

**Let's pave the way for learning and
Move Forward**

**Standard - 8
Biology**



**State Council of Educational Research and Training (SCERT), Kerala
2022**

Dear students,

The evaluation of the answer scripts of the First Terminal Examination 2022 and the classroom experiences shared by the teachers concerned, have brought to light the fact that our children have suffered some serious learning gap due to the non-availability of proper learning experiences as a result of the unprecedented situation created by the Covid Pandemic from 2019 to 2022. An activity book has been designed to assist children internalize the concepts which they ought to have mastered in the previous classes and with the intention to facilitate further learning. Necessary explanations and activities are included in the booklet to help children bridge the gap. It is hoped that this package will facilitate the learners for self-study or for studying with the help of their teachers and I wish them success in their endeavors to move forward with confidence.

Director
SCERT, Kerala

Chapter - 1
Life's mysteries in little chambers

Part 1

In the chapter, Life's mysteries in little chambers, we already learned about the structure of cell and cell organelles. In connection with this, you must have learned about the cells and structure of the cell in the chapter "Caskets of life" in sixth class. Based on these concepts, try to find out the answers to the following questions by self. Compare with answer key and assess your learning level yourself.

1. Analyze the information given in the box about cells and answer the questions.

Cell wall, Cell membrane, Nucleus, Cytoplasm,
Chloroplast, Vacuole

- a) Select common parts found in all cells.
.....
- b) Select the parts seen only in plant cells.
.....

2. Compare animal cell and plant cell and tabulate the differences between them. (Score 3)

Parts of the cell	Animal cell	Plant cell
Nucleus	Present	Present
Cytoplasm		
Cell wall		
Chloroplast		

Evaluate your responses with the help of worksheet evaluation indicators.

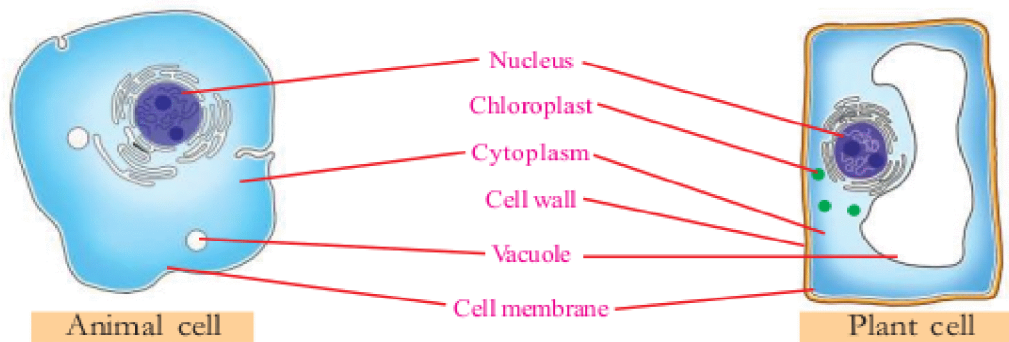
- Complete the worksheet satisfaction
- Partially completed the worksheet
- Need improvement

Part 2

Let us go through the chapter once again.

Analyze the given description and illustration about the cell and complete the activities

Nucleus, cytoplasm, cell membrane etc., are some of the important parts of a cell. Nucleus is the centre of the cell. Cell membrane is the covering of the cell. The matrix filled inside the cell membrane is the cytoplasm.



Activity 1

Identify and name the following.

- a) The part known as the centre of the cell.
- b) Covering of the cell
- c) The matrix filled inside the cell membrane

Activity 2

Tabulate the differences between plant cell and animal cell.

Plant cell	Animal cell

Worksheet Evaluation indications.

- 1. a) Cell membrane, Nucleus, Cytoplasm.
b) Cell wall, Chloroplast, Vacuole.
- 2.

Parts of the cell	Animal cell	Plant cell
Nucleus	Present	Present
Cytoplasm	Present	Present
Cell wall	Absent	Present
Chloroplast	Absent	Present

This is a self learning material

NB : Seek the help of your teacher if you have any doubts. Completed worksheet should be submitted to the teacher after self-assessment.

