Content	The insights are comprehensively discussed, with deep understanding of the idea, and the thoughts are reflective and convincing	The insights are moderately discussed, and the thoughts are reflective and convincing.	The insights are minimally discussed, and the thoughts are reflective and convincing.	The ideas show no insight, understanding or reflective thought
Mechanics of writing	Clear, readable, prose. Good use of transitions; no problems with spelling, punctuation, or grammar.	Some problems with mechanics of language; Some awkward sentences and poor transitions; reduc readability	Frequent problems with mechanics of language; Occasional awkward sentences and poor transitions; reduce readability	Awkward sentence construction; Poor or absent transitions; Frequently difficult to understand

Assessment

Directions: Read each item carefully. Then, choose the letter of the correct answer.

1. Which of the following is the male organ of a flower?
   A. Pistil
   B. Petal
   C. Style
   D. Stamen

2. What is the female organ of a flower?
   A. Pistil
   B. Style
   C. Anther
   D. Stamen

3. What part of a flower has a swollen structure at the end of the style?
   A. Ovule
   B. Ovary
   C. Pistil
   D. Stamen

4. It is part of the flower which consists of two lobes that contain pollen sac and pollengrain.
   A. Pistil
   B. Style
   C. Anther
   D. Stamen

5. It is an underground stem where the leaves are attached.
   A. Bulb
   B. Tubers
   C. Suckers
   D. Runners

6. What plant part is situated either at the soil surface or underground that contains nodes from which roots and shoots originate?
   A. Tubers
   B. Suckers
   C. Rhizome
   D. Plantlets

7. It is a stem that grow horizontally above the ground.
   A. Runners
   B. Suckers
   C. Rhizome
   D. Plantlets

8. The upright shoots that grow from buds found at the base of stems of parent plant.
   A. Bulb
   B. Tubers
   C. Suckers
   D. Runners

9. They are swollen, modified roots where buds develop at the base of the stem and then grow into new plants.
   A. Tubers
   B. Suckers
   C. Rhizome
   D. Plantlets

10. What do you call a new plant that grows at the edge of the leaves?
   A. Plantlets
   B. Runners
   C. Suckers
   D. Rhizomes

Additional Activity

A. Directions: Draw a flower found in your community. Then, label the reproductive parts and describe.

B. Directions: Give one example of a plant found in your community that can be propagated by the reproductive parts given below.

1. Bulb _____
2. Tubers _____
2. Runners _____
3. Suckers _____
4. Rhizomes _____

Answer Key

What's More

Activity 2:

Reproductive Part	Description/Part
1. Runners	stems that grow horizontally above the ground
2. Bulb	contains an underground stem and the leaves are attached to the stem
3. Rhizomes	horizontal plant stem that grows underground that contains nodes from which roots and shoots originate
4.Pistil	the female organ of the flower
5. Ovary	The enlarged basal portion of the pistil which contains the ovules

What's More

Activity 1

1. B
2. A
3. D
4. C
5. E

What's In

1. B
2. C
3. A
4. D
5. A

What's New

1. stem
2. stem
3. leaves
4. stem
5. flower (natural propagation), stem & roots (man-made propagation)

What's More

Activity 3

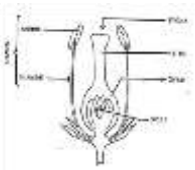
1.True
2. True
3. True
4. False
5. False

What I Know

1. Stamen
2. Pistil
3. Ovary
4. Anther
5. Runner
6. Sucker
7. Bulb
8. Rhizome
9. Tuber
10.Plantlets

Additional Activity

A.



B. 1. Bulb -onion
2. Tubers -potato
3. Runners- pothos plant
4. Suckers – banana
5. Rhizomes -ginger
(answers may vary)

Assessment

1. D
2. A
3. B
4. C
5. A
6. C
7. A
8. C
9. A
10. A

What I Can Do

1. Humans and animals need plants for food.

2. Plants provide humans and animals the air they breathe in.

3. Plants are source of medicine, papers, shelter and etc.

4. Plants beautify our surroundings.

5. Plants control flooding

Note: Answers may vary. These are some expected answers.

What I Have Learned

1. A. Stamen
B. Pistil
(answers can be interchange)
2. A. Pistil
B. Stigma
C. Style
D. Ovary
(only B-D answers can be interchange)
3. A. Stamen
B. Anther
C. Filament
(only B-C answers can be interchange)
4. A. Runners
B. Suckers
C. Bulb
D.Rhizomes
(answers can be interchange)
5. A. Tuber
B. Plantlets

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