

ACTIVITY RECORD

PEDAGOGY OF BIOLOGY

INDEX

SL.NO	PARTICULARS OF ACTIVITY	COLLEGE/ SCHOOL/ SOCIETY	PAGE NO.
1.	Make a Survey on the problems of environmental pollution in your locality & record the observations and submit a record.	Society	
2.	Select any topic of your choice and prepare a lesson plan on the lines suggested in. Constructive approach.	School	
3.	prepare laboratory instructional cards for any experiments of your choice	School	
4.	Prepare a Librarian based on a certain item.	Society	
5.	Analyze recent public exams & class Biology Sciences quiz paper & compare with the formal question paper & record observation.	School.	

Activity - 1

make a survey on the problems of environmental pollution in your locality and record the observations and submit a report.

Problems of environmental pollution:-

What is environmental pollution?

One of the greatest problems that the world is facing today is that of environment pollution, increasing with passing year and causing grave and damage to the earth. Environmental pollution consists of five basic types of pollution, namely, air, water, soil, noise & light.

1. Industries:-

Industries have been polluting our environment especially since the beginning of the industrial use of fossil fuels. The transportation of the energy can be harmful to the environment.

2. Transportation:-

pollution of the environment has become higher & higher. pollution caused by transport- can mainly be attributed to fossil fuels.

3. Agricultural Activities:-

Agriculture is mainly responsible for the contamination of water & soil. This is caused by the increased use of pesticides.

4. Trading Activities:-

Trading activities including the production and exchange of goods and services. Concerning goods pollution can be caused by packaging (or) transport, mainly.

plastic & environment :-

The polythene bags thrown around are responsible for clogging drains. Animals in urban areas, particularly cows, eat polythene bags containing food material. Polythene is a plastic. It is mainly used for making carry bags.

"If we burn plastic, it creates a lot of air pollution."

plastic bags are more dangerous than atom bomb for future generations?

⇒ plastics take several years to decompose as compared to other materials like peels of fruits, vegetables & waste food stuff which decompose with time.

Sound pollution :-

Sound pollution is a serious problem like air/water pollution it is harmful to human beings.

In our surroundings there are many causing sound pollution like sounds of traffic, sounds by motor bikes, their horns, sounds at industries, sounds at mines, sounds during explosions and bursting of crackers etc.

The unwanted sound in our surrounding leads to sound pollution. There are some more sources of sound pollution in our homes like mixer/grinder, motors etc.

ACTIVITY - 2

Select any topic of your choice and prepare a lesson plan on the lines suggested in Constructive approach.

I Selected a topic of in-8 Fibre to fabric from VIII class Science text book to prepare a lesson plan.

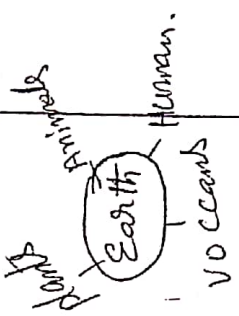
Lesson plan:-

Date: 06-09-16

Class VIII std

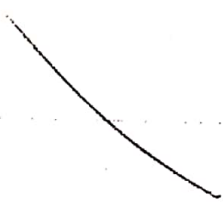
Date from 6-9-16 to 10-9-16.

1. Name of the lesson:- unit-9, Biology & parts of plants.
2. Unit/Subject:- unit-9, Biology Sciences
3. main points of the topic:- Is there any plant without flowers?
4. Name of the Student Granteeda Sunil Babu
Teacher:-
5. Conceptual understanding:- Children are able to explain, cite examples, give reasons and give comparison.

Teaching Steps	objectives	Teacher Activity	pupil-Activity	T.L.M	3 BW	evaluation
mind mapping		Good morning students. Had your Break part?	Good morning teacher yes teacher			
Introducing		ASK the Students to explain the.				
probing questions		key words related to the lesson on the black board ASK the Students and ask as they think about it What are the common that you observe in around plants.				

