Name - Mamta Class - B.Ed II

Roll No :- 20208040027

Class Roll No :- 29

(2021-2022)

Subject → Biological Science.

LESSON PLAN Notebook.

Name of School G.G.SS. School, KOSLI

From 01-02-2022 To 23-05-2022

TIME - TABLE

Day	I	II	III	IV	V	VI	VII	VIII
MON	Math	Science	Hindi	English	SST	Phy	Hindi	Drawing
TUE	〃	〃	〃	〃	〃	〃	〃	〃
WED	〃	〃	〃	〃	〃	〃	〃	〃
THU	〃	〃	〃	〃	〃	〃	〃	〃
FRI	〃	〃	〃	〃	〃	〃	〃	〃
SAT	〃	〃	〃	〃	〃	〃	〃	〃

ATTENDANCE CHART

School G.G.S.S.School, KOSLI

Class 6th, 7th, 8th.

feb. 2022

Name & Roll	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Preeti	P	A	A	P			P	P	P	P	P	P	X	P	P	P	P	P	P	X
Ankita	P	P	P	P			A	P	A	P	P	P		P	P	P	P	P	P	
Pooja	P	P	P	P			P	P	A	P	P	P	X	P	P	P	P	P	P	X
Neha	P	P	P	P			P	P	A	P	P	P		P	A	P	P	P	P	
Poonam	P	P	P	P			P	P	P	P	P	P	X	A	P	P	P	P	P	X
Ishika	P	P	P	P			P	P	P	P	P	P		P	A	P	P	P	P	
Jyoti	A	A	P	P			P	P	P	P	P	P	X	P	P	P	P	P	P	X
Komal	P	P	P	P			P	P	P	P	P	P		A	A	A	P	P	P	
Kanchan	P	P	P	A			P	P	P	P	P	P	X	P	P	P	P	P	P	X
Mamta	P	P	P	P			P	P	P	P	P	P		P	P	P	P	P	P	
Ekta	P	P	P	P			P	P	P	P	P	P	X	A	P	P	A	P	P	X
Mahima	A	P	A	P			P	P	P	P	P	P		A	P	P	P	P	P	
Monika	A	P	P	P			P	P	P	P	P	P	X	A	P	P	P	A	P	X
Isha	P	P	P	P			P	P	P	P	P	P		P	P	P	P	P	P	
Payal	P	P	P	P			P	P	P	P	P	P	X	P	P	P	P	P	A	X
Geeta	P	P	A	P			P	P	P	P	P	P		P	P	P	P	A	P	
Meeta	P	P	P	P			P	A	P	P	P	P	X	P	P	P	P	A	P	X
Ritika	P	P	P	P			P	A	P	P	P	P		P	P	P	P	A	P	
Ritika.	P	P	P	P			P	A	P	P	P	P	X	P	P	P	P	P	P	X

INDEX

INDEX


MICRO
TEACHING

LESSON No. 1

Date : Duration of Period : 6 Min.
Pupil Teacher's Name : Mamta
Pupil Teacher's Roll No. :
Class : VII Avg. Age of the Pupil :
Subject : Biological Science Topic : Photosynthesis

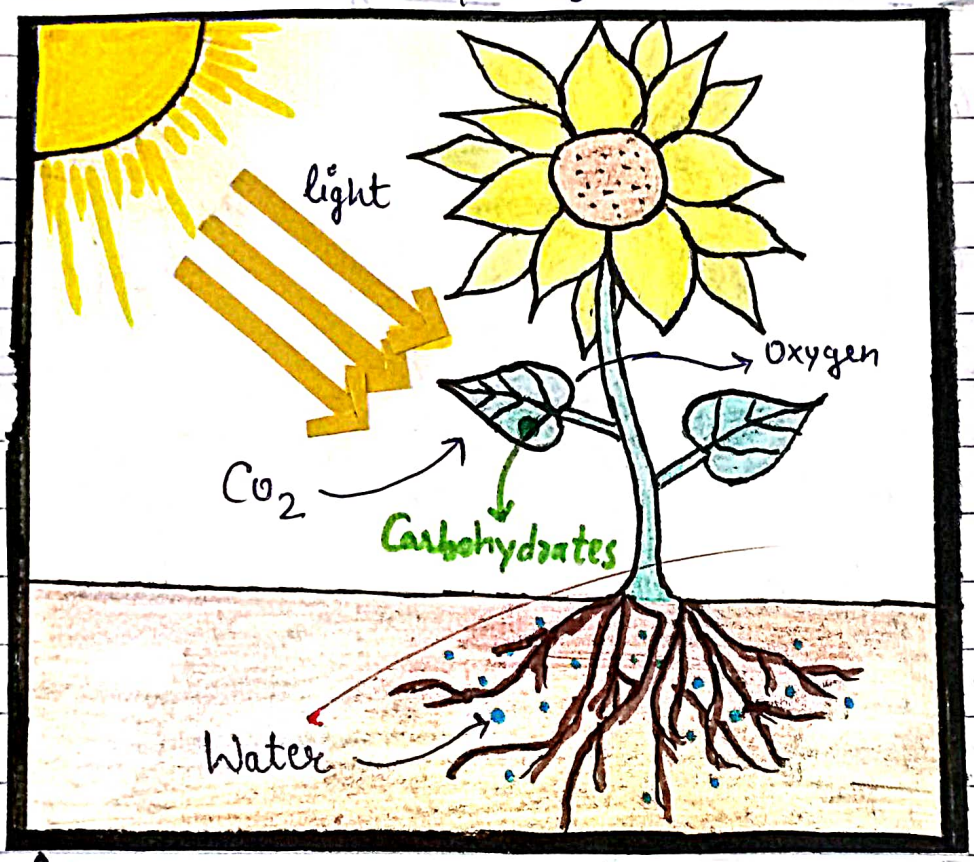
SKILL OF INTRODUCING THE LESSON

- **Previous Knowledge** – Students have general knowledge about the process of photosynthesis.

No.	Pupil Teacher's Activity	Student's Activity	Components
.	Pupil teacher will start her lesson by saying 'Good morning students'.	Good morning ma'am.	Use of Gesture.
.	Who makes food for you at home?	My mother makes food for me.	Preliminary attention Gain
.	Which veg. food do you like?	I like .... [Students will answer their favourite veg. food.]	Arousing interest in students.

Sr. No.	Pupil Teacher's Activity	Student's Activity	Components
4.	What is essential to you for being alive on Earth?	Student's replied - water, food and oxygen are essential for being alive.	
5.	From where do we get the food to eat?	We get our food from plants and animals.	Utilization of previous knowledge.
6.	From where animals get their food?	Animals get their food from plants.	Maintenance of continui
7.	How do plants make their food?	Plants make their food by themselves photosy.	① Questions ar asked in seq ② Continuity
8.	What is the term for these plants who make their own food?	They are called "auto-trophs".	Use of verbal / non verbal behaviou

q.	Which process is used by the autotrophs to make their own food?	No response



ANNOUNCEMENT OF THE TOPIC

Findings the pupils unable to answer the last question, pupil teacher will announce the topic by saying -

"Well Students, today we will start a new topic, "Photosynthesis".

OBSERVATION SCHEDULE CUM RATING SCALE :

Sr. No.	Components	Ratings
1.	Use of Gesture	0 1 2 3 4 (5) 6
2.	Utilization of previous knowledge / experience	0 1 2 3 4 (5) 6
3.	Use of appropriate device/ technique	0 1 2 3 4 (5) 6
4.	Maintenance of continuity	0 1 2 3 (4) 5 6
5.	Use of preliminary attention Gain	0 1 2 3 4 (5) 6
6.	Arising interests in students	0 1 2 3 4 (5) 6
7.	Relevance of verbal and Non-verbal behaviour.	0 1 2 3 4 (5) 6

Lesson No. 2

Date: Duration of Period : 6 Minutes
Pupil Teacher's Name : Mamta
Pupil Teacher's Roll No. :
Class : VI th
Avg. age of the pupil : 10 yrs.
Subject: Biology Topic : Habitat

Skill of Stimulus Variation

Teaching Point	Pupil Teacher Activity	Student Activity	Components
	Pupil teacher will start her lesson by saying 'Good morning Students'.	Good morning mam.	Use of Gesture.
Habitat	Ques: 1.) List down the different animals / plants present in the following table :-		
	[Pupil teacher draws table on Blackboard]	• Students will answer one by one.	4, 7, 8, 1

Surroundings	Animal/Plants
In deserts	Camel, Cactus
on mountains	Sheep, Yak
In forests	Lion, deer
In Ocean, river	Fish, whale

-The place where organism live is called Habitat. Pupil-teacher shows some toys (animals) Ques-2.) Name these animals. -All these animals live on land.	Ans. Dog, Camel, Lion. Students listen carefully.	1,4,6,8
3.) What do we call the animals which live on land?	Ans: Terrestrial Animal.	3,4,6,8
4.) What do we call the animals which live in water?	Ans: Aquatic animals.	3,4,6
5.) Name some animals that can fly?	Ans: Birds, Butterfly.	4,3,1
6.) What are animals that can fly called? So these are diff. habitats on which animals live.	Ans: Aerial animals.	4,3,2

Observation Schedule Cum Rating Scale :

	COMPONENTS	RATING SCALE
1.	Body language	0 1 2 3 4 (5) 6
2.	Use of appropriate Gestures	0 1 2 3 4 5 (6)
3.	Modulation of speech	0 1 2 3 4 5 (6)
4.	Participation of students	0 1 2 3 4 (5) 6
5.	Centralisation / focussing	0 1 2 3 4 (5) 6
6.	Use of pause or silence	0 1 2 3 4 (5) 6
7.	Change in audio-visual sequence	0 1 2 3 4 (5) 6
8.	Change in teacher-student interaction.	0 1 2 3 (4) 5 6

Signature of supervisor

signature of observer.

Skill of Reinforcement

LESSON PLAN No. 3

Date: Duration of Period: 6 min.
Pupil Teacher's Name: Mamta
Pupil Teacher's Roll No: 2020804027
Class: 8th Av. age of Pupils: 12-13 yrs
Subject: Science (Biology) Topic: Microorganisms: friends and foe.

SKILL OF REINFORCEMENT

Sr. No.	Pupil Teacher's Activity	Pupil's Activity	Components
1)	Pupil Teacher will start her lesson by saying "Good Morning Students"	Good morning ma'am.	Use of Gesture
2)	Today's our lecture on the topic - Microorganism. Let's start.	Yes ma'am. We should start.	Use of Gesture. Use of praise words
3)	What is Microorganisms?	A very small living thing.	Use of statement Accepting Pupil's feeling.
4)	Microorganisms can be seen with the help of ..... ?	By Microscope	Raise words Write on chalk Board.

Sr. No.	Pupil Teacher's Activity	Pupil's Activity	Components.
5)	Which is smallest microorganisms ?	Virus.	Use of extra Non-verbal Reinforces.
6)	Microorganisms can be found only in air and water. Is it right? (Very good).	No malam. Also found in Human body or we can say they present every where	Repeating and rephrasing of summarizing pupil's response. Praise words.
7)	Give some examples of microorganisms.	Bacteria, Algae Protozoa etc.	Praise words Proximity.
8)	Microorganisms are good or bad for us?	Both	Praise words.
9)	Who makes soil fertile ?	Microorganisms make soil fertile	Write on Chalk board.
10)	Uses of Microorganisms are →	Use of various purpose - Making Curd, Medicine Use, Help in digestion.	Use of extra Non verbal reinforces • Praise words • Proximity.

OBSERVATION SCHEDULE CUM RATING SCALE :

Sr. No.	Components	Ratings
1.	Use of praise words.	0 1 2 3 4 (5) 6
2.	Use of statement accepting pupil feelings.	0 1 2 3 4 (5) 6
3.	Repeat & Rephrasing summarise pupil's response	0 1 2 3 (4) 5 6
4.	Write pupil response on chalk board.	0 1 2 3 4 (5) 6
5.	Use of Gesture and other Non-verbal action.	0 1 2 3 4 5 (6)
6.	Use of extra-non-verbal reinforcement.	0 1 2 3 4 (5) 6
7.	Don't use negative reinforcement	0 (1) 2 3 4 5 6
8.	Use of proximity	0 1 2 3 4 (5) 6
9.	Don't use discouraging words	0 1 2 3 4 (5) 6

LESSON No.: 4.

Date : Duration of Time : 5-7 mins.
Pupil-Teacher's Name : Mamta
Pupil-teacher's Roll No :
Class : VI th. Av. age of pupils : 11-13 yrs.
Subject : Bio Science Topic : Bacteria and its uses

SKILL OF ILLUSTRATION WITH EXAMPLE

Pupil Teacher's Activities	Pupil's Activities.
• Pupil teacher will start her class by saying, "Good morning students".	Good morning ma'am.
• Students, you have read about micro-organisms. Tell me some examples.	Bacteria, viruses, fungi, protozoa.
• Good, you have read about bacteria. Tell me the different types of bacteria found in our surroundings.	Bacteria are of three types :- 1. Round shape 2. Bacillus / rod shape 3. Spiral shaped 4. Vibrio (Comma shaped)

LESSON No.: 4.

Date : Duration of Time : 5-7 mins.
Pupil-Teacher's Name : Mamta
Pupil-teacher's Roll No :
Class : VI An age of pupils : 11-13 yrs.
Subject : Bio Science. Topic : Bacteria and its uses

SKILL OF ILLUSTRATION WITH EXAMPLE

Pupil Teacher's Activities	Pupil's Activities.
• Pupil teacher will start her class by saying, "Good morning students".	Good morning ma'am.
• Students, you have read about micro-organisms. Tell me some examples.	Bacteria, viruses, fungi, protozoa.
• Good, you have read about bacteria. Tell me the different types of bacteria found in our surroundings.	Bacteria are of three types :- 1. Round shape 2. Baccilus / rod shape 3. Spiral shaped 4. Vibrio (Comma shaped)

- Bacteria are very useful for us. for example, they are used for making curd and cheese from milk. Give some more examples.

No response.

- Many types of medicine are prepared from bacteria. for example - Insulin is prepared from bacteria for diabetic patients.

- We can make many enzymes, vitamins and hormones from bacteria.

- Pupil teacher showing a chart including plant roots having root nodules.

- Some plants have bacteria in their roots. These are called root nodules.

Students will write down.

- Some plants have bacteria in their roots - These are called root nodules. The bacteria present in roots helps to fix nitrogen which is present in the environment and change it into different nitrogenous compound.

- Tell me, does bacteria cause any harmful effects on organisms?

- Bacteria also cause many diseases in human beings.

Students note down in their respective notebook carefully.

- Do you know the name of some important diseases caused by bacteria?

- Do you know the names of some important disease caused by viruses?

No response

- Pupil teachers statement:

Some important disease caused by bacteria are:

1. Pneumonia
2. Typhoid
3. fever
4. Cholera

Thus, bacteria has both positive (+ve) and (-ve) negative effects on human beings.

Students note down carefully.

OBSERVATION SCHEDULE CUM RATING SCALE :

	Components	Ratings
1.	formulating relevant examples	0 1 2 3 4 (5) 6
2.	formulating simple examples	0 1 2 3 4 5 (6)
3.	formulating interesting examples	0 1 2 3 4 5 (6)
4.	Using appropriate media for examples	0 1 2 3 4 (5) 6
5.	Inductive and deductive approach.	0 1 2 3 4 (5) 6

LESSON NO. 5

Date: Dupation of period :
Pupil Teacher's Name : Mamta
Pupil Teacher's Roll No.:
Class : VIII th. Avg. age of pupils :
Subject : Biological Science Topic : food preservation

SKILL OF PROBING QUESTIONS

PUPIL TEACHER ACTIVITY	STUDENT ACTIVITY	COMPONENTS
Pupil teacher will start her lesson by saying "Goodmorning students."	Goodmorning Ma'am.	Gesture.
Pupil teacher ask questions: Q-1. During rainy season, what do you observe on unused bread kept for longertime :	Ans:- Bread's surface gets covered with greyish white patches.	Related with the topic.
Ques-2. what are these patches ? Good.	Ans. These patches are fungus.	• Continuity in Questioning , • To the point Question ; Proper pace & pause , • Appropriate Level.

Ques:3. What happens when micro-organisms attack our food?
[Pupil teacher will give a statement.]
So, there is a need to protect our food from spoiling.

Ans. Micro-org. spoils our food.

Ques:4. Name some food items which stays for longertime without spoiling?
[V. Good]

Food items like Jam, pickle, Sauces, packed milk.

Ques:5. What do we add in while making pickle? What helps pickle to stay for longertime?
[Pupil teacher explains the reason]
→ We use salt and edible oil which prevent it from micro organisms.
→ Items which helps to prevent

Silence

food from attack of micro-organism are called food preservatives.

Ques:-6. Why do we keep our food in the refrigerator?

[Pupil-teacher gives reason]
→ Low temperature inhibits the growth of microbes.

Ans. To protect our food from spoiling we keep our food in refrigerator.

Question related to the mental level.

Equal distribution of Question

Ques:7 How is milk preserved?

Ans. Pasturisation

Suitable no. of questions, Thought Provoking Questions

Ques:8 What do you mean by pasturisation?
— In process of pasturisation, the milk is heated to about 70°C for 15-30 sec. and then suddenly chilled and stored.
— By doing so it prevent the growth of microbes.

Silence.

'Student will listen'.

Problematic Question.

OBSERVATION SCHEDULE CUM RATING SCALE:

Sr. No.	Components	Rating Scale
1.	Clarity in Questions.	0 1 2 3 4 (5) 6
2	Related with the topic	0 1 2 3 4 (5) 6
3.	Continuity in Questioning	0 1 2 3 4 (5) 6
4.	To the point Questions	0 1 2 3 4 5 (6)
5.	Questions related to the mental level	0 1 2 3 4 (5) 6
6.	Proper pace and pause	0 1 2 3 4 (5) 6
7.	Appropriate level	0 1 2 3 (4) 5 6
8.	Not repeating Questions	0 1 2 3 4 (5) 6
9	Suitable no. of Questions	0 1 2 3 4 (5) 6
10.	Equal distribution of Questions.	0 1 2 3 4 5 (6)
11.	Supplementary questions.	0 1 2 3 4 5 (6)
12.	Thought provoking questions	0 1 2 3 4 (5) 6
13.	Problematic questions.	0 1 2 3 4 (5) 6

MACRO TEACHING

LESSON No.: 1

Date: Duration of the period : 40 minutes
Pupil Teacher's Name : Mamta
Pupil Teacher's Roll No.:
Class : VIII Avg. age of the pupil : 12 yrs.
Subject : Biological Science Topic : Heart structure and function.