Unit 2

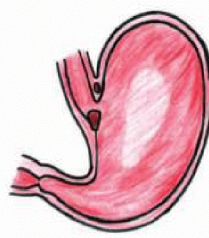
Cell Clusters

Part 1

This chapter includes different Tissues present in plants and animals, Organs formed by the combination of tissues and Organ system formed by the combination of different organs. You have already studied about parts of digestive system and their functions in the chapter In the digestive tract in seventh standard. Try to find out the answers of the following questions based on your previous knowledge, compare your answers with the answer key provided and evaluate your answers.

Worksheet

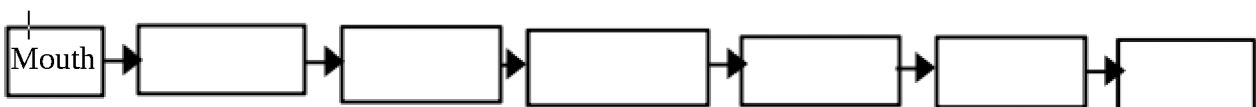
(1) Identify the organ shown in the figure.



- ◆ Small intestine
- ◆ Large intestine
- ◆ Stomach
- ◆ Oesophagus

(2) Different parts of digestive system are given in the box. Complete the flow chart on the path of food through the digestive tract.

Large intestine, Anus, Stomach, Mouth, Rectum, Small intestine, Oesophagus.



(3) Choose the part from where water containing minerals and salts is absorbed (1 Score)

- ◆ Small intestine
- ◆ Large intestine
- ◆ Oesophagus
- ◆ Stomach

Evaluate your responses with the help of worksheet evaluation indicators.

Complete the worksheet satisfaction

Partially completed the worksheet

Need improvement

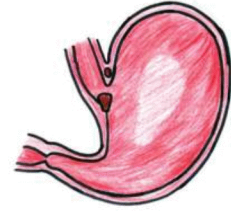
Part 2

Let us go through the lesson once again.

Analyse the slides related to the digestive system and complete the activities.

Stomach

Food reaches the stomach from the mouth through the oesophagus. It is the wave-like movement of the oesophagus which enables this. This is called peristalsis. Due to the movement of the stomach wall, food is rendered paste-like inside the stomach. The digestive enzymes produced by the stomach digests food chemically too.



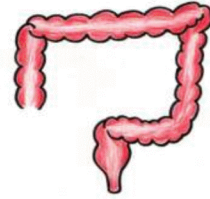
Small intestine

Small intestine is about six metre long. Digestion of food is complete here. The nutrients in the digested food are absorbed into the blood.



Large intestine

Large intestine is the broader intestine following small intestine and is about one and a half metre long. The absorption of water containing minerals and salts takes place here. What remains after that is the faeces. It is stored in the rectum and expelled through the anus.



Activity 1

(a) What is the role of stomach in the digestion of food?

.....
.....
.....

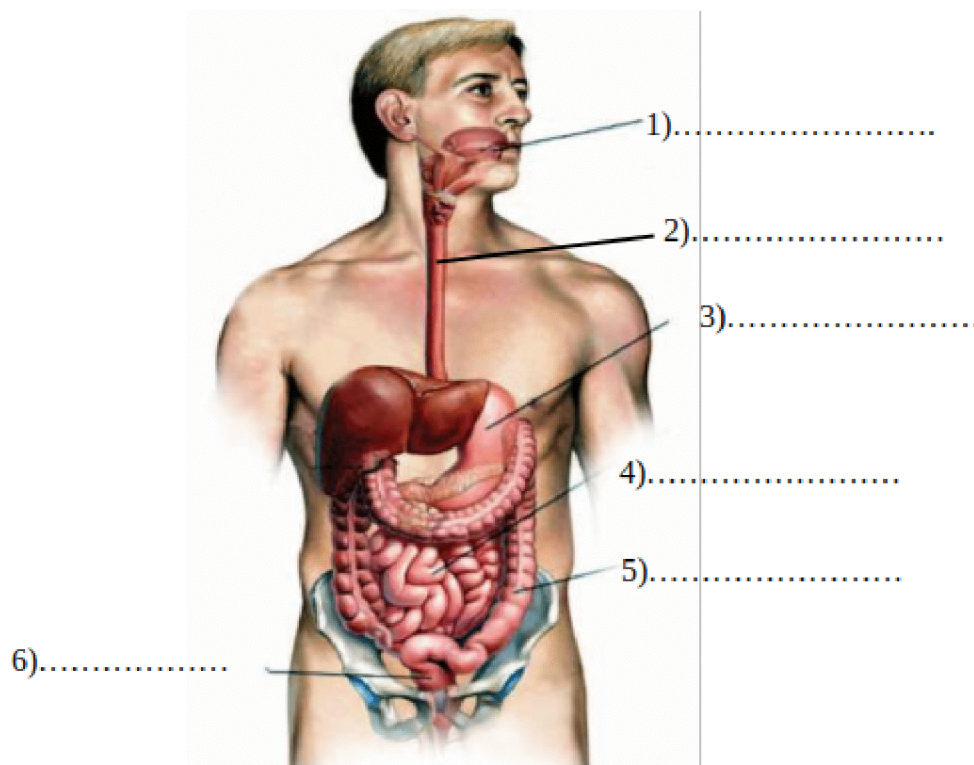
(b) What is peristalsis ?