Teaching Steps	objectives	Teacher Activity	Pupil Activity	TLM	BBW	Evaluation
Topic Announcement		Today we discuss about "parts of plants"			parts of plants	
Reading & Recognising		Children take out the pg 83 & read the activity 1 & 2 underline key words with pencil.				
Group discussion		children discuss the recognized key words as a group.				Science text book
Explain the key boards		Students tell the words which are not known to you.	Tap root fibrous root vegetative			

Conducting the activities and understanding concept.		Tap root :- In some plants the main root becomes thick & thin. Fibrous root :- we find small palm-like arising from plants venation :- The arrangement of veins in the lamina is called venation. Students are you read the Activity - 5 so discuss the following questions as a group and answer it → What types of.				Science dictionary
---	--	---	--	--	--	-------------------------------

Drawing of model making	Demonstration of parts of leaf.	Draw the diagram of the parts of plant	Discuss the answers which were written by the students.	Write the answers on black board.	
Conclusion evaluation		Give the conclusion of evaluation about the views of teacher/ Student			

Activity -3.

prepare laboratory instructional cards for any two experiments of your choice.

Experiment:-

observation of unshelled egg in salt solution & observation of unshelled egg in tap water.

materials Required:- Three beakers, petri dish, salt, dilute HCl / Toilet Cleaning acid, Two equal sized raw eggs, Cloth to wipe A strip of paper for measurement, one table spoon.

procedure:-

Keep the raw eggs in dil HCl / Toilet Cleaning acid for 4 to 5 hrs. observe what happens. Take out the egg with help of table spoon, watch the eggs under tap water. Prepare one egg in beaker with tap water & other in the salt water.

Observations:-

- 1) we observed that in the above that the deshe-
lled egg in salt water is shrinking.
- 2) We observed that the desheled egg in the
tap water, the egg is swelling.

Experiment - 2:-

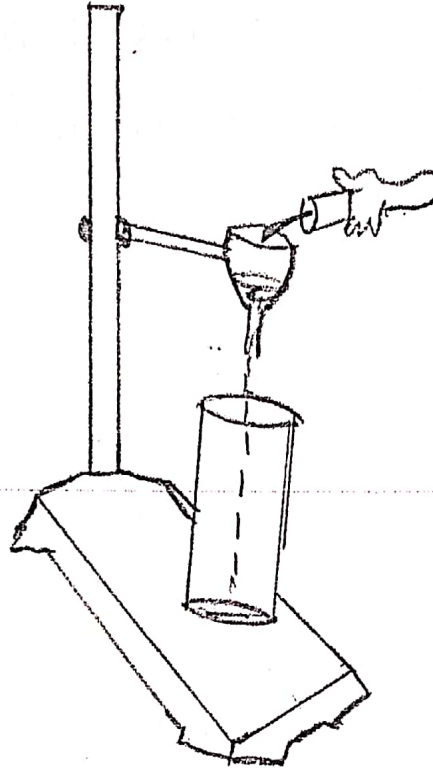
Filter water.

Two beakers, funnel, filter paper,
Retort stand, Sugar, Dye, wheat/Rice
flour, 500ml plastic bottle, Cotton cloth.

Procedure:-

1. Arrange the filtering separates as shown
in fig 4(a) & 4(b).
2. prepare wheat & rice powder solution
in a beaker by adding one tea spoon
of powder in 100 ml of water.
3. Add a drop of tincture iodine
to the solution.

4. Now pour the Solution into the funnel.



(Conventional procedure)

Observation:

By the above experiment we observe that Cells also act in the same way while allowing the substances to pass through the plasma membrane.

- a) It allows water to pass through
- b) It allows Certain materials dissolved in water to pass through
- c) It will not allow Certain materials do pass through it.

Activity-4.

prepare a Herbarium based on a certain theme.

Herbarium:- Is a collection of preserved plant specimens and associated data used for scientific study. The term can also refer to the building or room where the specimens are housed. Specimen preservation
Collections management

Venation:- The leaf lamina usually consists of a mid-rib, veins & veinlets arranged in the form of a net work.