1. CONTENT ANALYSIS :— (i) INTRODUCTION OF HEART
(ii) STRUCTURE OF HEART
(iii) FUNCTION OF HEART
(iv) ROLE OF HEART IN BLOOD CIRCULATION.

2. GENERAL AIMS :—

(i) To develop the interest of students in life sciences.
(ii) To develop scientific attitude among students.
(iii) To develop the power of observation in the students.

3. INSTRUCTIONAL OBJECTIVES :—

(i) Students will be able to understand structure of heart
(ii) Students will be able to identify the main orgdins related to blood circulation.
(iii) Students will be able to related the functioning of lungs and heart.

(iv) Students will be able to describe veins and arteries.

(v) Students will be able to define structure and function of heart.

4. TEACHING AIDS :-

(i) General Teaching Aids used -
Chalk, Chalk board, duster, pointer etc.

(ii) Instructional teaching Aids used -
Chart showing structure of heart.

5. Previous KNOWLEDGE ASSUMED :-

Pupil teacher assumed that students have some idea about respiration (exhalation and inhalation).

6. Previous KNOWLEDGE TESTING :-

In order to test the previous knowledge, pupil teacher will ask following questions :-

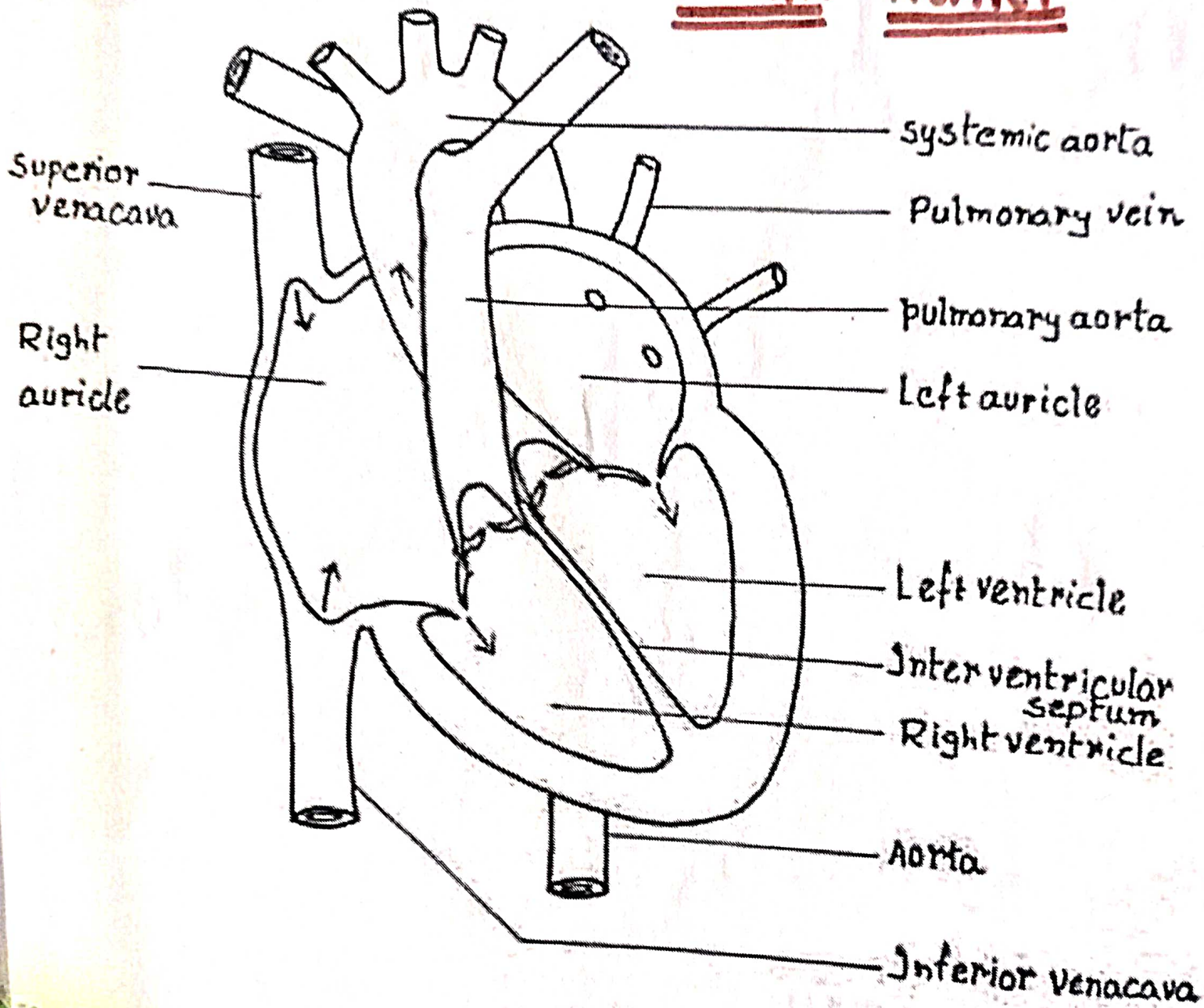
Pupil Teacher's Activities	Pupil's Activities
• Pupil Teacher will start her lesson by saying "Good morning student's."	Good morning ma'am.
• Which gas is most important for human survival?	Oxygen.
• Which organ help in the process of respiration?	Lungs.
• Which organ helps to circulate oxygen through out the body?	No response.

7. ANNOUNCEMENT OF THE TOPIC :—
Finding the pupil unable to answer the last question pupil teacher will announce the topic by saying ", Well, Students today we will study about 'Heart and it's structure.'"

8. PRESENTATION :—
By using explaination method, demonstration method and chart depicting the heart structure, pupil teacher will develop her lesson.

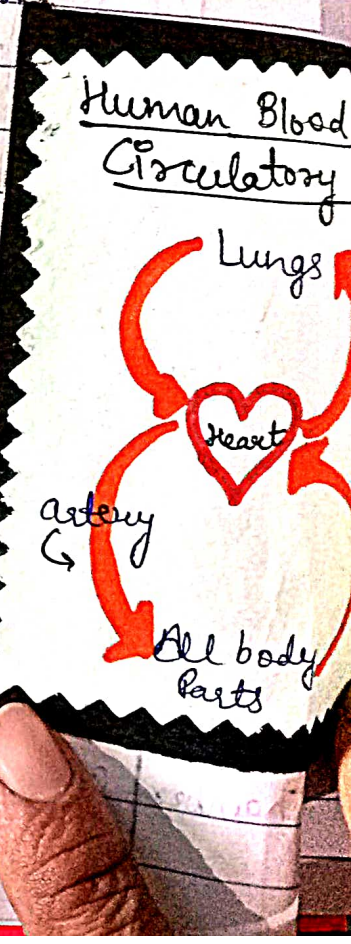
Teaching Points	Pupil Teacher's Activities	Pupil's Activities	Black-Board Work
• Introduction of Heart.	Heart is the most important organ of body and is situated in central of thoracic cavity. Heart is a hollow muscular organ about the size of a fist, which pumps blood in different parts of body.	Students write down carefully.	
• function of Heart	Heart works like a pump. It works continuously without any break, it circulates blood and many other elements through out the body.		
• Developing Question.	What Colour is the heart? [Good]	Red colour.	

HUMAN HEART


systemic aorta
Superior venacava
Pulmonary vein
pulmonary aorta
Right auricle
Left auricle
Left ventricle
Inter ventricular septum
Right ventricle
Aorta
Inferior venacava

Teaching Points	Pupil Teacher's Activities	Pupil's Activities	Black-Board work
• Position of Heart	Heart is located in between the two lungs, slightly tilted to the left. which looks like a close palm.	Students write down.	
Structure of Heart	Heart is a hollow muscle and covered with a double layered membranous bag called Pericardium. There was a fluid is called pericardium fluid. Human Heart's height is 12-13 cm and width is 6 cm. Heart beats is 72-75 times in a minute. Pops 5-7 l. of Blood in a day.	Student will listen carefully. Learning.	
• Heart Chamber	Heart has four chambers. The two upper chambers	listen carefully.	

Teaching Points	Pupil-Teacher's Activity	Pupil's Activity	Board Work
	are called the atria & two lower chambers are called ventricles. The partition b/w the chambers helps to avoid mixing up of blood which is rich in oxygen with the blood rich in CO_2.		
	Ques:- How many chambers present in human heart? [Good].	4	
• Role of Heart in Blood Circulation.	Ques:- How blood circulates in heart? Blood comes into the right atrium from the body, moves into the right ventricle and is pushed into the pulmonary arteries in the lungs. After picking up oxygen, the blood travels back to the heart through pulmonary veins into the left atrium, to the left ventricle and out to the	No response. Students will listen carefully and note down in their notebook.	



body's tissue through the aorta.

9. GENERALISATION :—

It is generalised by the pupil teacher that all students have acquired knowledge about heart structure and its function.

- Our body consists of a muscular pumping organ heart.
- Heart has two atria and two ventricles.
- Heart pumps oxygenated blood and other vital substances to different parts of the body.

10. RECAPITULATION :—

In order to recapitulate pupil teacher will ask the following question :—

(i) What pumps blood through your body ?
(ii) What is pericardium ?
(iii) What is heart and it's function ?
(iv) Which is the path of blood circulation ?

11. HOME WORK :—

(i) Write down important organ's name which help in circulating pathway.

(ii) Draw a well labelled diagram of a human heart.

(iii) Distinguish between Arteries and Veins ?

(iv) How the process of blood circulation is carried out ?

12. CONTEXT :—

NCERT Science Notebook of Class VIII is

Signature of observer

LESSON No.: 2

Date: Duration of period : 40 minutes
Pupil/teacher's Name : Mamta
Pupil teacher's Roll No.:
Class : VII Avg. age of the pupil : 12 yrs.
Subject : Life Science Topic : Respiration
(Biological Science)

1. CONTENT ANALYSIS :- (i) Definition of Respiration
(ii) function of Respiration.
(iii) Types of Respiration
(iv) Respiration in animals.

2. General AIMS :—
(i) To develop scientific attitude among students.
(ii) To develop thinking and reasoning ability.
(iii) To provide scientific observation and creativity among students.

3. INSTRUCTIONAL OBJECTIVES :—
(i) The students will be able to know about respiration and it's function.
(ii) The students will be able to recall the types of respiration.
(iii) The students will be able to differentiate b/w aerobic and anaerobic respiration.

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(iv) The Students will be able to understand the different ways of exchanging gases in different organisms.

4. TEACHING AIDS :-

(i) General Teaching Aids used :-
Chalk, duster, Black-board etc.

(ii) Instructional Teaching Aids used :-
Chart showing different organs in animals.

5. PREVIOUS KNOWLEDGE ASSUMED :-
It is pre-assumed by the pupil-teacher that students have previous knowledge that we breathe in Oxygen.

6. PREVIOUS KNOWLEDGE TESTING :-

In Order to test the previous knowledge of the students, pupil-teacher will ask the following questions :

Pupil Teacher's Activity	Pupil's Activities.
• The pupil teacher will start the lesson by saying, "Good morning Students".	Good Morning ma'am.
• Which gas is inhaled by us during breathing. ?	Oxygen.
• Where does the blood get oxygen and what does it do with oxygen?	Blood gets Oxygen from atmosphere and transport to various parts of body.
• What is name of process of acquiring oxygen from atm.?	Breathing
• How do we get energy from food ?	By the Oxidation.
• What is the name of process ?	No response
• What is name of the organs for Breathing ?	No response.

7. ANNOUNCEMENT OF THE TOPIC :-

On finding the students unable to answer the last 2 Questions, pupil-teacher will announce the topic by saying, " Well Students, today we shall studying about Respiration.

8. PRESENTATION OF TOPIC :—

The lesson will be discussed with the help of lecture cum demonstration method and pupil-teacher will develop her lesson in the classroom.

Teaching Points	Pupil Teacher's Activities	Pupil's Activities	Black-Board Work
Breathing	• What is Breathing?	It includes the inspiration of Oxygen and expiration of CO_2 in air.	Breathing Inhale → fresh air (Oxygen) exhale → foul air (CO_2)
Definition of Respiration	Ques→ What is Respiration ? [Explain]	No response	

It is a biochemical process of exchange of environmental oxygen with CO_2 in cells.
• Involves oxidation of food to CO_2, H_2O and energy.
Energy is released is converted in the form of ATP molecules.

Students write down.

• What are the functions of Respiration?
• Respiration helps in interchange of gases, maintenance of circulation and temperature regulation.

Exchange of Gases.

function of respiration

What is the organ name by which respiration occur?
Lungs.
A pair that lie in the thoracic cavity on the side of heart thoracic cavity & is closed below diaphragm.

No response

Students listening carefully.

• What are the types of respiration?

Silence.

Teaching points	Pupil teacher activities	Pupil's Activities	Blac
Types of respiration	Respiration is of two types :- (i) Aerobic (ii) Anaerobic (i) Aerobic : food is oxidized in the presence of O_2. large amount of Co_2 and energy are released (ii) Anaerobic : food is oxidized in the absence of O_2. less amount of energy is formed. lactic acid is generated. ex. → Yeast	Students listen carefully.	
Respiration in animals.	Ques: How does respiration occur in Amoeba ? Amoeba respire by the process of diffusion. If the conc. of	No response Student's listen carefully.	

ing ts	Pupil-teacher Activities	Pupil's activity	Black-Board Work
	Co_2 becomes more inside the cell - then it diffuses out through the cell membrane viceversa happens with O_2. If the conc. of oxygen is less inside the cell and more outside the cell then, then O_2 diffuses inside the cell through cell membrane. This process does not require any ATP ie no energy is needed.		
	Q→ Name the respiratory organ in Grasshopper. • Exchange of gases in insect takes place through tracheal system. There are small pores present on the body which lead to trachea and further branches into the branchioles. O_2 is absorbed & CO_2 is expelled out through the branchioles.	No response Student's listen carefully.	

9. GENERALISATION :-

It is generalised that students acquired the complete knowledge of respiration.

- They have learned about respiration and functions of respiration.
- They have understood the types and definition of aerobic and anaerobic respiration.
- They know the how respiration takes place in certain animals.

10. RECAPITULATION :-

(i) Define respiration.
(ii) List various functions of respiration.
(iii) Name the organs responsible for the respiratory process in grasshopper and in amoeba.
(iv) Distinguish between Aerobic respiration and anaerobic respiration.

11. HOME WORK :

(i) Name the openings present in grasshopper, which one is meant for exchange of gases ?

(ii) Differentiate the aerobic respiration and anaerobic respiration ?

(iii) How many types of respiration. Expain ?

12. CONTEXT :
NCERT Science Book of Class VII.

Signature of Observer.

3. Instructional Objectives :

(i) Students will be able to learn about the term "compost".

(ii) Students will be able to tell about the seating wastes.

(iii) Students will be able to tell about 'vermicomposting'.

(iv) Students will be able to tell about the solution and the garbage related problems.

4. Teaching Aids :

(i) General teaching Aids :
Chalk, Board, duster, pointer etc.

(ii) Instructional teaching Aids :
Chart showing the different types of Garbage.

5. Previous Knowledge Assumed :

It is assumed that students should have some basic knowledge related to the garbage, types and maintaining the cleaniness in our surroundings.

6. PREVIOUS KNOWLEDGE TESTING :

IN order to introduce the lesson, pupil-teacher will ask the introductory questions to the students to test their previous knowledge :

Ques-1. What do you mean by rag picking ?
Ques-2. Where the all wastes of our home goes ?
Ques-3. What is the responsibility of every citizen of the country.
Ques-4. What is the aim of 'Swach Bharat Abhiyan' ?
Ques-5. What is done with all the garbage collects from the various places ?

7. ANNOUNCEMENT OF TOPIC :

As the students become unable to answer the last question asked by the pupil-teacher. Now teacher will announce the topic :
Well students ! Today we are going to discuss about the "Garbage in and Out Garbage out".

8. PRESENTATION :

By using lecture method and questioning demonstration method. pupil – teacher will start her lesson in the classroom.

Teaching Points	Pupil/teacher's Activity	Pupil's Activity	Black Board
• Waste Material	Ques: What do you mean by waste or How can you describe waste ?	Anything which is not use is known as waste.	
• Classification of Waste	The waste material, on the basis of their consistency is of two types : • Solid Waste • Liquid Waste	Listen Carefully & Notedown in their Notebook.	
• Types of Waste	On the basis of their decomposition, waste is of two types : • Biodegradable Waste • Non-Biodegradable Waste.		

Teaching Points	Pupil/Teacher's activities	Pupil's activities	Black-Board Work.
Bio-degradable waste	The waste material which can not be breakup into the simpler substances or decomposed is said to be the Biodegradable waste material. Ques:- Give me an example of Bio-degradable waste ?	listen carefully. Plants residues, kitchen waste or paper etc.	
Non-bio-degradable waste.	The waste material which cannot be breakdown into simpler substances are said to be non-biodegradable waste. Ques: Give me an example of Non-biodegradable waste ?	Plastic, Bottle, glass Polythene etc.	
Renewable and Non-renewable waste.	Ques: What do you mean by renewable & non-renewable waste ? The waste material which can be used again,	No response	

Teaching content	Pupil teacher's activities	Pupil's activities	Blackboard
	after recycling is said to be renewable. Does? Give me an example?	like the vegetables peels etc.	
Non-renewable waste.	And the material which can't be used further is non-renewable waste. example: Plant waste as manure is used.	listen carefully.	
Composting	The process of the conversion of Bio-degradable solid waste into Compost is k/as Composting.	Listen & write carefully.	
Vermi-composting	The process of Composting through the earthworms is k/as vermi-composting.	Students listen carefully.	

Teaching points	Pupil-teachers activities	Pupil's activities	Blackboard work.
Recycling	The process of the collecting waste material & processing them to make new products are called 'Recycling'. ex: plastic waste, household waste etc.	Note down in their Notebook.	
Reuse	The things or waste material which can be used again is said to be reuse the material Ques:- Name some things which you reuse?	Plastic Polythene, Pots etc.	

9. RECAPITULATION :

In order to revise the taught lesson, pupil-teacher will give short summary to the students

1. Landfill is an area where all the garbage is collected from the city is dumped.
2. Converting plants & animals waste including from kitchen into the manure is composting.

3. Paper can be recycled to get useful products.

4. Plastic can be composting to less harmful substances.

10. HOMEWORK :

(i) Differentiate between Biodegradable and Non-biodegradable waste.

(ii) Define vermicomposting.

(iii) Name the organisms used for vermicompost

(iv) What are the disadvantages of plastic?