.....
.....
.....

(Evaluate your answer with the help of text book)

Activity 2

Label the parts of digestive system in the figure given below.



Worksheet evaluation Indicators

(1) Stomach

(2)



(3) Large Intestine

This is a self learning material

NB: Seek the help of your teacher if you have any doubts. Completed worksheet should be submitted to the teacher after self-assessment.

Chapter 3

Lets regain our fields

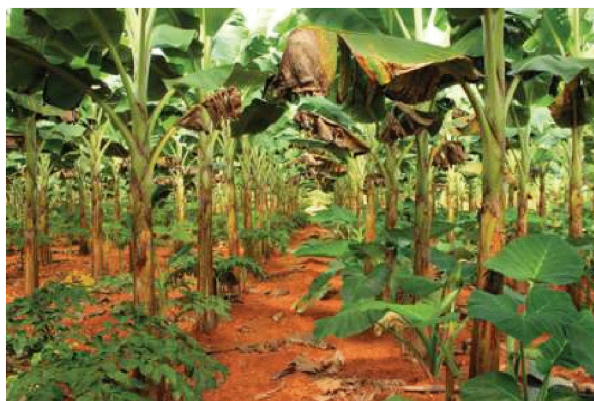
Part 1

Fertile soil is the basis of food security is the topic that we have to discuss in this chapter. In connection with this, you must have learned crop rotation, leguminous plants, integrated farming, agriculture and cattle rearing in the chapter “Reaping gold from soil” in class 7. The chapter Lets regain our fields is the continuation of this.

Some concepts related to the topic are given below. Try to find out the answer of the following questions.

Worksheet

1. Identify the agricultural practice shown in the picture.



- ◆ Inter cropping.
 - ◆ Crop rotation
 - ◆ Crop management
 - ◆ Integrated farming
2. What is cultivating a different crop instead of the crop cultivated earlier is called as?
 - ◆ Inter cropping.
 - ◆ Crop rotation
 - ◆ Crop management
 - ◆ Integrated farming
 3. what is the agricultural practice in which more than one agricultural sectors are inter connected called as?
(Score 1)
 - ◆ Inter cropping.
 - ◆ Crop rotation
 - ◆ Crop management
 - ◆ Integrated farming
 4. Name the bacteria which resides in the root of leguminous plants.
 - ◆ -----

5. Which element is absorbed from air by the bacteria resides in the root of leguminous plants?

- ◆ Oxygen
- ◆ Nitrogen
- ◆ Hydrogen
- ◆ Carbon

Evaluate your responses with the help of worksheet evaluation indicators.

Complete the worksheet satisfaction

Partially completed the worksheet

Need improvement

Part 2

Let us go through the lesson once again.

Some ideas presented in the seminar related with agriculture are given below. Analyse them and answer the questions.

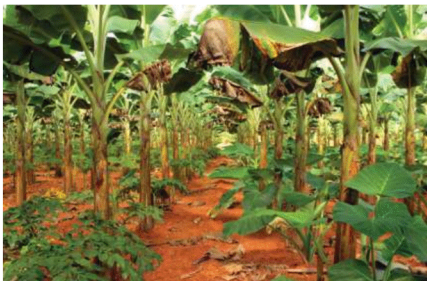
To get more yield

Fertile soil

Favourable climate

Quality seeds and planting materials

Proper care



Intercropping

Short term crops cultivated among the main crop in such a way that they do not harm the main crop are called intercrops.