The lines on the leaf are called "veins". The long vein present in the middle of the lamina is called mid rib. The branches arising from the mid rib are called veins and the even finer diversions are veinlets.

variation note sea level - the
leaf part.



Collected place: Vizianagaram

Common Rose: Rose.

Collected by: Nandita Nibedita

Classification of Rose.

Kingdom: plantae

Division: Spermatophyta

Class: Angiospermae

Sub Class: Dicotyledonae

Order: Rosales

Family: Rosaceae

Genus: Malus

Species: Malus

Angustifolia



Collected by : Nandita Nibedita

Collected from : Vizianagaram.

Common name : mandara.

Classification of Hibiscus

Kingdom: plant kingdom

Sub kingdom: Vascular plants

Division: Angiosperm.

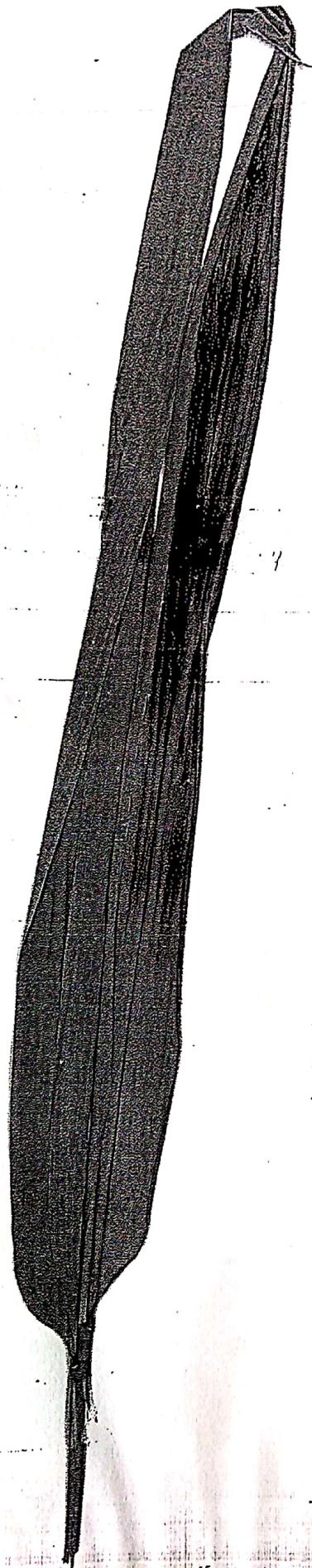
Class: magnoliopsida

Order: malvales

Family: ~~malvaceae~~

Genus: Hibiscus

Species: Hibiscus rose-ginensis



Classification of

Kingdom:

Class:

Order:

Family:

Tribe:

Genus:

Type A:

Series

Survey report:-

A Herbarium is a collection of dried plants - systematically named and arranged to ready reference to study. To make a herbarium specimen, the plant is collected and notes were made about it.

The plants is then pressed until dry between blotters that absorb moisture and mounted onto a herbarium sheet with a suitable level.

Herbarium has over 5,00,000 species of Botanical Garden with over 7,00,000 specimens.

There is special and need of (herbarium) material of cultivated plants.

Evaluation :-

I framed and developed the questions based on above concept on 8th class students & I prepared a report.

⇒ Asking Questions and making hypothesis:-

Children are able to ask questions to understand, to clarify the concepts and to participate in discussions. They are able to make hypotheses on given issues.

⇒ experimentation and field investigation.

To understand given concepts in the text book children are able to do experiments on their own. They are able to participate in field investigations and making reports on them.

Information Skills & projects:-

Children are able to collect information and analyses systematically. They are able to conduct their own projects works.

Communication through drawing and model making.

Children are able to explain their conceptual understanding by drawing figures and making models.

Appreciation and aesthetic sense and values :-

Children are able to appreciate man power and nature, and have aesthetic sense towards nature. They are also able to follow Constitutional values.