11. CONTEXT :

NCERT Science book of VI class.

3. Paper can be recycled to get useful products.

4. Plastic can be composting to less harmful substances.

10. HOMEWORK :

(i) Differentiate between Biodegradable and Non-biodegradable waste.

(ii) Define vermicomposting.

(iii) Name the organisms used for vermicompost

(iv) What are the disadvantages of plastic?

11. CONTEXT :

NCERT Science book of VI class.

LESSON No.: 4

Date:
Time of period: 35-40 minute
Pupil-teacher's Name: Mamta
Pupil teacher's Roll No.
Class: VII
Avg. age of the pupil: 11 yrs
Subject: Life Science
(Biological Science)
Topic: Digestive System in Humans.

1. CONTENT ANALYSIS:

(i) Introduction of Digestion.
(ii) What is digestive System?
(iii) Parts and functions of Digestive System.

2. GENERAL AIMS:

(i) To develop scientific attitude among students.
(ii) To develop power of observation and critical thinking.
(iii) To develop interest of the students in life science.

3. INSTRUCTIONAL OBJECTIVES:

(i) Studests will be able to know the different parts of digestive system.
(ii) Students will be able to know the various functions of different parts of Digestive System.

(iii) Students will be able to correlate different functions of organs.

(iv) Students will be able to know the basic definition of digestive system and its function.

4. TEACHING AIDS USED :

(i) General Teaching Aids :- Chalk, duster, pointer

(ii) Instructional Teaching Aids :
chart showing digestive System.

5. PREVIOUS KNOWLEDGE ASSUMED :

Pupil teacher assumed that the pupil would have an idea about digestion.

6. PREVIOUS KNOWLEDGE TESTING :

In order to test pupil's previous knowledge, pupil teacher will ask the following questions :

Pupil-Teacher's Activities	Pupil's Activities
• Pupil teacher will start her lesson by saying, "Good Morning students."	Good morning ma'am.
• Think about the last thing you ate. What was it?	food.
• What are the important sources of food?	Carbohydrates, protein, fats etc.
• What do you think happened to that food after you ate it?	No response.

7. ANNOUNCEMENT OF THE TOPIC :
Finding pupil unable to answer the last question; pupil teacher will announce the topic by saying, "Students will study about digestive System, its parts and their functions today."

8. PRESENTATION :
By explanation method, demonstration method and Chart showing digestive system diagram

Teaching Points	Pupil-Teacher Activities	Pupil's activities	Black-Board Work.
• Introduction	We intake food in a raw state but food is required to be digested in smaller parts to get absorbed.	Student's listen carefully.	
• Definition	Digestion is a process by which food is broken down into smaller parts and get absorbed in body. All those parts which help in digestion are important parts of digestive system.		
Parts of Digestive System.	Parts of digestive system and their functions.		
• Mouth	Mouth is a primary part and mainly salivary glands are present in them which convert starch into glucose.	Students note in their notebook.	

ching oints	Pupil-Teacher Activities	Pupil's activities	Black-board work
d pipe	This is 10cm long tube like structure which carries food.		
tomach	This is a bag like structure. Two main enzymes (resin & pepsin) are present. Gastic juices located in the walls of the stomach help to break down food.	Listen carefully.	
uodenum.	This is 'C' shaped organ. Bile juice from liver and pancreas produce pancreatic juice enters into this part of small intestine.		
Small ntestine	This is almost 6m. long and 1 inch in diameter. The nutrients are absorbed in small intestine. Villi are most important structure for food absorption.	Students note in their notebook;	
large Intestine	It is 6 ft. long 2.5 inch in diameter. Water is absorbed here.		

• Liver	located on the right side of the belly. And a small pouch called gall bladder is associated with it. Bile juice is produced and secreted by the Liver.
• Rectum.	Undigested food passes through it.

9. GENERALISATION :

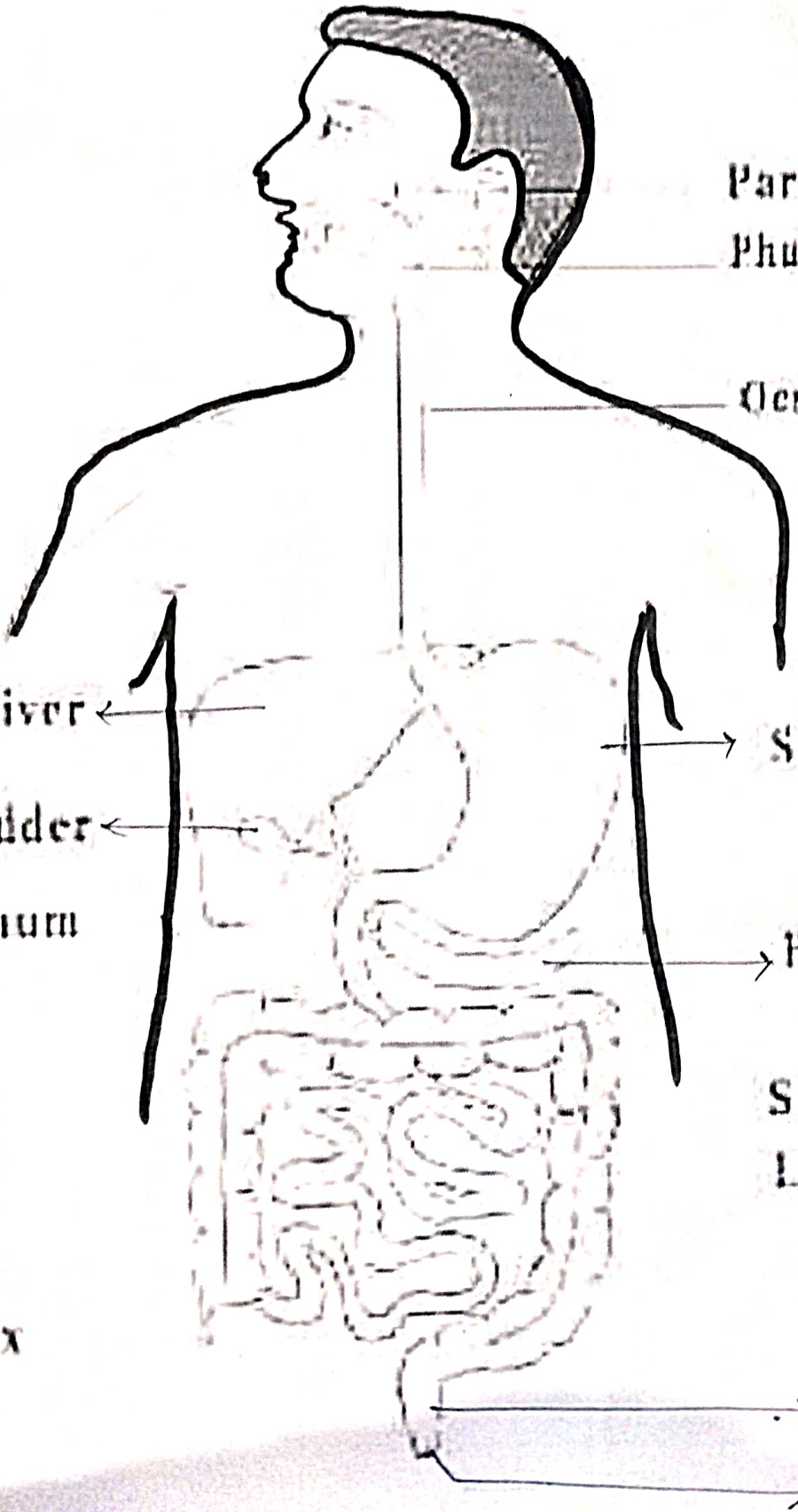
It is generalised by the pupil-teacher that students have aquired the knowledge about Digestive System.

10. RECAPITULATION :

In order to achieve recapitulation pupil-teacher will ask the following questions :

(i) What is digestive System ?
(ii) What are the important part of Digestive System ?
(iii) State the function of stomach.

Human digestive system



11. HOME WORK :

(a) Where is gall bladder situated ?
(b) What are the functions of small intestine ?
(c) Draw the diagram of digestive System ?

12. CONTEXT :

NCERT VII Science Book.

LESSON NO. : 5

Date: Duration of period : 35-40 minutes

Pupil Teacher's Name : Mamta

Pupil Teacher's Roll No. :

Class : VIII th.

Avg. age of the pupil : 11-12 yrs.

Subject : Biological Science Topic : Flower

1. CONTENT ANALYSIS :

(i) Flower
(ii) Parts of a flower
(iii) Functions of a flower.

2. GENERAL AIMS :

(i) To develop the interest of students in Life Science.
(ii) To develop the scientific attitude and observation in the students.
(iii) To provide an opportunity to develop scientific skills to the students.
(iv) To help the students to use the fact and priingment of life science in day to day life.

3. INSTRUCTIONAL OBJECTIVES :

(i) The students will be able to recall the various parts of a flower.
(ii) The students will be able to recognise the reproductive parts of a flower.

(iii) The students will be able to explain the functions of different parts of flower.

4. TEACHING AIDS :

(i) General Teaching Aids : Chalk, Board, Pointer
(ii) Instructional Teaching Aids : Chart showing various parts of flower, Hibiscus flower.

5. PREVIOUS KNOWLEDGE ASSUMED :

It is pre-assumed by the pupil Teacher that students have some knowledge about flower.

6. PREVIOUS KNOWLEDGE TESTING :

In order to test the previous knowledge of the pupil, the pupil Teacher will ask following questions:

PUPIL'S-TEACHER'S ACTIVITIES	PUPIL'S ACTIVITIES
Good morning students	Good morning ma'am.
(i) Can you tell me some names of flower?	Rose, Tulip, Hibiscus etc.
(ii) What is the most beautiful part of a plant ?	flower
(iii) Name the various parts of a flower.	No response

7. ANNOUNCEMENT OF TOPIC :

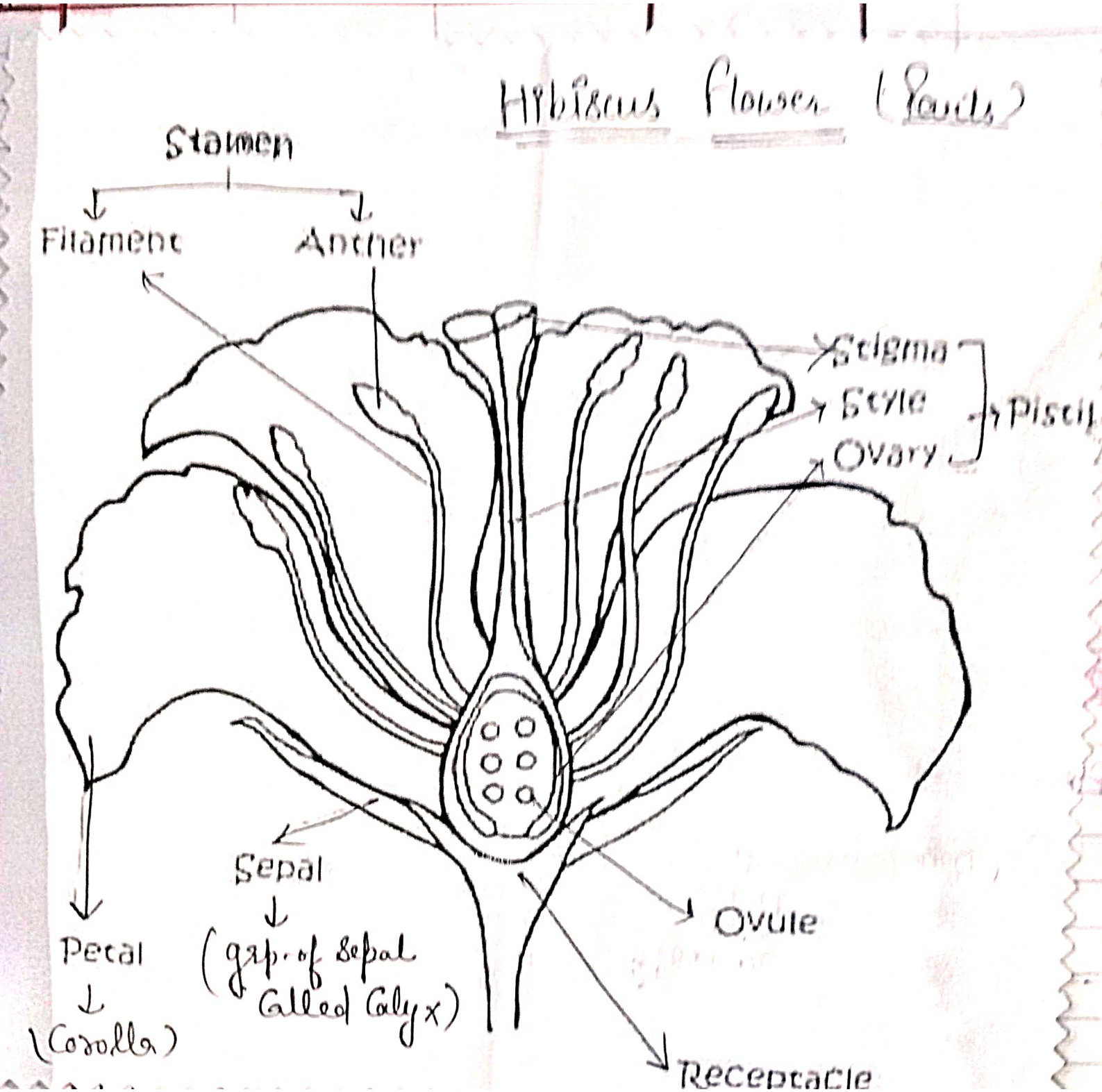
Well Students ! Today we shall study about different parts of flower and their functions.

8. PRESENTATION OF THE TOPIC :

The pupil-Teacher will start or develop the lesson by using lecture cum demonstration method and showing chart depicting parts of a flower.

Teaching Points	Pupil-Teacher Activities	Pupil's Activities	Black-Board Work
• FLOWER	The pupil teacher will tell the students that flowers are the reproductive organ of a plant.	Pupil will listen carefully	
PARTS of FLOWER	There are different parts of a flower:		
• PEDICEL	The lower portion of a flower is pedicel. It is the most important part. It holds the flower and connect with its branch of the plant		
• CALYX	The Students will be shown the calyx and then asked "how is this part helpful to plant?	It holds the flower	
	Just above the pedicel there is a round bowl shaped group of green		

Hibiscus Flower (Female)



Teaching Points	Pupil Teacher Activities	Pupils Activities	Black-Board Work
	leafs present at the base of a flower and also sepals part grouped together is called calyx. It protect the flower, but holds it firmly and later holds the ovary firmly.	Students will listen carefully and write in their notebook.	
• Corolla	Corolla is the bunch of coloured petals. They attract insects such as butterfly which helps in pollination.		
STAMEN	Pupil teacher will tell the students that in the middle part of the sepals there are long filaments they are thread like structures with a circular structure anther at the top. They contain pollen grains in them.	Students listen carefully.	flower (cut shape)

Teaching Points	Pupil-Teacher's Activities	Pupil's Activities	Black Board Work
	which are bearing male gametes for the formation of seeds.		
• CARPEL	The carpel of the flower is present in the centre. The carpels contain the pistil a the female reproductive part of the flower. It comprises → the ovary → the style & the stigma	Students listen and write down in their Notebook.	
FUNCTIONS OF FLOWER	• Flower attract insects. • Flower provide nectar to certain birds & insects • Flower may develop into a fruit containing seeds. • The most important function of flower is reproduction.		

9. GENERALISATION :

It is generalised by the pupil teache that students have acquired the knowledge ab parts of a flower and its functions.

10. RECAPITULATION :

In order to revise the taught lession, pupil teacher will ask the following recapitulatory questions :

(i) What are the different parts of flower ?
(ii) What are the functions of coloured petals of flower ?
(iii) Which part of the flower is called stigma & what is its function in the life of a flower ?

11. HOMEWORK :

(i) Draw a diagram of a flower and Label its part :
(ii) Which is the male reproductive and female reproductive part of a flower ?

12. CONTEXT :

NCERT SCIENCE Book.


DISCUSSION
LESSON. I

Discussion Lesson No.: I

Date: Duration of period : 35-40 minutes.
Pupil Teacher's Name : Mamta.
Pupil Teacher's Roll No. :
Class : VIII Avg. age of the pupils : 13 yrs.
Subject : Life Sciences Topic Biotic and Abiotic components

1. General Aims :

(i) Introduction of biotic and abiotic components
(ii) Features of biotic and abiotic components
(iii) Examples.

2. General Aims :

(i) To develop scientific attitude and interest among the students.
(ii) To develop scientific thinking, reasoning and imaginations among the students.
(iii) To develop scientific creativity and skills
(iv) To develop scientific observation and power among students.

3. Instructional Objectives :

(i) Students will be able to identify and compare the biotic and abiotic factors.

(ii) Students will be able to differentiate biotic and abiotic things.

(iii) Students will be able to know about basic needs of living thing organisms.

(iv) Students will be able to understand the different things found in our environment.

(v) Students will be able to categorise the biotic and abiotic components.

4. TEACHING AIDS:

(i) General teaching aids: Chalk, duster, pointer, markers etc.

(ii) Instructional teaching Aids: Chart showing the biotic & abiotic components.

5. PREVIOUS KNOWLEDGE ASSUMED:

It is assumed that students should have some basic knowledge about the organisms found in Ecosystem.

6. PREVIOUS KNOWLEDGE TESTING:

To introduce the lesson, pupil teacher

will ask the following introductory questions to the students:

1. How you people are different from me-table in the classroom?
2. Can plants move?
3. Why plants can't move?
4. Can you give forms to yourself and objects in the classroom. How they are different from each other?

7. ANNOUNCEMENT OF THE TOPIC:

Well students! Today we are going to discuss about "Biotic and Abiotic components of our ecosystem."

8. PRESENTATION:

Pupil-Teacher used lecture cum demonstration method to develop her lesson. Also showing charts to the students.

Teaching Points	Pupil-Teacher Activities	Pupil's activities	Black Board work
Living	Ques: What do you mean by the living organisms?	The organisms who respond to the stimuli present	

Teaching Points	Pupil-Teacher's activities	Pupil's activities	Black-Board Work
		In environment	
• Basic Needs.	All living and non-living organisms depend on the things for survival.		
	Ques: What are that things?	Food, Air Water, Plant etc	
• Environment	Our environment is made up of two components: 1) Biotic components 2) Abiotic components	Listen carefully.	
• Biotic Components	Ques:- What do you mean by biotic component? Biotic means living. These are those components that have life. Name some biotic components.	No response Human, animals, Plants etc.	