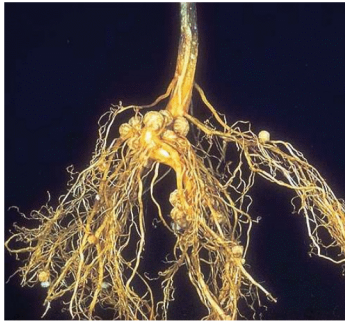
Crop rotation

Cultivating a different crop instead of the crop cultivated earlier is called crop rotation



Integrated farming

A system of farming that combines different agricultural fields with each other



Importance of Leguminous plants

Rizobium bacteria which live in the roots of leguminous plants absorb atmospheric nitrogen. When these plants decay, the plant nutrients are added to the soil.

1. What are the practices should be followed to get better yield ?
.....
.....
.....
.....
2. Inter cropping.
.....
.....
.....
3. Crop rotation.
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.....
4. Integrated farming.
.....
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5. Importance of leguminous plants
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Worksheet evaluating indicators

1. Inter cropping
2. Inter cropping
3. Integrated farming
4. Rhizobium.
5. Nitrogen

This is a self learning material

NB : Seek the help of your teacher if you have any doubts. Completed worksheet should be submitted to the teacher after self-assessment.

Chapter 5

Diversity For Sustenance

Part 1

In the chapter, **Diversity for sustenance**, we will learn about how abiotic factors become useful to biotic factors. You have learned the importance of the factors such as soil, air and water in the chapter “For a pollution free nature” in class 7. A table related to that concept is given below . Try to find out the answers and complete the table.

Worksheet

1. How does each organism utilise air, soil and water. Complete the table suitably.

Organism	air	soil	water
Fishes	A	B	C
Birds	D	E	F
Plants	G	H	Utilise in photosynthesis
Human beings	I	Houses exist in soil	J

Evaluate your responses with the help of worksheet evaluation indicators.

Complete the worksheet satisfaction

Partially completed the worksheet

Need improvement

Part 2

Let us go through the chapter once again.

All living organisms depend on soil either directly or indirectly on soil,air and water. Given below is a table prepared by a child in a science diary related to this concept.

Analyse this table and answer the questions.

Organisms	Air	Soil	Water
Fishes	Breathes the air in the water body.	Water bodies exist in soil.	Lives in water
Birds	Breathes atmospheric air	Acquires food from the soil.	Uses water for drinking.
Plants	Uses air for respiration and photosynthesis	Plants exists by absorbing water and minerals from the soil.	Used for photosynthesis.
Human beings	Breathes air from the atmosphere.	Houses exist in soil .	Used for drinking and other activities.

1. How do the following organisms utilize soil, air and water?

a) Fishes

.....

b) Birds

.....

c) Plants

.....

d) Human beings

.....

Worksheet evaluating indicators

- A) Breathes air in water.
- B) Water bodies exist in soil.
- C) Lives in water.
- D) Breathes atmospheric air.
- E) Acquires food from the soil.
- F) Uses water for drinking and other purposes.
- G) Utilised for respiration and photosynthesis.
- H) Absorbs water and minerals from the soil. Plants exist in soil.

- I) Breathes atmospheric air.
- J) Used for drinking and other purposes.

This is self learning material

NB: Seek the help of your teacher if you have any doubts. Completed worksheet should be submitted to the teacher after self-assessment.

Chapter 6

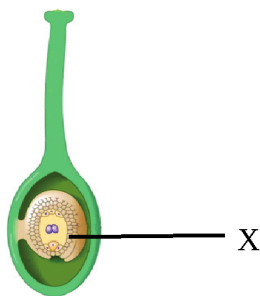
For The Continuity Of Generations

Part 1

This unit includes both sexual and asexual reproduction in organisms including human beings. You have studied about the parts of flower, types of pollination etc in the sixth standard topic “From Flower To Flower”. Try to find out the answers of the following questions based on your previous knowledge, compare your answers with the answer key provided and evaluate your answers.

Worksheet

(1) Identify the part labelled as X in the figure.



- ◆ Pistil
- ◆ Filament
- ◆ Anther
- ◆ Ovule.

(2) Tabulate the flowers given in the box suitably.

Flowers of Pumpkin, Oleander, Clitoria, Bitter guard

Unisexual	Bi-sexual
• •	• •

(3) In which of the following plants pollination take place with the help of due drops.

- ◆ Paddy
- ◆ Pepper
- ◆ Wheat
- ◆ Sugarcane

(4) Choose the correct statement from the following.