Application to daily life and Concern to bio-diversity.

Children are able to utilize Scientific Concept to face their daily life situations. They are able to show Concern towards bio-diversity.

Activity - 5

Analyse recent public exams Xth class Biology Sciences question paper and compare with pre-final question paper and record observations.

Observation Report :-

The prime concern of this study has been to quantitatively estimate the extent to which the different instructional objectives have been assessed in the Secondary examinations. The Analysis of the last year public examination and pre-final examination question papers in the biology subject has brought forth the following results.

The Analysis of both Xth Board public exam Biological Science and Xth Board pre-final exam biological Science question papers.

Shown that the tendency in this subject to assess students for lower order abilities such as memorization and recall has persisted, even through meaningful learning in Science requires the development of ~~the~~ critical ~~higher~~ order objectives and skills, as outlined in the Syllabus.

Comparison between IIT Board Examination Question Papers to pre final paper.

Weightage to objectives

S.No	objectives	No of Questions	Marks	%
1.	Knowledge	6	6 1/2	26
2.	understanding	7	12	48
3.	expression	3	4	16
4.	Appreciation	2	2 1/2	10
	Total	18	25	100

S.No	objectives	No of Questions	Marks	%
1.	Knowledge	7	7 1/2	30
2.	understanding	5	9	36
3.	expression	3	4	16
4.	Appreciation	3	4 1/2	18
	Total	18	25	100

Weightage to Content

S.No	Content	No of Questions	Marks	%
1.	Nutrition.	2	1	4
2.	Respiration	5	9	36
3.	Transpiration	3	3	12
4.	Coordination	2	3	12
5.	Heredity	3	5	20
6.	Our environment	1	1	4
7.	evolution	1	1	4
8.	Reproduction	1	2	8
	Total	18	25	100

S.No	Content	No of Questions	Marks	%
1	Natural Resources	2	4	16
2	Respiration	3	8	32
3	Transpiration	2	2 1/2	10
4.	Co-ordination	3	2	8
5	Heredity	2	1 1/2	6
6	Our environment	3	3 1/2	14
7	evolution	1	1 1/2	6
8	Reproduction	2	3	12
	Total	18	25	100

weightage to type of Questions.

S.No	Types of Questions	No of Questions	Marks	%
1.	Essay	1	5	20
2.	Short Answer	6	12	48
3.	Very Short Answer	5	5	20
4.	Objectives	6	3	12
	Total	18	25	100

S.No	Types of Questions	No of Questions	Marks	%
1.	Essay	1	5	20
2.	Short Answers	6	12	48
3.	Very Short Answers	5	5	20
4.	Objectives	6	3	12
	Total	18	25	100

weightage to type of difficulty level.

S.No	Difficulty level	No of Questions	Marks	%
1.	Difficult	1	5	20
2.	Average	7	7 1/2	32
3.	Easy	10	12 1/2	48
	Total	18	25	100

S.No	Difficulty level	No of Questions	Marks	%
1.	Difficult	1	5	20
2.	Average	6	7	28
3.	Easy	11	13	52
	Total	18	25	100

Dr.PVGR BEd College of Education

Karakavalasa vizianagaram
(Affiliated to Andhra University)

B.Ed Mid Term 1 Examination

Paper-X- PEDAGOGY OF BIOLOGICAL SCIENCE

Time:- 1 ½ hours

Max Marks:- 40

Section - A

5 X 5 = 25 Marks

Note:- 1. Section a consists of 5 short answer type questions with internal choice representing each unit of the course carrying 5 marks each.

2. The Candidate is expected to answer all the questions in about 1 page each.

1. a) Write about Qualities of a Good Science Text Book?

OR

b) Explain about Organisation of Curriculum Construction?

2. a) Explain the Importance of Laboratory Work?

OR

b) What is First Aid? Write about First-Aid Methods?

3. a) Explain about briefly Edgar Dale's Cone of Experience?