Leading Points	Pupil-Teacher's activities	Pupil's activities	Blackboard work
Features of Biotic Components	The features of biotic components are : 1) They can grow. 2) They can reproduce and can perform the locomotory activity.	Listen carefully	
	All the living organisms or things in our environment are known as Biotic Components.	Write in their Notebook.	
• Examples of Biotic Components	There are the following types : Plants, Animals, Micro-organism, Decomposers, Scavengers.		
• Abiotic Component	Ques : What do you meant by abiotic component? Yes, Non-biotic means non-living. These are those that do not have life. But have one effect on the living organisms and things.	These are the non living things.	

Teaching Points	Pupil-Teacher activities	Pupil's activities	Blackboard work.
• Features of Abiotic components.	Tell me the features of Abiotic components as you observe? Yes, right. The abiotic organisms are not able to move by themselves. They can't reproduce. They can't grow.	Non-motile No-growth	
• Examples or Types of Abiotic Components	Ques: What are the types of things come under the abiotic component? • All the non-living things in our environment present are abiotic. Examples: Soil, Air, Light, Water, Temperature etc.	Write in their Notebook.	
• Ecosystem	The environment where all the living and non living components interact, is called ecosystem.		

9. GENERALISATION :

It is generalised by the pupil teacher that students have acquired the knowledge about "biotic and abiotic components and their features and examples".

10. RECAPITULATION :

In order to revise the taught lesson, pupil teacher will ask the recapitulatory questions to the students :

(a) What do you mean by biotic and abiotic components ?
(b) Can you give me the names representing the biotic components ?
(c) Define ecosystem.

11. HOME WORK :

(a) What is Environment ?
(b) Define the categories of the biotic components ?
(c) What are the main features of the abiotic components ?
(d) Do all the living organisms are biotic components. perform locomotory actions ?

12. CONTEXT : SCIENCE BOOK.


REAL
TEACHING

LESSON No. : 1

Date : Duration of period : 40 minutes
Pupil-teacher's Name : Mamta
Pupil-Teacher's Roll No :
Class : VIII Avg. age of the pupil : 12-13 yrs.
Subject : Biological Science Topic : Vascular System

1. CONTENT ANALYSIS :
(i) Vascular System
(ii) Functions of Xylem
(iii) Absorption of Minerals.
(iv) Functions of Phloem.

2. GENERAL AIMS :
(i) To develop scientific attitude among students.
(ii) To develop power of thinking and reasoning.
(iii) To provide ample amount of opportunities to the student to develop scientific skills.

3. INSTRUCTIONAL OBJECTIVES :
(i) The students will be able to know about functions of xylem.
(ii) They will be able to recognize the transport of water in plant.
(iii) They will be able to explain the process of absorption.
(iv) The students will be able to differentiate between xylem and phloem.

4. TEACHING AIDS USED :

(i) General Teaching aids used :
Chalk, duster, pointer, etc.

(ii) Instructional Teaching aids :
Chart showing transport system in plants.

5. PREVIOUS KNOWLEDGE ASSUMED :
It is pre-assumed by the pupil-teacher that students have previous knowledge about the plants take in water from roots.

6. PREVIOUS KNOWLEDGE TESTING :
To test the previous knowledge of the students pupil-teacher will ask the following questions :

Pupil-Teacher's Activities	Pupil's Activities
Pupil teacher will start her lesson by saying, "Good morning students."	Good Morning ma'am.
• From where do we get food ?	We get food from plant.

• Now tell me, how do plants get water and food?	Plants get water from roots and food from leaves.
• What is name of system by which plants carry water and food?	No response.

7. ANNOUNCEMENT OF THE TOPIC :

Finding the students unable to answer the last question, pupil teacher will announce the topic by saying, " Well students, today we will study about transportation of water and food in plants."

8. PRESENTATION :

The lesson will be discussed with the help of lecture cum demonstration method and pupil teacher will start her topic:

Teaching Points	Pupil Teacher's Activities	Pupil's activities	Chalk-board work.
Vascular System	Plants have well developed transport system called vascular system	Students listen carefully	VASCULAR SYSTEM • Plants have well developed transport system;

Teaching Points	Pupil-Teachers Activities	Pupil's activities	Black-Board Work
	which extends from the root to the tip of the leaves. It is composed of xylem and phloem.	Listen Carefully.	Called vascular system. It is composed of Xylem and Phloem.
	What is xylem? Well, Xylem consists of tracheids and vessels, Xylem fibres and xylem parenchyma.		
function of Xylem.	What are the functions of Xylem? - Absorption of water from the soil by root hair. Root hair are in the close contact with the surrounding soil particles. Water moves from the root hair to the root tissue and then in Xylem, the water absorbed moves upward to the stem through Xylem.	Student's listen Carefully and write down in their Notebook.	FUNCTION Xylem- Absorption of water from the soil by root hair

Teaching Points	Pupil-teachers activities	Pupil's activities	Chalk-Board Work
• Absorption of Minerals	• What do you mean by absorption of minerals ? • Absorption of minerals also occurs through soil in the same way as water enters the xylem. But the upward movement containing dissoved minerals is called " ascent of sap. "		
• function of Phloem.	Describe the function of Phloem. • Phloem carries the food prepared by leaves down wards to different parts of plants.	No response Students listen carefully	FUNCTION :- Phloem : It carries the food prepared by leaves downwards to different parts of Plants.
• Translocation of food.	What is translocation of food ? • The transfer of food from leaves to other parts of the plant is called translocation. The carbohydrates synthesized	No response. Students listen carefully.	TRANSLOCATION of food The transfer of food from leaves to other parts of the plants is called translocation.

Teaching Points	Pupil/teacher activities	Pupil activities	Chalk Board work
• Translocation of food.	In the leaves at shoot tip are transported to the other parts of plants through phloem. Food molecules enter the phloem cells from mesophyll cells of the leaves. After entering the phloem, the food moves in upward and downward direction to other parts of the plant.	Students Note down in their NoteBook.	food molecules enters the phloem cells from mesophyll cell of the leaves, After entering the phloem, the food moves in upward and downward direction to the other parts of the plants.

9. GENERALISATION :

It is generalised that the students have a complete knowledge of vascular system and knows the functions of xylem and phloem.

10. RECAPITULATION :

In order to revise taught lesson, pupil-teacher will ask the following questions :

(i) How are water and minerals transported in plants?
(ii) How is food transported in plants?
(iii) fill in the blanks :
(a) Xylem helps in the transportation of .....
(b) Phloem helps in the transportation of .....

11. HOME WORK :

(a) What do you mean by ascent of sap?
(b) Explain the functions of xylem and Phloem?
(c) Draw a diagram to show the functions of xylem and phloem.

12. CONTEXT :

NCERT VIII Science Book.

• Where do we find microbes ?	Microbes are found everywhere ; In air, water, soil etc.
• Give some examples of microbes categorized under protozoans.	No response.

7. ANNOUNCEMENT OF THE TOPIC :

Well students ! Today we will discuss about the protozoans.

8. PRESENTATION :

By using explanation method and with the help of chart, the pupil teacher will start her lesson :

Teaching points	Pupil teacher's Activities	Pupil's activities	Black Board Work
• What is Protozoa?	Protozoans are the most ancient micro-organisms found on earth. These are so small that we cannot see without the help of microscope.	Students listen carefully.	PROTOZOAN Protozoans are the most ancient micro organisms.

Teaching Points	Pupil Teacher's activities	Pupil's activities	Chalk Board Work.
• Size and structure of Protozoa	Protozoa are unicellular microorganisms. The cell wall is not found in protozoans. The size of the protozoans varies from 2. to 200μm.		Types of protozoa 1. Flagellate 2. Amoeboid 3. Ciliates 4. Sporozoa
• Types of Protozoa	four types of protozoan are found the basis of their size and structure:		
1. Flagellates.	Thread like protozoa - A thread like protozoa / strand is found in the body of protozoans. these are called flagella. They help in the movement and locomotion of the protozoans. eg: Euglena, Typanosoma etc.	Students listen carefully and write in their Notebook.	
2) Amoeboids	There is no definite shape and pellicle is absent. They have foot like structure which help in movement and food absorption. eg: amoeba, entamoeba etc.		

Teaching Points	Pupil Teacher's activities	Pupil's activities	Chalk-Board work.
3) Ciliates	• They have fixed shape due to covering of pellicle. • They may have tentacles. • They move with the help of cilia and the movement of cilia also help in taking food inside Eg:- Paramoecium, Vorticella.		
4) Sporozoa	• They are endoparasitic. • They don't have any specialised organ for locomotion Eg:- Plasmodium.		
• Harmful Effects of Protozoa	Harmful protozoa causes many diseases. • Trypanosoma - Sleeping Sickness (African) • Entamoeba - Diarrhoea.	Students will listen carefully. Write down in their Notebook.	
• Benefial Protozoans	• They live in symbiotic relationship with their host. Eg:- A protozoan found in the intestine of termites helps		

HARMFUL EFFECT OF PROTOZOA

- Trypanosoma African - (Sleeping Sickness)
- Entamoeba - Diarrhoea

BENEFITS

- A protozoa in intestine of termites help in digestion.

in the cellulose digestion.

9. GENERALISATION :

It is generalised by the pupil teacher that now students have required knowledge about protozoa.

10. RECAPITULATION :

In order to recapitulate, the pupil teacher will ask following questions :-

(i) What is the size of protozoans ?
(ii) Describe flagellates ?
(iii) What are the types of protozoans ?

11. HOMEWORK :

(i) What are protozoans ?
(ii) What are the harmful and beneficial effects of protozoans ?
(iii) Draw amoeba.

12. CONTEXT :

NCERT SCIENCE BOOK.

LESSON No.:3

Date: Duration of period: 35-40 minutes
Pupil-Teacher's Name : Mamta
Pupil-teacher's Roll No. :
Class : VII
Avg. age of pupil: 11 yrs.
Subject : Biological Science.
Topic : Asexual reproduction

1. CONTENT ANALYSIS :

Asexual Reproduction
- Fission
- Budding
- Fragmentation
- Spore formation
- Vegetative Propagation
- Tissue Culture

2- GENERAL AIMS :

(a) To develop scientific attitude among pupils
(b) To develop power of thinking and reasoning of students
(c) To provide an opportunity to the students to develop scientific skill.
(d) To develop scientific observation and Creativity among students.

3. INSTRUCTIONAL OBJECTIVES :

(i) The Students will be able to know about asexual reproduction.

(ii) The students will be able to recall the various modes of asexual reproduction.
(iii) The students will be able to explain the modes of reproduction in unicellular organisms.

4. TEACHING AIDS USED :

General teaching aids : Chalk, Board, duster etc.
Instructional teaching aids : Chart showing.

5. PREVIOUS KNOWLEDGE ASSUMED :

It is pre-assumed by the pupil teacher that students have previous knowledge that production of further new members of same species is called reproduction.

6. PREVIOUS KNOWLEDGE TESTING :

In order to test the previous knowledge of the students, the pupil-teacher will ask following questions.

Pupil teacher's activities	Pupil's activities
Good morning Students :	Good morning ma'am.
(i) Name the process by which Continuity of the species maintain?	Reproduction.

(ii)	What are the types of reproduction ?	Reproduction is of two types - sexual and asexual.
(iii)	Define asexual reproduction ?	No response.

7. ANNOUNCEMENT OF THE TOPIC :

Well Students ! Today we will study about Asexual Reproduction.

8. PRESENTATION :

The pupil teacher will develop the lesson using lecture cum demonstration method and chart showing modes of asexual reproduction.

Teaching Points	Pupil teacher's Activities	Pupil's Activities	Chalk Board Work
• Asexual Reproduction	It is a type of reproduction in which only one parent is involved and there is no formation of gametes	Students Listen Carefully	Asexual reproduction It is a type of reproduction in which only one parent is involved and there is no formation of gametes.
• MODES of	What are the various modes of asexual		

ching Points	Pupil teacher's activities	Pupil's activities	Chalk Board work
sexual epreduc tion.	Reproduction ? Types of asexual reproduction are :		MODES OF ASEXUAL REPRODUCTION 1 Binary fission 2 Budding 3 fragmentation 4 Spore formation.
BINARY FISSION	In Amoeba, the nucleus first divides into two equal parts and then the whole cell divides into two daughter Cells.		
BUDDING	Budding is the process of producing an individual through the buds that develop on the parent body and detaches once it is fully grown. Eg : Hydra.	Students will listen Carefully & write down in their Note Book.	
FRAGMEN- TATION	fragmentation is another mode of asexual reproduction exhibited by organisms such as Spirogyra, planaria etc.		

Teaching Points	Pupil-teacher's activities	Pupil's activities	Chalk-board work.
	The parent body divides into several fragments and develops into a new organism.		
4.) Spore FORMATION	During unfavourable condition the organisms develop sac-like structure called sporangium that contains spores. When the conditions are favourable the Sporangium burst opens and spores are released that germinate to give rise to new organism.	Students listening carefully & write in their Notebook.	4.) SPORE FORMATION 5.) Vegetative Propagation
5.) VEGETATIVE PROPAGATION.	Asexual reproduction in plants occurs through their vegetative parts such as leaves, roots, stem & buds. This is called vegetative propagation.		

Teaching Points	Pupil teacher's activities	Pupil is activities	Chalk-board work.
	eg: Potato tubers, onion bulbs - etc.		
Advantages of Asexual production	• Mates are not required • An enormous no. of organisms can be produced in very less time. • The process of reproduction is very rapid. • Positive genetic influences pass on to successive generations. • It occurs in various enviroments.	Students listen carefully & write in their Notebook	
TISSUE CULTURE	It is a method of propagation to obtain a large no. of plant from small piece of tissue taken from any part of plant (shoot tips) which is highly capable of producing new cells.	Students will listen carefully & write in their Notebook.	

ADVANTAGES OF Asexual Reproduction

- mates are not required
- an enormous no. of organism can be produced
- positive genetic influences pass on.
- process of reproduction is very rapid

TISSUE CULTURE

- method of propagation to obtain a large no. of plants from small piece of tissue.

9. GENERALISATION :

It is generalised by the pupil teacher that the students have acquired the knowledge regarding of asexual reproduction and it's various types.

10. RECAPITULATION :

(i) Define asexual reproduction.
(ii) What is the process of reproduction in hydra called ?
(iii) Define budding ?

11. HOMEWORK :

(i) Write short note of Tissue Culture.
(ii) What are the advantages of asexual reproduction
(iii) Draw a diagram showing vegetative propagation

12. CONTEXT : NCERT SCIENCE Book.

LESSON No.: 4

Date :
Duration of period : 35 minutes
Pupil teacher's Name : Mamta
Pupil teacher's Roll No. :
Class : VIII
Avg. age of pupil : 13 yrs.
Subject : Biological Science
Topic : Blood

1. CONTENT ANALYSIS :

- BLOOD
- FUNCTIONS of BLOOD
- COMPOSITION of BLOOD

2. GENERAL AIMS :

(i) To develop the interest and scientific attitude among students towards life science.
(ii) To develop skill of observation and critical thinking.
(iii) To provide an opportunity to develop scientific skills in the students.

3. INSTRUCTIONAL OBJECTIVES :

(i) The students will be able to define Blood.
(ii) The students will be able to recall the composition of blood.
(iii) The students will be able to explain why WBC are called the soldiers of the body.

(iv) The students will be able to understand functions of RBCs in Blood.

4. TEACHING AIDS USED :

General Teaching Aids: Chalk, Board, pointer etc.

Instructional Teaching Aids: Chart showing types of Blood cells.

5. PREVIOUS KNOWLEDGE TESTING :

It is pre-assumed by the pupil teacher that pupils have some basic knowledge about blood.

6. PREVIOUS KNOWLEDGE TESTING :

In order to test the previous knowledge of the students, the pupil teacher will ask following questions:

PUPIL TEACHER'S ACTIVITIES	PUPIL'S ACTIVITIES
Good morning students	Good morning
(i) Which organ pumps blood in the body ?	Heart.
(ii) What is the colour of blood?	red
(iii) What is Blood ?	No response

7. ANNOUNCEMENT of THE TOPIC :
Well Students ! Today we will discuss about blood.

8. PRESENTATION :
The pupil teacher will start the lesson with the help of lecture method and using teaching aid i.e, chart showing blood cells.

Teaching Points	Pupil teacher's activities	Pupil's activities	Black-Board Work.
Blood definition	Blood is most important component of life. Blood is a fluid connective tissue that consists of plasma, blood cells & platelets. It circulates throughout our body delivering oxygen and nutrients to various cells and tissues. An average adult parses around 5-6 litres of blood.	Students will listen carefully.	BLOOD Blood is one of the most important component of life. • Blood is a fluid connective tissue.
FUNCTIONS OF BLOOD	Blood is responsible for the following body functions.		

Teaching Points	Pupil teacher's Activities	Pupil's activities	Black-board Work
FUNCTIONS of BLOOD.	• Blood absorbs oxygen and transports it to different parts of the body. • Blood transports digested nutrients such as glucose, vitamins, minerals and also the secreted hormones to different organs and tissues. • Homeostasis → Blood helps to maintain the internal body temperature by absorbing or releasing heat. • It transports waste to the Kidney and Liver. • The platelets help in clotting of blood at the site of injury. • It protects body against pathogens.	Students listen carefully and write in their Notebook.	FUNCTIONS of BLOOD • Blood absorbs O_2 and transports in different part of the body • Blood transport digested nutrients and secreted hormones. • Blood helps in maintain the internal body temperature. • It transports waste to the kidney and tissue. • Helps in clotting during injury. • Protect body against pathogen.

Teaching Points	Pupil teacher's activities	Pupil's activities	Black-Board Work.
ARIOUS MPONENT OF OOD	Blood is primarily broken down into the following components: • RBC (Red blood cells) • WBC (White blood cells) • Plasma • Platelets	Students will listen Carefully.	Component of Blood 1. Plasma 2. RBC 3. WBC 4. Platelets
	1. PLASMA: The liquid state of the blood that Contributes of the blood is 55%. It is pale yellow in colour and when separated, it consists of salts, nutients, water and enzymes.	Students write down in their Notebook.	
	2. RBC:→ Red Blood Cells → It consists of haemoglobin, a protein. They are produced by the bone marrow to primarily Carry oxygen to the body and Co_2 away from it.		
	3. White blood cells (WBC): There are responsible for fighting		

	foreign pathogens (such) as bacteria, viruses, fungi) that enter our body.	
4. Platelets:	**PLATELETS:** Tiny disc shaped cells that help to regulate blood flow when any part of the body is damaged, thereby aiding in fast-recovery through clotting of blood.	Students will listen and write in their Notebook.