(Score1)

- ◆ Fertilization takes place at the stigma.
- ◆ In Aggregate fruit, one fruit from a single flower
- ◆ Apple is an example of composite fruit.
- ◆ Cashew fruit is an example of pseudo fruit.

Evaluate your responses with the help of worksheet evaluation indicators.

Complete the worksheet satisfaction

Partially completed the worksheet

Need improvement

Part 2

Let us go through the lesson once again.

Analyse the information related to reproduction in plants and complete the activities.

Reproduction is the process of production of new generations for the continuity of life. In plants, flowers carry out the process of sexual reproduction. The male reproductive part of a flower is called stamen and the female reproductive part is called pistil. Pistil includes stigma, style and ovary. Anther and filament together constitute stamen. Egg is present in ovule inside the ovary. Male gametes are present in the pollen grains present inside the anther of stamens.

If male and female sex organs present in the same flower -Bisexual flower
example- Oleander, Clitoria

If male and female sex organs present in different flowers-Unisexual flowers
example – Bitter guard, pumpkin

Pollination is the transfer of pollen grains from the anther to the stigma. The factors which help in this process are called agents of pollination.

Butterflies, flies, birds, wind, water etc are examples of pollinating agents. Fertilisation is the fusion of the male and female gamete. Fruits are formed as a result of fertilization. If a single fruit is formed from a single flower is called as a simple fruit.

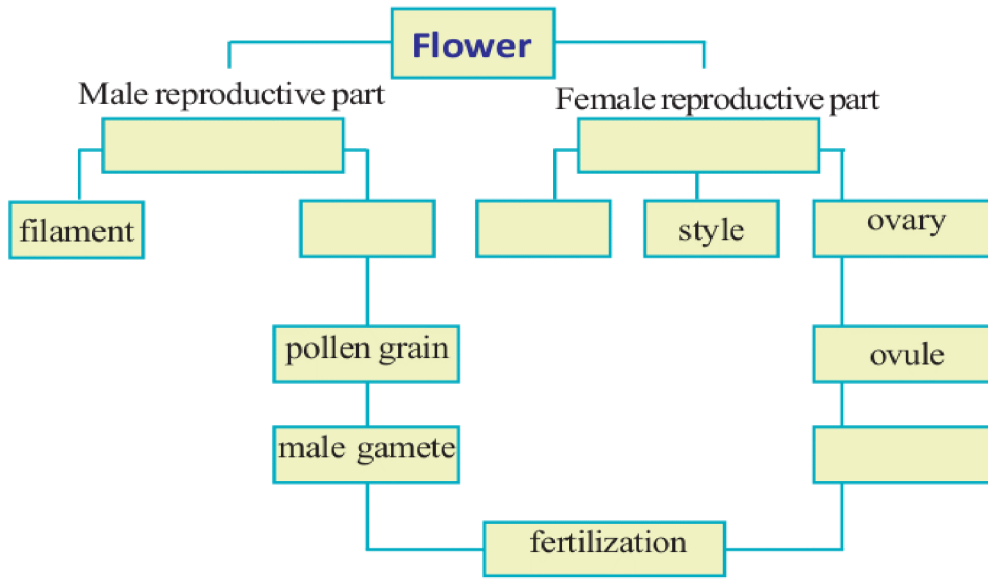
Example-Mango

If more than one fruit is formed from a single flower such fruits are called composite fruits

Example-Custard apple

Activity-1

Complete the following illustrations suitably.



Activity 2

Compare the following with the help of suitable examples.

(a) Unisexual flower, Bisexual flower

.....

.....

.....

.....

(b) Simple Fruits, Composite fruits

.....

.....

.....

.....

Activity 3

Analyse the illustration and answer the questions



(a) Name the process of transfer of pollen grains from A to B

.....

(b) Give examples for the factors which help in the above process.

.....
.....

Worksheet evaluating indicators.

(1) Ovule

(2)

Unisexual	Bisexual
<ul style="list-style-type: none">• Pumpkin• Bitter guard	<ul style="list-style-type: none">• Oleander• Clitoria

(3) Pepper plant

(4) Cashew fruit is an example for pseudo fruit.

This is a self learning material

NB : You can seek your teacher's help to clear the doubts. You can self evaluate the completed work sheet and has to be submitted for teacher's verification