OR

b) Explain about Activity Aids of Herbarium, Vivarium and Terrarium?

4. a) How many types of Resources? Write about objectives of utilisation of Resources?

OR

b) Explain the levels and advantages of Science Fairs?

5. a) Explain the Process of Evaluation?

OR

b) What is the Importance of Interpretations of Scores?

Section - B

1 X 15 = 15 Marks

Note: 1. Answer any two of the following essay questions.

2. The candidate is expected to answer any one questions in about 4 page each?

6. a) Prepare an Achievement Test for 25 Marks for a Topic of Your Choice with a Blue Print?

OR

b) Explain about the Planning of Science Laboratories?

BLUE PRINT- Xth Board

Sl No	Cont ent	Knowledge				Under Standing				Expression				Appreciation				N o Of Q	M	%
		E	SA	VSA	O	E	SA	VSA	O	E	SA	VSA	O	E	SA	V S A	O			
1	Nutri tion								2(1)									2	1	4
2	Resp iratio n		1(2)	1(1)	2(1)	1(5)												5	9	36
3	Tran spor atati on				1(1/2)										1(2)		1(1/2)	3	3	12
4	Coor dinat ion										*1(2) 1(2)	*2(2) 1(1)						2	3	12
5	Here dity						2(4)	1(1)										3	5	20
6	Our Envir onm ent			*1(1)				1(1)										1	1	4
7	Excr etion											1(1)						1	1	4
8	Repr oduc tion		1(2)			*1(5)												1	2	8
	Total		2(4)	1(1)	3(1 1/2)	1(5)	2(4)	2(2)	2(1)		1(2)	2(2)			1(2)		1(1/2)	18	25	100
		6(6 1/2)				7(12)				3(4)				2(2 1/2)						

BLUE PRINT-Xth Pre final

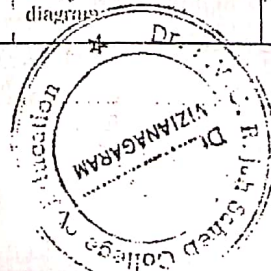
Sl No	Cont ent	Knowledge				Under Standing				Expression				Appreciation				No Of Q	M	%
		E	SA	VSA	O	E	SA	VSA	O	E	SA	VSA	O	E	SA	V S A	O			
1	Nutri tion						1(2)				1(2)							2	4	16
2	Resp iratio n		1(2)	1(1)		1(5)					*1(2))	*1(1))						3	8	32
3	Tran spor atati on								1(1/2))						1(2)	*1(2))		2	2 1/2	10
4	Coor dinat ion				1(1/2)			1(1)									1(1/2)	3	2	8
5	Here dity				1(1/2)								1(1)			*1(1))		2	1 1/2	6
6	Our Envir onm ent		1(2)	*1(1))					1(1/2))									3	3 1/2	14
7	Excr etion				1(1/2)													1	1/2	2
8	Repr oduc tion			1(1)		*1(5))												2	3	12
	Total		2(4)	2(2)	3(1 1/2)	1(5)	1(2)	1(1)	2(1)		1(2)	2(2)			2(4)		1(1/2)	18	25	100
		7(7 1/2)				5(9)				3(4)				3(4 1/2)						