9: **GENERALISATION:**

It is generalised by the pupil-teacher that now the students have knowledge about blood and its components.

10. **RECAPITULATION:**

In order to revise taught lesson, pupil teacher will ast the following recapitulatory questions to the students:

(i) What is blood?

(ii) What are the various components of blood ?
(iii) Define Plasma ?

HOMEWORK :

(i) What is the role of RBC and WBC ?
(ii) Enumerate the functions of blood.
(iii) What are platelets and explain its function ?

2. CONTEXT :
NCERT Science Book Class VIII.

LESSON No. : 5

Date : Duration of period : 40 minu
Pupil teacher's Name : Mamta
Pupil teacher's Roll No. :
Class : VII Avg. age of pupils : 11 yrs
Subject : Biological Science Topic : Nutrition

1. CONTENT ANALYSIS :

Nutrition
Functions of food
Modes of Nutrition
(a) Autotrophic Nutrition
(b) Heterotrophic Nutrition.

2. GENERAL AIMS :

(i) To develop scientific attitude among students.
(ii) To develop power of critical thinking & reasoning.
(iii) To provide an opportunity to the students to develop scientific skills.

3. INSTRUCTIONAL OBJECTIVES :

(i) The students will be able to know about nutrition.
(ii) The students will be able to recall the functions of food.
(iii) The students will be able to understand that why plants are producers.

(iv) Students will be able to differentiate between autotrophs and heterotrophs.

4. TEACHING AIDS:

General Teaching Aids: Chalk, duster, pointer etc.
Instructional Teaching Aids: Chart showing food nutrition.

5. PREVIOUS KNOWLEDGE ASSUMED:

It is pre-assumed by the pupil-teacher that students have previous knowledge that energy requirement is fulfilled by food.

6. PREVIOUS KNOWLEDGE TESTING:

In order to test the previous knowledge of the pupil, the pupil-teacher will ask the following questions:

Pupil teacher's activities	Pupil's activities
Good morning Students!	Good morning ma'am.
(i) Now, tell me, what do we need to do work?	Energy
(ii) From where do we get this energy?	We get energy from food.

(iii)	What are the different components of your food?	proteins, fats etc
(iv)	The process of obtaining the components of food by the body is called—?	No response.

7. **ANNOUNCEMENT OF THE TOPIC :**

Well Students! Today we shall study about - "Nutrition and its different types."

8. **PRESENTATION :**

The lesson will be developed by the pupil teacher using lecture cum demonstration method and with the help of Chart showing Nutrition.

Teaching Points	Pupil teachers activities	Pupils activities	Black-Board work.
• NUTRITION DEFINITION	The complete process by which an organism obtains its food is refered to as nutrition.	Students will listen carefully.	**NUTRITION** The process by which an organism obtain its food is refered to as nutrition.

(iii)	What are the different components of your food?	proteins, fats etc
(iv)	The process of obtaining the components of food by the body is called---?	No response.

7. ANNOUNCEMENT OF THE TOPIC :

Well Students! Today we shall study about - "Nutrition and its different types."

8. PRESENTATION :

The lesson will be developed by the pupil teacher using lecture cum demonstration method and with the help of Chart showing Nutrition.

Teaching Points	Pupil teachers activities	Pupil's activities	Black-Board Work.
• NUTRITION DEFINITION	The complete process by which an organism obtains its food is referred to as nutrition.	Students will listen carefully.	NUTRITION The process by which an organism obtain its food is refered to as nutrition.

aching ints	Pupil teacher's activity	Pupil's activities	Black-Board work
NCTION of OOD	• Nutrition is the sum of all these activities which are concerned with ingestion, digestion and absorption of food. (i) What is food?	Write down in their Notebook. food is a nutritive substance taken by all living organisms for their survival. food produced energy.	
	(ii) What are the functions of food ? • food also helps in maintaining temperature of the body; makes new materials necessary for growth and reproduction. It helps in repairing of damage cells and tissues; keep in pace of removal of waste material from the body.	Students listen carefully & write in their Notebook.	FUNCTIONS of FOOD • maintain temperature • helps in repairing of damaged cells • makes new material for growth and reproduction

Teaching points	Pupil teacher's activities	Pupil's activities	Blackboard work
• MODES OF NUTRITION	What are the different modes of nutrition ? 1. Autotrophic Nutrition 2. Heterotrophic Nutrition	Students listen carefully.	MODES OF NUTRITION 1. Autotrophic 2. Heterotrophic
• Autotrophic Nutrition	How does plants make their own food ? → Autotrophic nutrition is the characteristics of green plants. The green plants possesses a pigment known as Chlorophyll. These plants use solar energy and manufacture their food in the form of sugars from Co_2 and H_2O, their process is known as photosynthesis	No response Students will listen.	Autotrophic – auto - self trophos - feed simple inorganic substances and other light energy to synthesize food.
• Heterotrophic Nutrition	What do you mean by heterotrophic nutrition ? • All animals, fungi, humans, they don't possess the ability to synthesize	No response	• Heterotrophic Obtain energy through ingestion and digestion of organic substances.

Pupil teacher's activities	Pupils activities	Black Board Work.
their own food. They depend on autotrophs for their food supply. Hetero-trophic nutrition is further divided in three types: • HOLOZOIC :- Nutrition is taken from definite path i.e. Ingestion, digestion and absorption, assimilation. • Saprophytic :- organisms feed on dead & decay. • Parasitic :- They are totally dependent on others	Students listen carefully & Write down in their Notebook.	1. Holozoic taken from definite path viz ingestion digestion etc. 2. Saprophytic Organisms feed on dead & decay. 3. Parasitic totally dependent on food.

GENERALISATION :

It is generalised by the pupil teacher that students have complete knowledge of the term nutrition and its different modes.

10. RECAPITULATION :

Pupil-teacher ask the following questions :

(i) Define Nutrition.
(ii) Explain autotrophs.
(iii) Explain Heterotrophs. → modes
(iv) What are the types of Nutrition ?

11. HOME WORK :

(i) Differentiate between autotrophic and heterotrophic nutrition.
(ii) What are the functions of food ?

12. CONTEXT :

NCERT Science book.

LESSON No.: 6

Date: Duration of period: 35-40 minutes.
Pupil Teacher's Name: Mamta
Pupil Teacher's Roll No.:
Class: VI Avg. age of the pupil: 10 yrs.
Subject: Biological Science Topic: Cell structure and its components

1. CONTENT ANALYSIS :

(i) Introduction of cell
(ii) Discovery of cell
(iii) Shapes of cell
(iv) Stucture of cell
(v) Component of all.

2. GENERAL AIMS :

i) To develop the interest of students in Life Science.
ii) To develop the scientific attitude among students.
iii) To engage students in scientific inquiry and faster life long learning.
iv) To develop scientific creativity and skills among Students.

3. INSTRUCTIONAL OBJECTIVES :

Students will be able to define term "Cell" and it's Component.
Students will be able to understand the structure of a cell.
Students will be able to identify different components of a cell.

(iv) Students will be able to classify different cell types.

(v) Students will be able to understand basic functions of a cell.

4. TEACHING AIDS USED :

(i) General Teaching Aids used :
Chalk, duster, pointer, Chalk-board etc.

(ii) Instructional Teaching Aids used :
Chart showing cell structure.

5. PREVIOUS KNOWLEDGE ASSUMED :

Pupil teacher will assumed that students have a general idea about cells and tissue.

6. PREVIOUS KNOWLEDGE TESTING :

In order to test the previous knowledge pupil teacher will ask them the following questions :

Sr. No.	Pupil teacher's activity	Pupil's activity
•	Pupil teacher will start her	Good morning

(i) What do you know about tissue?	Tissues are important part of bodies.
(ii) What is the function of a tissue?	Tissue make different organs.
(iii) What is the basic unit of these organs?	No response.

7. ANNOUNCEMENT OF THE TOPIC:

finding pupil unable to answer the last question, pupil teacher will announce the topic by saying, "Well. Students! Today we will learn about "Cell Structure and its Components."

8. PRESENTATION:

By using explanation method & demonstrat method and by chart depicting "structure of cel

Teaching points	Pupil teacher activities	Pupil's activities	Chalk-Board Work
RODUCTION OF ELL	• The smallest unit of life is called cell. Cell is basic, structural and functional unit	Students listen carefully.	Cell Structure • The smallest unit of life is called Cell.

Teaching Points	Pupil teacher's activities	Pupil's activities	Chalk-board Work
• TYPES OF CELL.	Cell has two types: (i) Unicellular (ii) Multicellular.		
• UNICELLULAR ORGANISM	These organisms are made up of a single cell. All the functions are carried out by this single cell. For eg: Euglena, Chlamydomonas etc. (Amoeba)	Students listen carefully. &	
• MULTI-CELLULAR ORGANISMS	Organisms made up of more than one cell are called multicellular organisms. There are capable to perform different functions by different cells. for example: Human beings, animals, birds.	Write down in their Notebook	
• DISCOVERY OF CELL	Who discovered the term cell? → IN 1665 Robert hook discovered cell. after invention of microscope.	No response Students listen carefully.	

TYPES of CELL

2 types
- Unicellular
- Multicellular

• Unicellular Cells:
eg - Amoeba, Paramecium, Chlamydomonas.

• Multicellular Cells -
- Humans
- Birds
- Animals.

DISCOVERY of Cell

• IN 1665, by Robert Hooke.

Teaching points	Pupil teacher's activities	Pupils activities	Chalk-Board work
SHAPES OF CELL	In general, cells are round, spherical, elongated. eg: RBCs. • Some are long and pointed at both ends. They exhibit a spindle shape eg → Muscle cell. Some are quite long & some are branched like Nerve cell.	• Students watch carefully & Draw shapes of cells in Notebook.	SHAPES of CELL • RBCs (round shape) (Spindle Shape) Muscle cells Nerve cell.
• COMPONENT OF CELL • Cytoplasm	Components of cells are: • Cytoplasm → is known as physical base of life. Many important structures are found inside cytoplasm.		COMPONENTS OF CELL • Cytoplasm • Mitochondria • Nucleus • Plastids • Golgi bodies • Ribosomes
• Mitochondria:	is known as the powerhouse of cell. It provides energy to cell.	Students write down.	
• Nucleus:	Brain of the cell		
• Plastids:	found only in plants.		
• Golgi bodies:	Main functions: packaging and secretion. Many enzymes are secreted by this.		
• Ribosomes:	They help in protein synthesis.		

9. GENERALISATION :

It is generalised by the pupil teacher that now all students have acquired knowledge about "Cell Structure and its Components".

10. RECAPITULATIONS :

In order to recapitulate pupil teacher will ask the following questions :

Q- (i) Who discovered cell ?
Q- (ii) What is the main functions of cell ?
Q- (iii) Differentiate between unicellular and multicellular organisms.

11. HOMEWORK :

Q-1 Which Component of cell is called as the powerhouse of the cell ?
Q-2 What is the function of Ribosomes ?
Q-3 Draw a diagram of a structure of a cell.

12. CONTEXT :

NCERT VI Science Book.

LESSON No.: 7

Date: Duration of period: 40 minutes
Pupil Teacher's Name: Mamta.
Pupil Teacher's Roll No.:
Class: VIII Avg. age of pupil: 13 yrs.
Subject: Life Science Topic: Structure of fungi

1. CONTENT ANALYSIS:

(i) Structure of fungi
(ii) Nutrition of fungi
(iii) Mushrooms.

2. GENERAL AIMS:

(i) To develop the interest of students in Life Science.
(ii) To develop the scientific attitude and observation in the students.
(iii) To provide opportunities to develop scientific skills in the students
(iv) To develop thinking power of the students.

3. INSTRUCTIONAL OBSERVATIONS:

(i) The Students will be able to define the term 'fungi'.
(ii) The Students will be able to recall the name of heterotrophic fungi.
(iii) The students will be able to discriminate between Saprophytic and parasitic.
(iv) The Students will be able to interpret nutrition of fungi.

4. TEACHING AIDS :

(i) General teaching Aids used : Chalk, Board, duster, Pointer etc.

(ii) Instructional teaching aids used : Chart showing structure of fungi.

5. PREVIOUS KNOWLEDGE ASSUMED :

It is pre-assumed by the pupil teacher that the students have some knowledge about mushrooms.

6. PREVIOUS KNOWLEDGE TESTING :

In order to test the previous knowledge of the pupil, the pupil teacher will ask the following questions :

S. No.	Pupil-teacher's activities	Pupil's activities
	Good morning Students	Good morning malam
(i)	Do all mushrooms are edible?	No
(ii)	Mushrooms are plants or animals?	Mushrooms are plants
(iii)	In which category of plants they belong ?	fungi

(e) What are the characteristics of Class - fungi ?	No response

7. ANNOUNCEMENT OF THE TOPIC :

Pupil's unable to answer the last questions, pupil teacher will announce the topic in the class ; well Students ! Today we will study about fungi.

8. PRESENTATION :

The pupil teacher will develop the lesson using lecture-cum-demonstration method.

Teaching Points	Pupil Teacher's activities	Pupil's activities	Board Work
FUNGI	Common fungus plants we see around are mushrooms and moulds. A moist bread kept at a warm place became stable with a growth a moulds on it. Mostly rhizopus is the fungi which grows on the bread.	Students will listen carefully.	FUNGI • Fungi are Plants • Fungus are generally blue, white yellow. • Fungi donot Contain Chlorophyll.
	Ques: What is mould ?	No response	

Teaching Point	Pupil teachers activities	Pupil's activities	Chalk-Board Work
MOULD	The pupil teacher will tell the students that mould is a fungus which generally is blue, white, yellow. fungi donot contain Chlorophyll still they are considered as plants	Students listen carefully & write down in their Notebook.	• fungi are called plants because they have cell wall around plasma membrane. • fungi are uni cellular.
	Why is fungi considered as a plant? fungi are considered among plants because they have a cell wall around plasma membrane.	No response. Students will listen carefully.	
STRUCTURE OF FUNGI	With the help of chart, pupil teacher will explain that - Fungi are unicellular eg: Yeast. Most others are multi-cellular or bigger in size such as		

Teaching Point	Pupil-teacher's activities	Pupil's activities	Challe... Wor...
	mould and mushroom.		
MYCELIUM	Body of multicellular fungus plant is made from long coloruless filaments.	Students will listen carefully	
NUTRITION of FUNGI	The P.T. will tell the students that being non-green the mode of nutrition is either heterotrophic or saprophytic or parasitic. Some fungi live as symbionts in association with other plants. Symbiotic fungus are found in lichens in which fungus live with another partner algae.	Students will write down in their Notebook.	
MUSHROOMS	Where do you find mushrooms? P.T. will tell the students that the Bracket fungi are called	No response	

Teaching Point	Pupil teacher's activities	Pupil's activities	Chalk-Board Work.
	mushrooms growing on dead and decaying wood. • Mushrooms are found almost everywhere, but not all mushrooms are found in all kinds of habitat.	Students will listen carefully. & write down.	Mushrooms Bracket fungi are called mushrooms growing on dead and decaying wood.

9. GENERALISATION :

It is generalised by the pupil teacher that the students have acquired knowledge about fungi.

10. RECAPITULATION :

In order to revise the taught lesson, the P.T will ask the recapitulatory questions to the students :

Q (i) Why fungi are included in plants ?

Q (ii) Explain the structure of fungi ?

(iii) Explain nutrition in fungi ?

(iv) Fill in the blanks :-

Mushrooms are found in _____

11. CONTEXT :

NCERT Science Book.

12. HOMEWORK :

(i) What is the mode of Nutrition in fungi ?

(ii) Discriminate between saprophytic and parasitic fungi with examples.

(iii) Draw structure of fungi.

LESSON No. : 8

Date :
Duration of period : 40 minutes
Pupil Teacher's Name : Mamta
Pupil Teacher's Roll No :
Class : VII
Avg. age of pupil : 12 yrs.
Subject : Life Science
Topic : Pollination or Sexual reproduction in plant

1. CONTENT ANALYSIS :

Pollination
Self-Pollination
Cross-Pollination
Fertilisation

2. GENERAL AIMS :

(i) To develop the interest of students in life science.
(ii) To develop the scientific attitude and observation in the students.
(iii) To provide opportunities to develop scientific skills in students.
(iv) To develop the thinking power of students.

3. INSTRUCTIONAL OBJECTIVES :

(i) The students will be able to define the name of reproductive parts of flower.

(ii) The students will be able to recall the functions of the reproductive parts of flower.
(iii) The students will be able to discriminate between the cross and self pollination.
(iv) The students will be able to interpret the process of pollination.

4. TEACHING AIDS:

(i) General Teaching Aids: Chalk, duster, pointer, markers etc.
(ii) Instructional Teaching Aids: Chart showing fertilization through pollination.

5. PREVIOUS KNOWLEDGE ASSUMED:

It is pre-assumed by the pupil teacher that pupil have some previous knowledge about fertilisation.

6. PREVIOUS KNOWLEDGE TESTING:

In order to test the previous knowledge of the pupil, the pupil teacher will ask the following questions :—

Pupil-Teacher's activities	Pupil's activities
• Good morning students	Good morning ma'am
• (i) Name the process by which continuity of the species can be maintained?	Reproduction.
• (ii) What are the types of reproduction? (Good)	Asexual and Sexual reproduction.
• (iii) How does reproduction takes place in plants?	No response.

7. ANNOUNCEMENT OF THE TOPIC :

Well Students ! Today we shall discuss about Sexual reproduction in plants.

8. PRESENTATION :

The pupil teacher will develop the lesson by using explanation method and with the help of chart.

Teaching points	Pupil-teacher's activities	Pupil's activities	Board work
•BISEXUAL PLANTS	Students, you have learnt about the various asexual mode of reproduction in plants. Majority of plants are bisexual. ie male and female reproductive parts are present in same plants. eg: Lily, rose, sunflower, Mustard.	Students will listen Carefully	POLLINAT •Mostly Plants ar bisexual re male female. reproduc parts ar present same pla
•REPRODUCTIVE PARTS	Name the various parts of a flower.	Sepal, petal, Stamen and Carpel.	
	Which parts of the flower are reproductive in nature? • Pupil teacher will tell the students that sepals are usually green & petals are coloured and showy. • Stamen and Carpel constitute the reproductive part.	No response	
STAMEN	Each stamen consists of a stalk called filament.	Students listen carefully.	

Teaching Point	Pupil-teacher's activities	Pupil's activities	Board work
	and flattened tap called the anther. The anther produces the pollen grains which are the male gametes.		
• CARPELS	Carpel is a female reproductive part of a flower that have a swollen base and elongated middle part called style and terminal called stigma. • Basal part contain ovary that contains ovules. Each ovule has an egg (female gamete).	Students listen carefully & write down in their Notebook	
	In plants, the fusion of male and female gametes take place when pollen grain is transfered to the same or another flower.		

Teaching Point	Pupil teachers activities	Pupils activities	Chalk-Board Work.
• POLLINATION	What do you mean by pollination ? • The pupil teacher will tell the students about the transfer of pollen-grains from anther to stigma is called pollination. • Pollen grains are transfered by many agents such as wind water, air, Insect and other agents.	No response. Students will listen carefully.	DEFINITION OF POLLINATION • The transfer of pollen grains from anther to stigma is called pollination.
• TYPES OF POLLINATION	• Pollination is of two types : • Self Pollination - • Cross Pollination.	Write down in their Notebook.	TYPES : 1. Self Pollination - The transfer of pollen from the anther of a flower to stigma of same plant is known as Self Pollination. eg: Rose, Lily.
• Self Pollination	The transfer of pollen-grains from the anther of a flower to the stigma of same flower of same plant is known as self pollination. eg: ~~Potato~~, rose, lily		

Teaching Points	Pupil-teacher's activities	Pupil's activities	Board Work.
• Cross-Pollination	The transfer of pollen grain from anther of one flower to the different flower of the same/different species is known as Cross-pollination. eg: Cucurbites, Cherry trees, blue berries, Papaya etc.	Students will listen carefully and write in their Note Book.	2. Cross Pollination → The transfer of pollen from anther of one flower of to the different flower of the same/different species is known as Cross Pollination. eg: Papaya Cucurbits.
• FERTILISATION	Pollen grains are deposited on stigma, they form open pollen tube growing through style and reaches ovary where ovules are located. The pollen tube normally enters the ovule through a very small opening called micropyle.		
• Embryo Sac	Inside the ovule, the pollen tube reaches upto the embryo sac and		

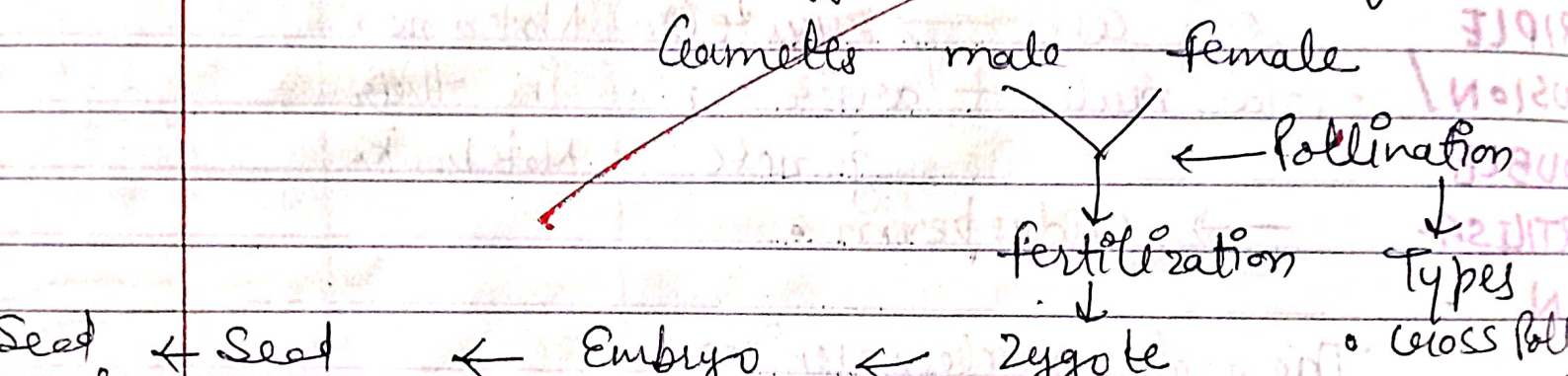
Teaching Point	Pupil teacher's activities	Pupil's activities	Board work.
ZYGOTE RIPLE USION / OUBLE RTILISA- ON .	releases two male gametes. Double fertilisation mechanisms. • Smaller male gamete + egg cell → zygote (2n) • Polar nuclei + larger male gamete → endosperm. The male nucleus unites with the nucleus of an egg inside the ovule forming a diploid zygote, which later swells up and develops into a fruit.	Students will Listen Carefully and Note down in their Notebook.	DOUBLE FERTILISATION Two male gametes. • Smaller ♂ gamete + egg cell → zygote. • Polar nuclei + larger male gamete → Endosperm. • zygote → embryo → Seed form → fruit.

9. GENERALISATION :

It is generalised by the pupil teacher that students have acquired sufficient knowledge about sexual reproduction in plants, and the Pollination also.

10. RECAPITULATION :

In order to revise the target taught lesson, pupil teacher will summarise the previous taught lesson in 5 minutes.



Ques-1 What are the names of various reproductive parts of a flower?

Ques-2 What is pollination? Mention its types.

11. HOMEWORK :

Ques → 1 What is double fertilization?

Ques-2 What is the difference between self and cross pollination.

Ques-3 Explain the process of fertilization.

Ans-4. Draw a diagram of female reproductive part of a flower : (Carpel)

2. CONTEXT :

NCERT SCIENCE BOOK.

LESSON No.: 9

Date :
Duration of period : 40 minutes
Pupil teacher's Name : Mamta
Pupil teacher's Roll No. :
Class : VIII
Avg. age of pupil : 13 yrs.
Subject : Life Science. Topic : Binary fission in Amoeba.

1. CONTEXT : AMOEBA

(i) Occurance
(ii) Structure
(iii) Pseudopodia
(iv) Binary fission.

2. GENERAL AIMS :

(i) To develop the interest of students in Life Science.
(ii) To develop scientific attitude and observation in the students
(iii) To provide opportunities to develop scientific skills among the students.
(iv) To develop the thinking power of students.
(v) To develop creativity and research power in students to scientific approach

3. INSTRUCTIONAL OBJECTIVES :

(i) The students will be able to define the process of Binary fission.
(ii) The students will be able to recall the process of ingestion of food in amoeba.
(iii) The students will be able to interpret the functions of an amoeba.
(iv) The students will be able to see the relationship between pseudopodium and amoeba.

4. TEACHING AID USED :

(i) General Teaching Aids : Chalk, duster, Pointer, Board etc.
(ii) Instructional Teaching Aids : Chart showing Amoeba.

5. PREVIOUS KNOWLEDGE ASSUMED :

It is pre-assumed by the pupil teacher that pupils will have some knowledge about unicellular organisms.

6. PREVIOUS KNOWLEDGE TESTING:

In order to test the previous knowledge of the students, the pupil teacher will ask the following questions:

Sr No.	Pupil Teacher's activities	Pupil's activities
	Good morning students	Good morning ma'am
(i)	Define unicellular organisms.	A unit structure of life which is capable of leading an independent life, performing all functions is unicellular organisms.
(ii)	Give some examples of unicellular organisms.	Amoeba, bacteria.
(iii)	Explain the life cycle of Amoeba.	No response.

7. ANNOUNCEMENT OF THE TOPIC :

In order to announce the topic, finding pupils will unable to answer the last question, pupil teacher announce her lesson, Well Students, Today we will study about life cycle of an amoeba.

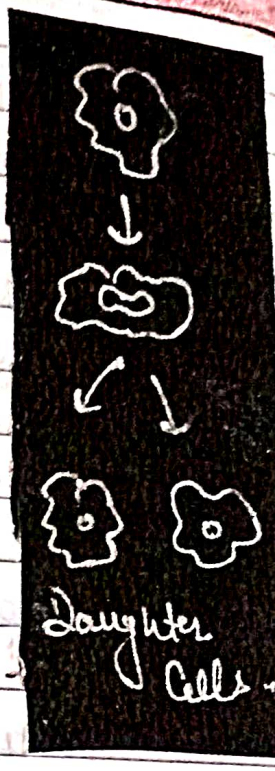
8. PRESENTATION :

The pupil teacher will develop the lesson by using lecture cum-demonstration method and showing the life cycle of amoeba.

Teaching Points	PUPIL TEACHER'S Activities	Pupil's activities	Chalk-Board Work
OCCURANCE	Unicellular organism, Amoeba lives in fresh water with green plants and other microbes - like Pond.	Pupil will listen carefully.	AMOEBA • Unicellular organisms which are single celled • Amoeba lives in fresh water like ponds with green plants and other microbes.
STRUCTURE	Do you see amoeba with naked eyes? Right, amoeba is a microscopic organism. It is Irregular	No, it is microscopic.	

Teaching Points	Pupil teacher's activities	Pupil's activities	Board work
	mass of protoplasm with a jelly like transparent appearance.		STRUCTURE of AMOEBA • Nucleus • Plasma membrane • Vacuoles • Cytoplasm Pseudopodia • false feet ↓ help in locomotion and intake of food
• PSEUDOPODIA	The pupil teacher will tell the students that amoeba has projected extentions called pseudopodia - 'the false feet'. • It helps in locomotion and intake of food. • On sensing food particles, amoeba capture it with its pseudopodia.	Students will listen carefully.	
• NUCLEUS	Nucleus control the life activities of amoeba and contains the hereditary information. It has no cell wall.	Pupil will listen carefully.	

Teaching Points	Pupil teachers activities	Pupil's activities	Board work
	It is surrounded by a cell membrane.		
VACUOLES	• Small bubble like structures called vacuoles present in cytoplasm. • There are two kinds of vacuoles, some are expanding and some are contracting vacuoles. They help in respiration, excretion and are filled with food (food vacuoles).	Students will listen carefully. & write in their Notebook.	Reproduction in Amoeba • Reproduction in amoeba is simply by Binary fission.
REPRODUCTION OF AMOEBA	What is the mode of reproduction in amoeba ? [V. Good.] Reproduction is simply by binary fission of a cell.	Asexual reproduction	

Teaching Points	Pupil teachers activities	Pupil's activities	Board work.
	The nucleus and the cell content divide into two new individuals from a single parent cell.		
• CYST	Why does amoeba develops cyst ? Under unfavourable conditions, an amoeba may develop a cyst like a thick wall around it and undergo rest. It lowers down its body activities during the cyst formation. A hard cyst around the body helps amoeba to protect itself. When favourable conditions come, the content of the cyst divides into many parts each forming a new individuals.	Pupil will listen carefully and write in their Notebook.	

They come out of the cyst wall through any opening in it.		

9. GENERALISATION :

It is generalised by the pupil-teacher that students have acquired sufficient knowledge about Amoeba.

10. RECAPITULATION :

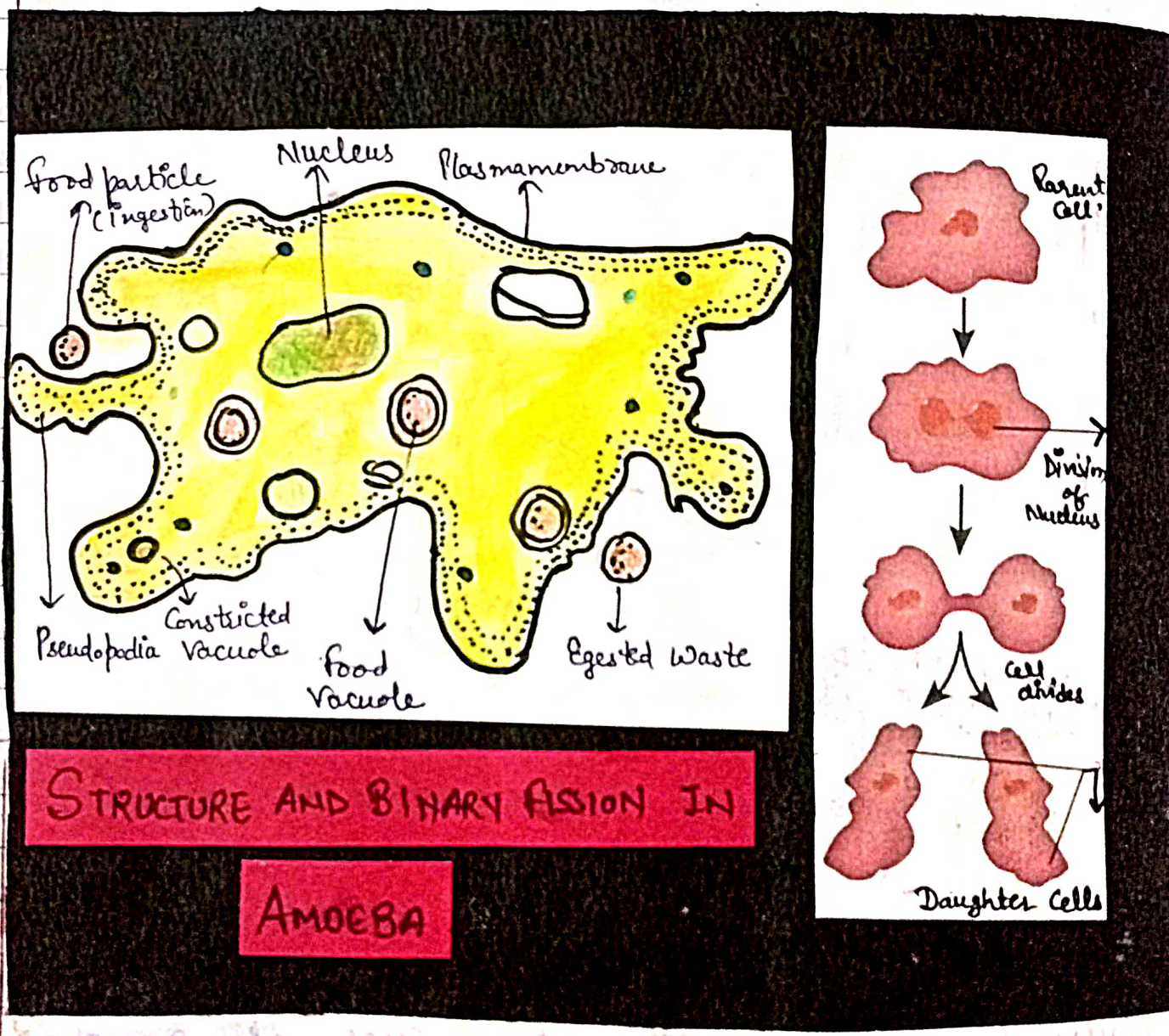
In order to revise the taught lesson pupil teacher will ask the recapitulatory questions to the students :

Ques:- 1 Where does amoeba occur ?
Ques:- 2 Enumerate the functions performed by amoeba.
Ques:- 3 What is the relationship between amoeba and its pseudopodia ?

11. HOMEWORK :

Ques:- 1 Explain the life cycle of amoeba with the help of a diagram ?
Ques:- 2 Explain the process of binary fission.

12. CONTEXT :
NCERT Science Book.



LESSON No.: 10

Date:
Duration of period: 40 minutes
Pupil teacher's Name: Mamta
Pupil teacher's Roll No.:
Class: VII
Avg. age of pupil: 12 yrs.
Subject: Biological Science
Topic: Excretory System.

1. CONTENT ANALYSIS:

What is Excretion
Excretory System
Component of Excretory System
- Kidney
- Ureter
- Urinary bladder
- Urethra.

Process of Excretion

2. GENERAL AIMS:

(i) To develop scientific attitude and interest among the students.
(ii) To develop scientific thinking, reasoning and imagination among the students.
(iii) To develop the scientific power and observation among students.
(iv) To develop scientific Creativity among the students.
(v) To make children interested in the study of

nature and setting information with their natural surroundings.

3. INSTRUCTIONAL OBJECTIVES:

(i) Students will be able to define the term "Excretory System".
(ii) Students will be able to tell the excretory organ in human body.
(iii) Students will able to state the proces of excretion in human body.
(iv) They will be able to define the term 'dialysis'.

4. TEACHING AIDS:

(i) General Aid: Chalk, duster, pointer, Chalkboard
(ii) Instructional teaching Aid: Chart showing human excretory system.

5. PREVIOUS KNOWLEDGE ASSUMED:

Students are expected to have general knowledge about the term 'excretion'.

6. Introductory Questions : (C)

Ques-1 What do we eat ? — Food.
Ques-2 What do we drink ? — Water
Ques-3 Where does the food goes after eating ? — In Stomach.
Ques-4 What is excretion ? — No response.

7. ANNOUNCEMENT OF THE TOPIC : (C2)

As the students are unable to answer the last question so pupil teacher will announce the topic, "Well Students ! Today we are going to discuss about the "Excretory system" in human.

8. PRESENTATION : (C3)

By lecture method and demonstration method pupil teacher will start the lesson.

Teaching Points	Pupil teacher's activities	Pupil's activities	Board Work.
EXCRETION	What is Excretion ? Good. When our cells perform their functions, certain waste products are released.	Removal of waste from our body.	EXCRETION • removal of wastes produced by cells of living organisms.

Teaching Points	Pupil teacher's activities	Pupil's activities	Board Work
	These are toxic and hence need to be removed from our body. The process of removal of wastes produced in the cells of the living organisms is called Excretion.	Students listen carefully.	Excretory system - The part involved in the process of excretion is called Excretory System. Diagram: Kidney, Renal vein, Renal artery, Ureter, Urinary bladder, Urethra Urinary System. • Nephron : kidney's structural and functional unit
• EXCRETORY SYSTEM	The part involved in the process of excretion is called Excretory System. It involves: • Kidney • Ureter • bladder • Urethra	Students listen carefully & write down in their Notebook.	
	• The nephron, an evolutionary modification of the nephridium, is the kidney's functional unit.		

Teaching Points	Pupil-teacher's activities	Pupil's activities	Board Work.
COMPONENT OF EXCRETION	• KIDNEY : Kidneys are a pair of bean shaped organs just above the waist. • Nephrons are the structural and functional units of the kidneys. • A single kidney may have more than a million nephrons. • Kidney functions to filter blood and form urine. Urine → Urine is the liquid waste product of the body that is excreted by the urinary system. Urinary bladder → a hollow sac like organ, from kidneys urine goes to urinary bladder. Ureters → urine enter into ureter, it is a pair of muscular tubes	Students listen taught lesson carefully and write down in their Notebook.	COMPONENTS OF EXCRETORY SYSTEM • KIDNEY • URETER • URINARY BLADDER • URETHRA Urine: liquid waste product of our body excreted out by our urinary system.