Questions wise Analysis:- Xth Board Pre final

Sl. No.	Objectives	Name of the Content	Form of Questions	Difficulty Level	Marks	Time
1	Knowledge	Excretion	Objective	Easy	1/2	1 1/2
2	Under Standing	Our Environment	Objective	Easy	1/2	1 1/2
3	Knowledge	Coordination	Objective	Average	1/2	1 1/2
4	Under Standing	Transportation	Objective	Easy	1/2	1 1/2
5	Knowledge	Heredity	Objective	Easy	1/2	1 1/2
6	Appreciation	Coordination	Objective	Average	1/2	1 1/2
7*	Expression	Respiration (Choice)	One Word Sentence Very Short Answer	Easy	1	2 1/2
8	Knowledge	Reproduction	One Word Sentence Very Short Answer	Easy	1	2 1/2
9*	Expression	Heredity (Choice)	One Word Sentence Very Short Answer	Average	1	2 1/2
10	Expression	Our Environment	One Word Sentence Very Short Answer	Average	1	2 1/2
11	Knowledge	Respiration	One Word Sentence Very Short Answer	Easy	1	2 1/2
12	Under Standing	Coordination	One Word Sentence Very Short Answer	Easy	1	2 1/2
13	Expression	Heredity	One Word Sentence Very Short Answer	Average	1	2
14*	Knowledge	Our Environment (Choice)	One Word Sentence Very Short Answer	Average	1	2
15	Knowledge	Respiration	Two Sentences Word Short Answer	Average	2	3
16	Appreciation	Reproduction	Two Sentences Word Short Answer	Easy	2	3
17	Appreciation	Transportation	Two Sentences Word Short Answer	Easy	2	3
18*	Expression	Respiration (Choice)	Two Sentences Word Short Answer	Average	2	3
19*	Appreciation	Transportation (Choice)	Two Sentences Word Short Answer	Average	2	3
20	Under Standing	Natural Resources	Two Sentences Word Short Answer	Easy	2	3
21	Knowledge	Our Environment	Two Sentences Word Short Answer	Easy	2	3
22	Expression	Natural Resources	Two Sentences Word Short Answer	Average	2	3
23	Under Standing	Respiration	Essay draw neat diagram	Difficult	5	6
24*	Under Standing	Reproduction (Choice)	Essay draw neat diagram	Difficult	5	6

Questions wise Analysis:- Xth Board

Sl. No.	Objectives	Name of the Content	Form of Questions	Difficulty Level	Marks	Time
1	Under Standing	Nutrition	Objective	Easy	1/2	1 1/2
2	Under Standing	Nutritio	Objective	Easy	1/2	1 1/2
3	Knowledge	Respiration	Objective	Average	1/2	1 1/2
4	Knowledge	Respiration	Objective	Average	1/2	1 1/2
5	Knowledge	Transportation	Objective	Easy	1/2	1 1/2
6	Appreciation	Transportation	Objective	Average	1/2	1 1/2
7*	Expression	Coordination (Choice)	One Word Sentence Very Short Answer	Average	1	2 1/2
8	Knowledge	Respiration	One Word Sentence Very Short Answer	Easy	1	2 1/2
9*	Expression	Coordination (Choice)	One Word Sentence Very Short Answer	Average	1	2 1/2
10	Under Standing	Heredity	One Word Sentence Very Short Answer	Average	1	2 1/2
11	Expression	Coordination	One Word Sentence Very Short Answer	Easy	1	2 1/2
12	Under Standing	Our Environment	One Word Sentence Very Short Answer	Easy	1	2 1/2
13	Expression	Excretion	One Word Sentence Very Short Answer	Average	1	2
14*	Knowledge	Our Environment (Choice)	One Word Sentence Very Short Answer	Average	1	2
15	Knowledge	Respiration	Two Sentences Word Short Answer	Average	2	3
16	Knowledge	Reproduction	Two Sentences Word Short Answer	Easy	2	3
17	Appreciation	Transportation	Two Sentences Word Short Answer	Easy	2	3
18*	Expression	Coordination (Choice)	Two Sentences Word Short Answer	Average	2	3
19*	Appreciation	Transportation (Choice)	Two Sentences Word Short Answer	Average	2	3
20	Under Standing	Heredity	Two Sentences Word Short Answer	Easy	2	3
21	Under Standing	Heredity	Two Sentences Word Short Answer	Easy	2	3
22	Expression	Coordination	Two Sentences Word Short Answer	Average	2	3
23	Under Standing	Respiration	Essay draw neat diagram	Difficult	5	6
24*	Under Standing	Reproduction (Choice)	Essay draw neat diagram	Difficult	5	6



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