Teaching Points	Pupil teacher's activities	Pupills activities.	Chalk Board work
• Process of EXCRETION In HUMAN	Urethra → It is a muscular tube that carries urine out of the body. • The waste which is present in the blood has to be removed from the body. A mechanism to filter the blood is required. This is done by the blood capillaries in the kidneys. When the blood reaches the two kidneys it contain both useful and harmful substances. The useful are absorbed back into blood. And stored conc. urine is passed out through urethra.	Listen Carefully remain Silent & listen carefully.	PROCESS Kidney ⇓ Ureter ⇓ Urinary bladder ⇓ Urethra

Teaching points	Pupil-teacher's activities	Pupil's activities	Chalk Board Work
URINATION IN A Adult HUMAN	An adult human being normally passes out 1-1.8 lt. of urin in 24 hrs. The urine consists of 95% water, 2.5% Urea and 2.5% other waste products. * Sweat contains water and salt.	remains silent and listen carefully.	Urination in Human. Normal amount: 1-1.8 litre per day. Composition of urine • 95% water • 2.5% urea • 2.5% others
Didysis	Sometimes a persons kidney may stop working due to infection or injury, Such person cannot survive unless their blood is filtered periodically through an artificial kidney. This process is called 'Dialysis.'	Students listen the taught lesson and write in their Notebook.	DIALYSIS A person's kidney may stop working due to infection or injury. So the artificial process of the filtering waste products from body is called Dialysis.

9. GENERALISATION : (4)

It is generalised by the pupil-teacher that pupil have acquired about the knowledge about "Excretory System".

10. Outcomes : (D1)

In order to revise taught lesson pupil teacher will ask the following questions :

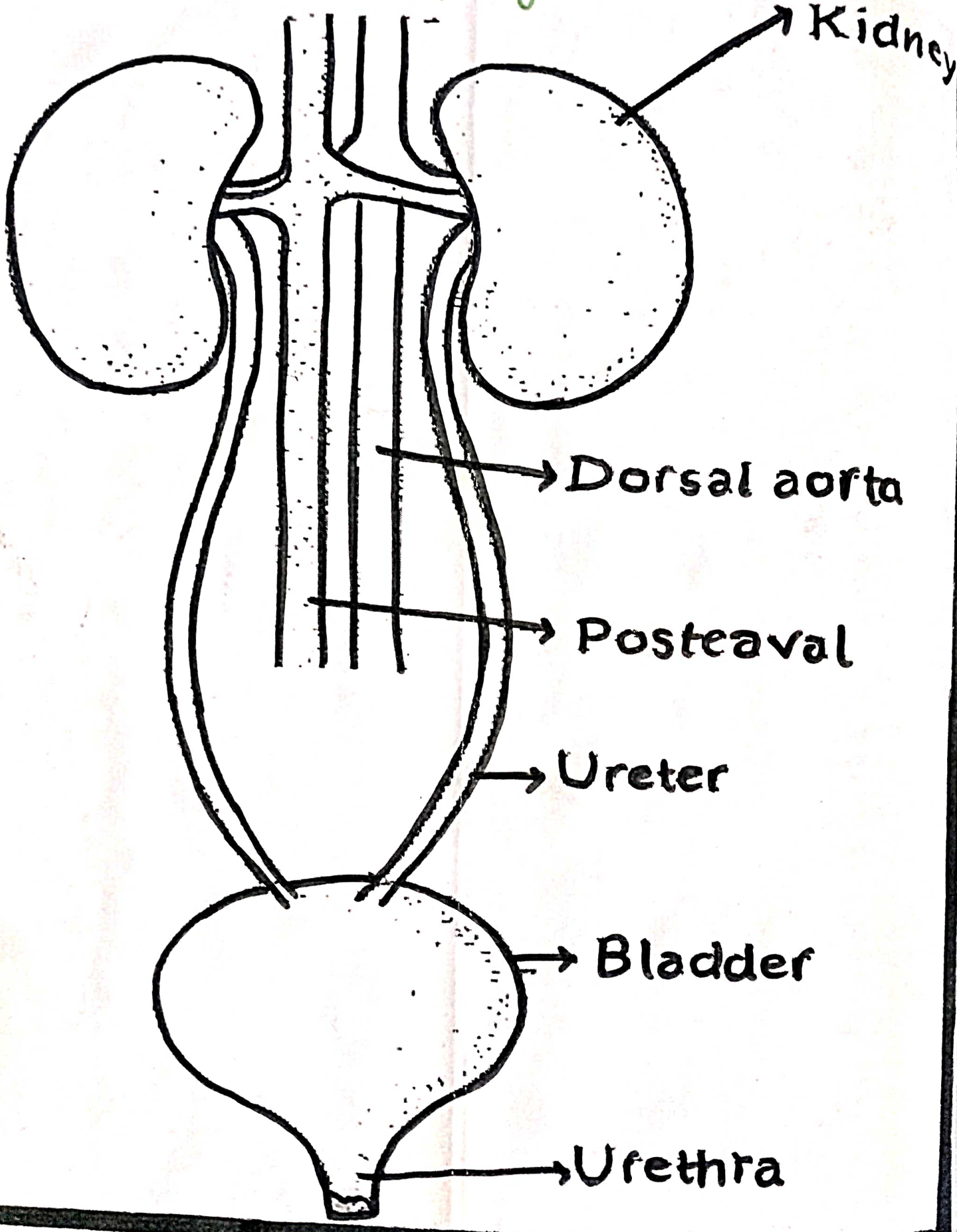
(i) What do you mean by excretion ?
(ii) Name the organ an excretory system consists ?
(iii) Define the term Dialysis ?
(iv) What amount of urine an adult human being excret out ?
(v) How excretion takes place ?

11. HOMEWORK (D2) :

(i) Draw the diagram of Human excretory System ?
(ii) Define the following :
Dialysis
Urine
Urethra
(iii) Where urine is stored in excretory system ?
(iv) Explain the process of excretion in human being ?

12. CONTEXT : Science Book of NCERT

HUMAN Excretory System.



LESSON No.: 11

Date: Duration of period:
Pupil teacher's Name: Mamta
Pupil teacher's Roll No.:
Class: VIII Avg. age of pupils:
Subject: Biological Science Topic: Water Pollution

1. CONTENT ANALYSIS: Water Pollution
Causes of Water Pollution
Affects of Water Pollution
Control Measures.

2. GENERAL AIMS:
(i) To develop the scientific attitude among pupils.
(ii) To develop thinking and reasoning abilities.
(iii) To develop interest in life science.
(iv) To develop ability of observation and creativity skills among students.

3. INSTRUCTIONAL OBJECTIVES:
(i) The students will able to know about water pollution and its causes and also term water pollutants.
(ii) The Students will be able to recall the contol measures of water pollution.
(iii) The students will be able to understand the effects of water pollution.

(iv) Students will be able to apply methods to minize water pollution.

4. TEACHING AIDS:

General teaching aids: Chalk, Board, Duster, Pointer etc.

5. PREVIOUS KNOWLEDGE ASSUMED:

It is pre-assumed by the pupil teacher, that students must have be aware of the fact that Industrialisation and urbanisation are causing water pollution.

6. PREVIOUS KNOWLEDGE TESTING:

In order to test the previous knowledge of the students, the pupil teacher will ask the following questions:

Pupil Teacher's activities	Pupil's activities
Good morning Students?	Good morning ma'am.
(i) What is pollution?	Undesirable change in physical, chemical and biological property of environment.

(ii)	What are the types of pollution?	Water, air, noise pollution.
(iii)	What is water pollution?	No response.

7. ANNOUNCEMENT OF THE TOPIC:

Well Students! Today we shall study about water pollution.

8. PRESENTATION:

The pupil teacher will develop the lesson to be taught by lecture method and Q-Ans. method.

Teaching Points	Pupil teacher's activities	Pupil's activities	Board Work.
Water Pollution	Undesirable change in the physical, chemical and biological properties of water that has an adverse effect on human health. ie Whenever harmful substances such as sewage chemicals, silt etc mixed with water, the water becomes polluted.	listening carefully.	Topic Water Pollution. Definition: Undesirable change in the physical, chemical and biological properties of water.
Water pollutants	The substance that pollute water is water pollutant.		

Teaching Points	Pupil teacher activities	Pupils activities	Board work
• Causes of Water Pollution	How does water get polluted ? Good ! There are various causes for water pollution : (i) Industrial waste like oil, grease, plastics, phenols etc. (ii) Discharge of ashes and dead bodies in rivers. (iii) Use of fertilizers, insecticides, fungicides, they directly reach water bodies. (iv) Domestic waste such as soaps and detergent. (v) Soil is also affected by impure water. (vi) Aquatic animals get affected by increase of algae grow on water.	Water get polluted by human activities such as garbage, dumping sewage water in river etc. Students are able to know about topic and write down in their Notebook.	Water pollut The substa that p water

Teaching Points	Pupil teacher's activities	Pupil's activities	Board Work
Potable water	The water which is for drinking.		Potable water → that is for drinking.
EFFECTS OF Water Pollution	What are the harmful effects of water pollution?	No response	
Eutrophication.	(1) EUTROPHICATION Growth of phytoplankton in presence of Nitrates and phosphates in water bodies. The phytoplankton from organic matter after their death. Then bacterial decomposition occurs in water body leading to the reduction in oxygen availability, leading to death of other organisms and thus the death of aquatic animals.	Students listening carefully and write down in their Notebook.	
Bio-magnification.	BIOMAGNIFICATION → The accumulation of toxic substances in		Bio-magnification

Teaching Points	Pupil teacher's activities	Pupil's activities	Board Work
	natural ecosystem over a period of time - This accumulation of toxic substance increases day by day known as biomagnification.	Students listening carefully.	
• CONTROL MEASURES	How can you control water pollution ? Yes. Water pollution can be controlled by - (i) Waste material treatment (ii) Avoid excess use of chemical in agriculture. (iii) Use of biodegradable materials. (iv) Water treatment plants should be installed in all Industrial areas. (v) Save water, not waste it. (vi) Reduce, Reuse and Recycle should be our mantra. (vii) Lawsfor Industrial units should implemented faraway.	It can be Controlled by treating waste material. Students listen carefully & writedown in their Notebooks	


WATER
POLLUTION

9. GENERALISATION :

It is generalised by the pupil teacher that the students have acquired sufficient knowledge about water pollution.

10. RECAPITULATION :

(i) Define water pollution ?
(ii) What are the causes of water pollution ?
(iii) How can you help reduce water pollution ?

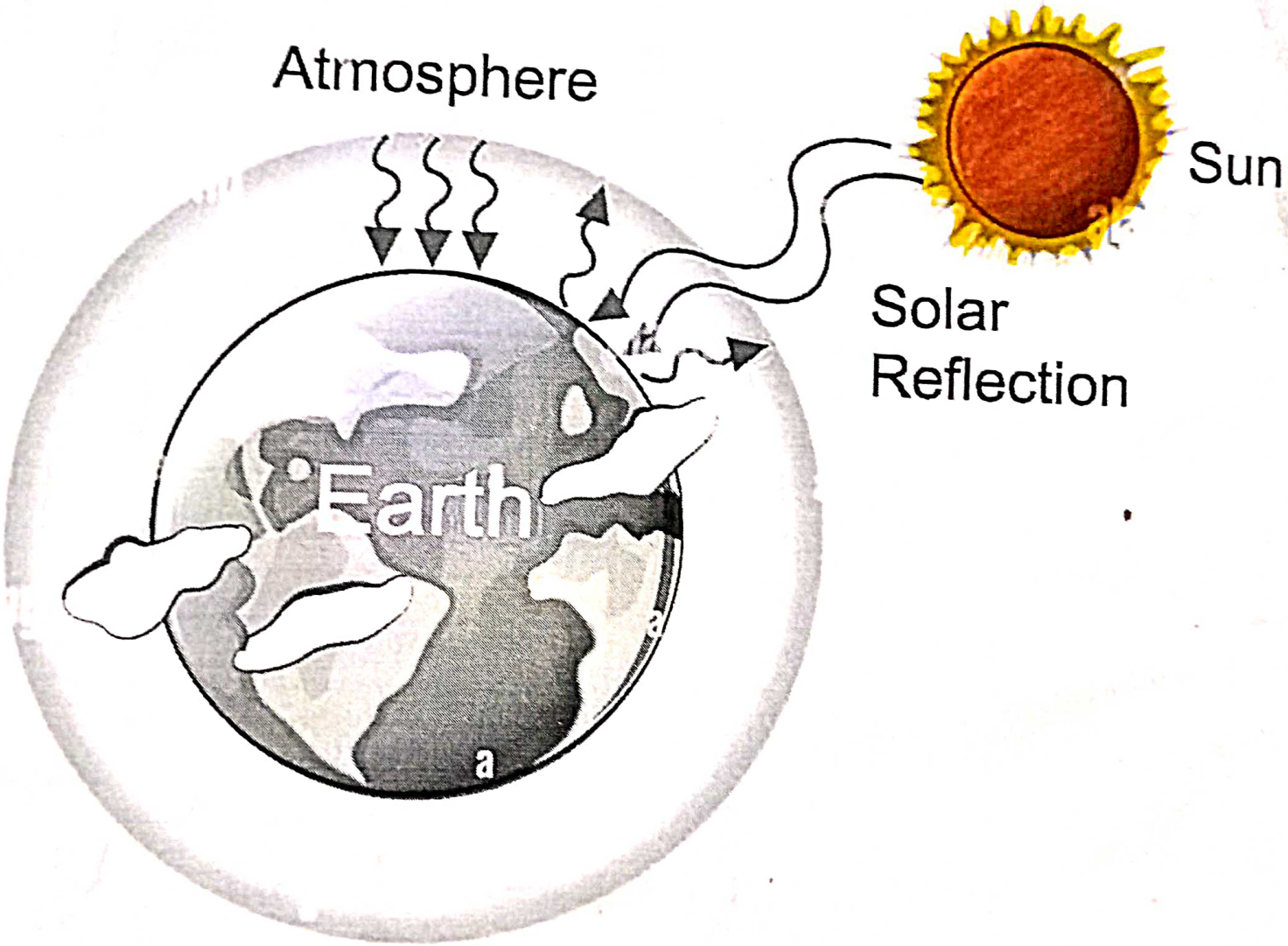
11. HOMEWORK :

(i) Define eutrophication ?
(ii) What is biological magnification ?
(iii) What measures can be taken to control water pollution ?
(iv) Draw a poster on 'Water pollution and its hazardous effects ?

12. CONTEXT :

NCERT Science Book.

The Greenhouse Effect



LESSON No.: 12

Date :
Duration of the period : 40 minutes
Pupil teacher's Name : Mamta
Pupil teacher's Roll no. :
Class : VII
Avg. age of Students : 12 yrs.
Subject : Biological Science
Topic : Green House Effect.

1. CONTENT ANALYSIS :

Green House Effect
Causes of Greenhouse effect
Effects of Green house effect.

2. GENERAL AIMS :

(i) To develop the scientific attitude towards life sciences among pupils.
(ii) To develop thinking and reasoning capacities of the students.
(iii) To develop the understanding about the reality and observation.
(iv) To inculcate scientific skills and observations among students.
(v) To provide training in scientific method.

3. Specific Aim or INSTRUCTIONAL OBJECTIVES :

① KNOWLEDGE : (i) Students can know about the effect of green house in human life.
(ii) Students will able to understand the concept

of green house effect in detail.

COMPREHENSION : (i) Students will able to define the concept of green house effect.
(ii) Student can learn about green house effect knowledge and tell everyone in detail

APPLICATION : (i) Students will able to use knowledge of green house effect to save our environment.

ANALYSIS : (i) Students will be able to analyse concept of green house effect.

SYNTHESIS : (i) Students will be able to summarise topic.
(ii) Students can synthesis the ways of green house effects.

4. TEACHING AIDS :

Chalk, Board, duster, printer etc.

5. PREVIOUS KNOWLEDGE ASSUMED :

It is pre-assumed by the pupil teacher that the students must be aware of Global climate change and green house effect.

6. PREVIOUS KNOWLEDGE TESTING:

In order to test the previous knowledge the pupil teacher will ask following questions:

Sr.No	Pupil teacher's Activities	Pupil's Activities
	Good morning students	Good morning ma'am.
(i)	What is the natural source of energy on Earth?	Sun
(ii)	What do we get from sun?	We get light from the Sun.
(iii)	How does the earth be, when falls the rays of Sun?	Earth will become warm.
(iv)	What is green house effect?	Problematic Question.

7. ANNOUNCEMEN OF THE TOPIC:

Well Students! we shall study about Green house effect today as our lesson.

8. PRESENTATION:

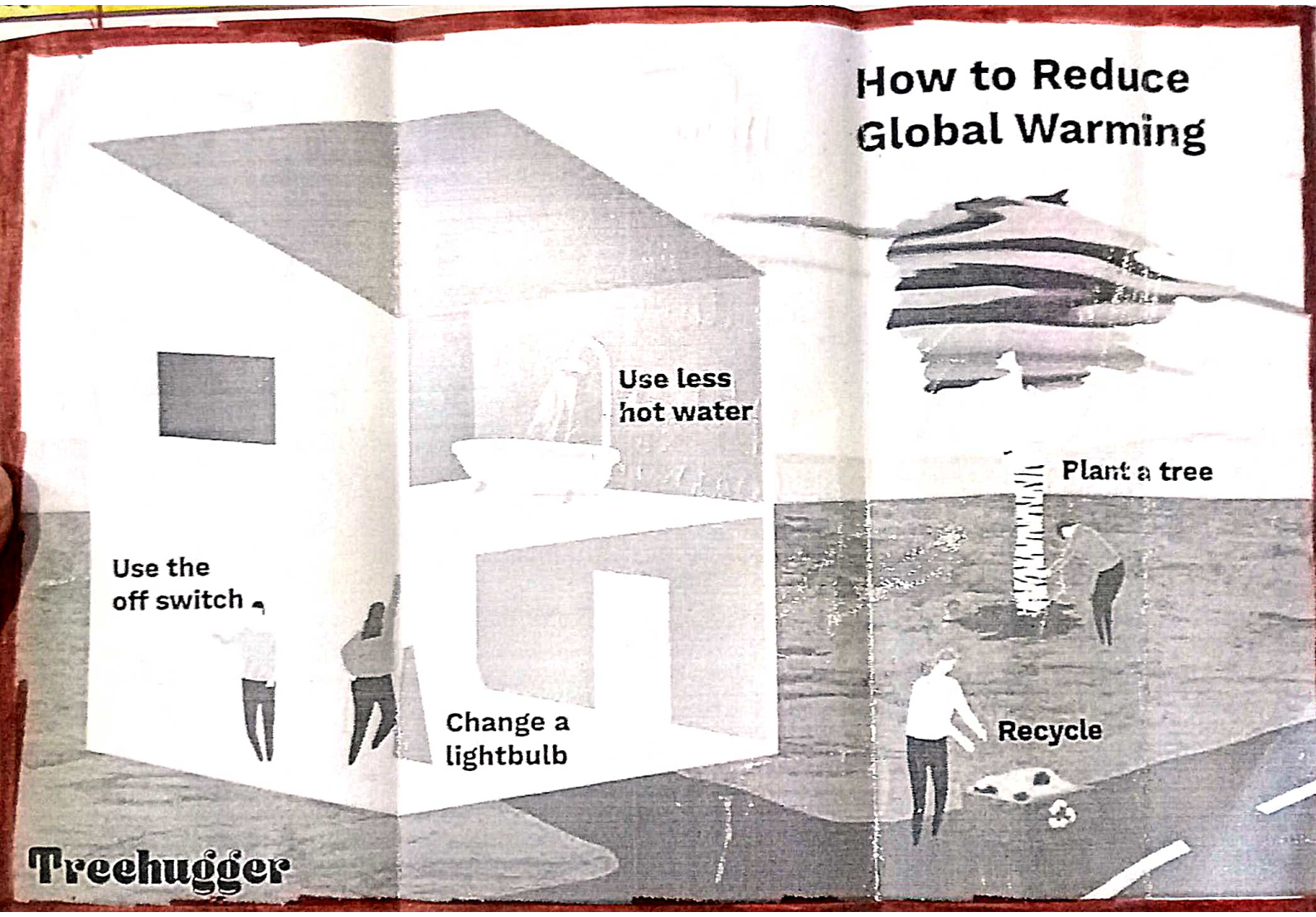
The pupil teacher will develop the lesson by using skill of explanation.

Teaching point	Pupil teacher's Activities	Pupil's activities	Board work
• GREEN HOUSE EFFECT	Green house effect is the process by which radiations from sun are absorbed by the greenhouse gases and not reflected back into space. This insulates the surface of the Earth and prevents it from freezing.	Students listening carefully	Green House Effect:
• GREEN HOUSE GASES	Green house gases are the gases that absorb the infrared radiations and create a green house effect. for eg: CO_2 and BFC (ChloroFloro Carbon). ↳ (used in AC)	Students remain silent.	Green Houses Gases ↓ CO_2, CFC
• CAUSES OF GREEN HOUSE EFFECT	The major causes of the green house effect are: (i) Burning of fossil fuels which releases CO_2. (ii) Deforestration: Plants and trees take in CO_2 and release O_2 but due to cutting of trees CO_2 is not absorbed.	Students able to learn the taught lesson.	Causes of Green Hous Effects: (1) Burning fossil fue (2) Deforesta (3) Farming

Teaching Points	Pupil Teacher's activities	Pupil's activities	Board work
	• (iii) Farming: Fertilizers such as nitrous oxide used by the farmers are one of great contributors of green house effect. • (iv) Industrial Waste and landfills – The industries and factories produce harmful gases in the atmosphere. Landfills also releases Co_2 and methane that adds to the green house gases.		Effects of Green house effect: 1) Global warming 2) Depletion of Ozone layer
• EFFECTS OF GREEN HOUSE EFFECT:	The main effects of increased greenhouse gases are:	Students will listen carefully and write down in their Notebooks.	
1) Global warming	Due to the increase in green house gases in the atmosphere, there is a gradual increase in the average temperature of the Earth's atmosphere.		

Teaching point	Pupil Teacher's activities	Pupil's activities	Board Work
2. Depletion of Ozone layer	Ozone layer protects the earth from harmful ultra-violet rays from the Sun. The depletion of ozone layer results in the entry of the harmful UV rays to the Earth's surface that might lead to skin cancer and also climatic change drastically.	Students will listen carefully.	
3. Other effects	Also other effects such as Smog and air pollution and acidification of water bodies due to acid rain, increase green house effect.	Write down in their Notebook	
• PRECAUTIONS To STOP GREEN HOUSE EFFECT	There are following precautions to stop green house effects- (1) Stop deforestation. (2) We should planting more trees. (3) Use less heat & air condition. (4) Reduce, Reuse & Recycle. (5) Replace your light bulbs. (6) Control pollution.	Students listen carefully. and write down.	

How to Reduce Global Warming



Treehugger

9. GENERALISATION :

It is generalised by the P.T. that pupils have acquired sufficient knowledge about "Green house effect."

10. RECAPITULATION :

(i) What is green house effect ?
(ii) Write the causes for green house effect ?
(iii) Fill in the blanks :-
(a) _____ is the precaution of green house effect.
(b) The _____ in temperature of earth surface is called green house effect.
(c) Deforestation is the precaution of _____.

11. HOMEWORK :

Q-(i) Write true or false :-
(a) Green house effect is useful ( )
(b) Common gases are green house gases ( )
(c) Oxygen is not the green house gas. ( )

Q-(ii) What do you understand by Global warming
Q-(iii) Write down the names of green house gases and how do they affect climate change ?

12 CONTEXT :

NCERT Science Book.


DISCUSSION
LESSON- II

DISCUSSION **LESSON NO.: II**

Date: Duration of period: 40 mins
Pupil teacher's Name: Mamta
Pupil teacher's Roll No.:
Class: VI Avg age of pupil: 11 yrs.
Subject: Biological Science Topic: Air pollution

1. **CONTENT ANALYSIS:**
   - Air Pollution Definition
   - Types of Air pollution
   - Causes
   - Effects
   - Controls / Measures.

2. **GENERAL AIMS:**
   (i) To develop scientific attitude among students.
   (ii) To provide taining in scientific method.
   (iii) To create interest in students for life science.
   (iv) To lay foundation for the acquisition of knowledge for higher education.

3. **INSTRUCTIONAL OBSECTIVES:**

(i) Pupil will be able to recognise the places where there is more pollution and the reason behind it.
(ii) The students will be able to understand and explain the causes of air pollution.
(iii) The students will be able to apply the learned Concepts to their daily life situations,

so as to decrease the air pollution.

(iv) The Students will develop the skills to reduce the pollutants of air by the use of public awareness campaigns and platforms.

4. TEACHING AIDS :

General Teaching aids : Chalk, duster, pointer etc.
Instructional Teaching aids : Cutouts, Live example etc.

5. PREVIOUS KNOWLEDGE ASSUMED :

It is pre-assumed by the pupil teacher that the students must be aware of pollutions and its types.

6. PREVIOUS KNOWLEDGE TESTING :

In order to test the previous knowledge of the students, the pupil teacher will ask following questions:

Sr. No.	Pupil Teacher's Activities	Pupil's Activities
	Good mooning students.	Good morning ma'am.
(i)	When rain comes down and passes through atmosphere of pollutant is called _____.	Acid rain.

(ii)	How the Taj Mahal and other monuments are damaging?	due to presence of harmful pollutants.
(iii)	What do you mean by air pollution?	No response.

7. ANNOUNCEMENT OF THE TOPIC:

Well students, Today we shall discuss about 'air pollution'.

8. PRESENTATION:

The pupil teacher will develop the lesson using lecture cum-demonstration method and few instructional teaching aids. and Ques-Answer method

Teaching Points	Pupil Teacher's Activities	Pupil's Activities	Chalk-Board Work
AIR POLLUTION	Air pollution is the release of pollutants such as gases, particles, biological molecules etc into the air that is harmful to human health and environment. The PT will give the above definition and explain.	Students will listen carefully.	Topic Air Pollution

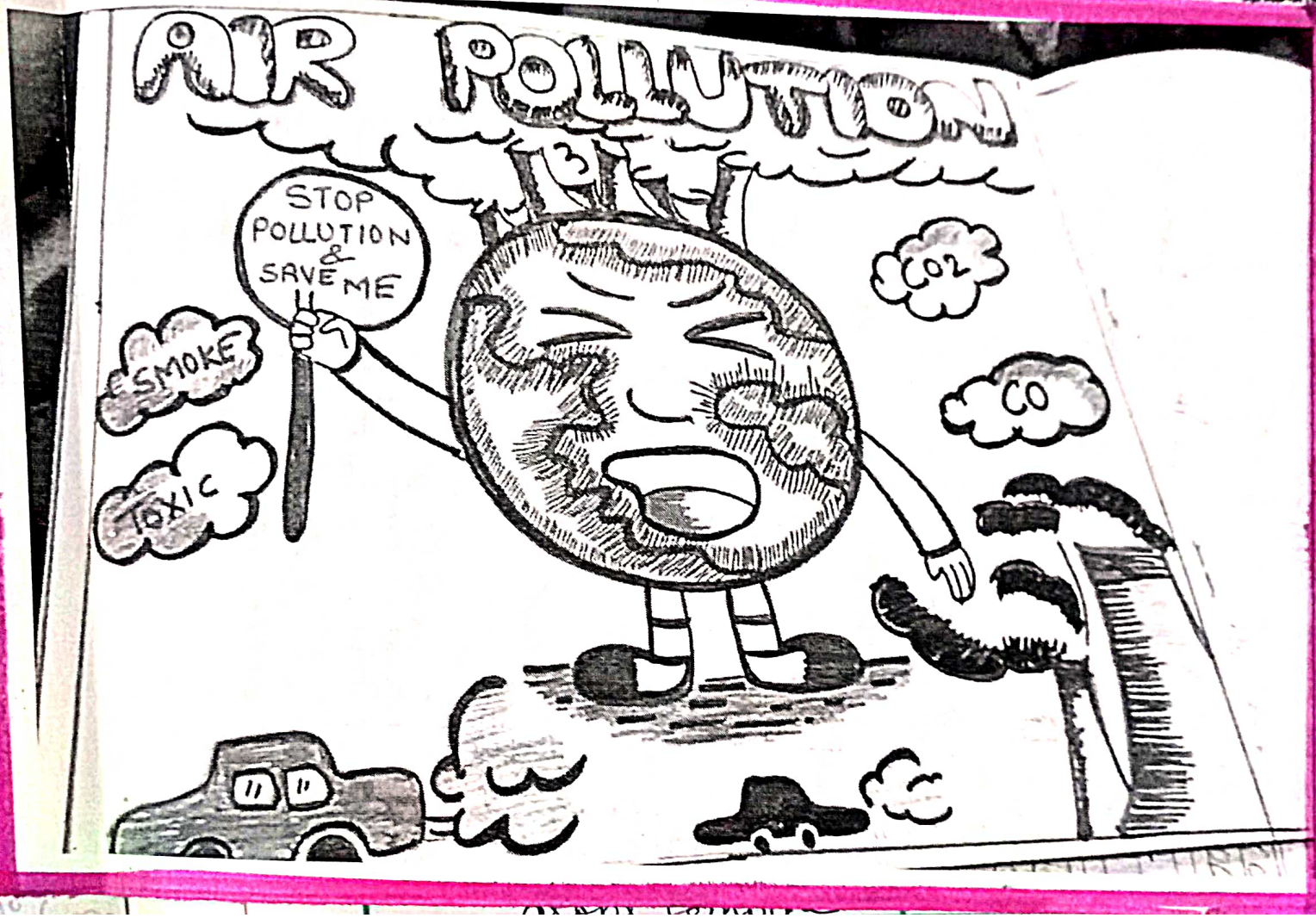
Teaching Points	Pupil-Teacher's Activities	Pupil's Activities	Board Work
• WHAT IS AIR POLLUTION [Explanation]	The pupil teacher will say – air pollution refers to any physical, chemical or biological change in the air, it is contamination of air by harmful gases, dust and smoke which affects plants, animals and humans drastically.	Students will listen carefully	Definition: Contamination of air by harmful gases, dust, smoke which affects plants, animals & humans.
• TYPES OF AIR-POLLUTANTS	There are two types of air pollutants: • PRIMARY POLLUTANTS • SECONDARY POLLUTANTS	Students will listen carefully and write down in their Notebook.	Types of Air Pollutants: 1° 2°
PRIMARY POLLUTANT	The pollutants that directly cause air pollution are known as primary pollutants.		
Example:	Sulphur dioxide emitted from factories is a primary pollutant.		
SECONDARY POLLUTANTS	The pollutants formed by the intermingling and reaction		

Teaching Points	Pupil-Teacher's Activities	Pupil's Activities	Board Work
	of primary pollutants are formed and are known as secondary pollutants.		
Examples	Smog formed by and fog, is a secondary pollutant.		
CAUSE OF AIR POLLUTION	What are the factors that Causes air pollution?	factories, household garbage etc.	
	Yes, right, The Important Cause of air pollution are:		
1) Burning of fossil fuel	The Combustion of fossil fuels emits a large amount of SO_2. Carbon monoxide released by Incomplete Combustion of fossil fuel.	Students will listen carefully. and Note down the key points in their Notebooks.	
2) Automobiles	The gases emitted from vehicles such as cars, trucks, buses etc. pollute the environment.		
3) Agriculture activities	Ammonia is one of the most hazardous gases emitted during		

Cause of air pollution:-
1) Burning of fossil fuel
2) Automobiles
3) Agriculture activities
4) Domestic sources

Teaching Points	Pupil-Teacher's activities	Pupil's activities	Board Work
	agriculture activities. Also, pesticides - insecticides, and fertilizers emit harmful chemicals in the atmosphere and contaminate it.		
4) Factories and Industries	Factories and Industries are the main source of Carbon monoxide, organic compounds, hydro-Carbons and chemicals. These are located, released into the air, degrading its quality.	Students listen Carefully and Note down the important key points in their Notebooks.	
5) Domestic Sources	The household cleaning products and paints, garbage dumping etc releases toxic chemicals and gases in the air.		

environment



Teaching Points	Pupil Teacher's activities	Pupil's activities	Board Work
• EFFECTS OF AIR POLLUTION	The hazardous effects of air pollution on the environment include :		Effects of Air pollution • Diseases → lung cancer, asthma. • Global warming. • Acid Rain
	• Diseases :- Respiratory disorders, lung cancer, asthma, pneumonia, eye irritation etc.	Students will listen and write in their Notebooks.	
	• Global Warming :- Imbalance of gases composition of the air has led to increase in temperature of earth, resulting into melting of glaciers.		
	• Acid Rain :- The rain drops combine with the pollutants in the air and become acidic and fall as acid rain which damages human, animal and plant life.		

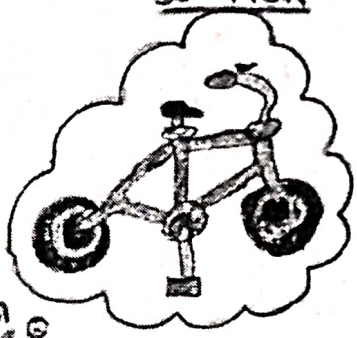
Teaching Points	Pupil-Teacher's activities	Pupil's activities	Board Work
• CONTROL MEASURES	What can you do to control air pollution? -The pupil teacher will say that - we can take measures to control air pollution by following ways:	No response.	Control measures • Avoid using vehicles • Energy Conservation • Use of clean Energy resource • Industrial emissions. • Fuel.
1) Avoid using vehicles	We must avoid using vehicles for shorter distance.	Students will listen Carefully and Note down in their Notebook.	
2) Energy Conservation	Do not forget to switch off the electrical appliances when not in use.		
3) Use of Clean Energy resources	The use of solar, wind and geothermal energies to reduce air pollution.		
4) Industrial emissions	Substituting raw materials with less polluting raw materials		
5) fuel	Substituting raw material with less polluting raw.		

Air Pollution

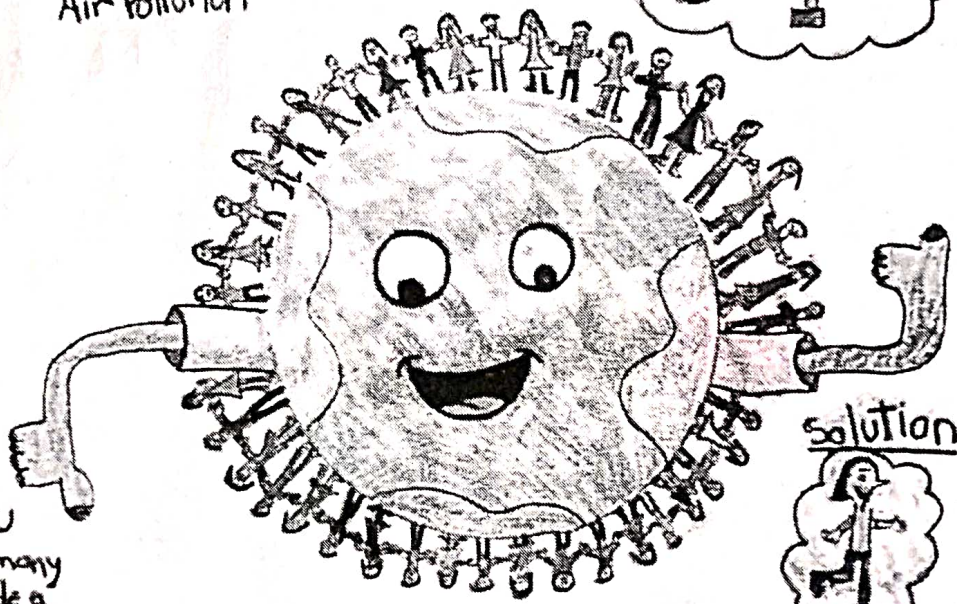
Problem

Earth wants YOU to use less cars because they cause Air Pollution

Solution



Earth wants YOU to use less cars. Ride a Bike



Save Earth

Earth wants You to not ride in as many cars to school. Ride a Bus. Solution

Solution

Earth wants YOU to use less cars. Walk

Help Save the Earth With Less Air Pollution!

By: Nicole Annella

Teaching Points	Pupil-teacher's activities	Pupil's activities	Board Work.
	material. Substituting petrol and diesel vehicles with CNG – Compressed Natural Gas fueled vehicles.		Afforestation
6) Afforestation.	Planting more and more trees.		

9. GENERALISATION :

It is generalised by the pupil teacher that by now the students must have acquired sufficient amount of knowledge about air pollution.

10. RECAPITULATION :

(i) Define air pollution.

(ii) What are the factors that contributes to air pollution.

(iii) fill in the blanks :

(a) Smog is formed by intermingling ___ and ___

(b) ___ cause air pollution directly.

(c) Combustion of fossil fuels emit a large amount of ___.

11. HOMEWORK :

(i) Draw a poster or make poster on air pollution, depicting the measures to reduce air pollution.

(ii) write a slogan on air pollution.

12. CONTEXT :

NCERT SCIENCE BOOK.