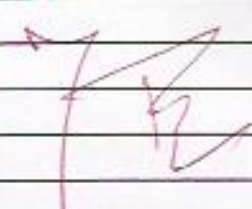
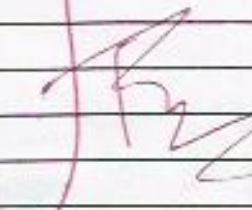

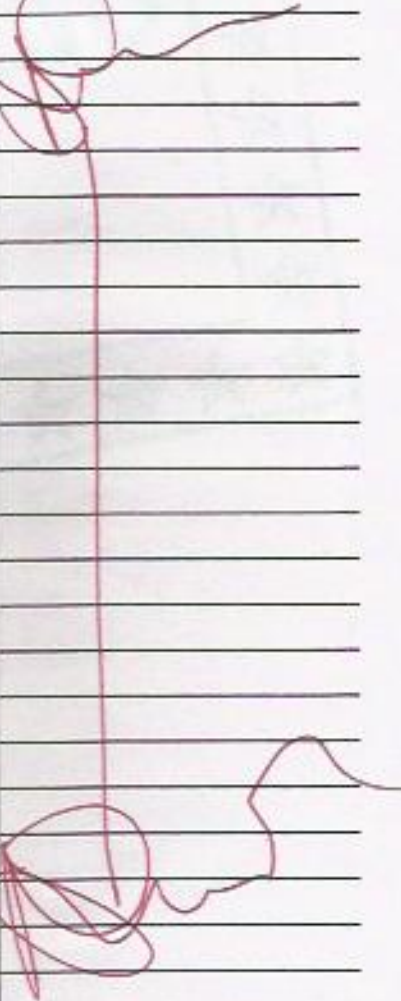


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**MICRO TEACHING
LESSONS**

LESSON No. 01.....

Date 08.12.14

Duration of the period 35 mins

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.S.C.

Topic Various parts of flowers

Skill of Introducing lesson.

Pupil teacher's activity

Pupils activities

What are the parts of flower

Sepals, petals, Androecium and gynoecium.

What are sepals collectively called as?

Calyx

What are petals collectively called as?

Corolla

What is the female reproductive organ?

Gynoecium.

What is the male reproductive organ?

Androecium.

Why corolla is coloured so beautiful?

No response.

- to attract the insects for pollination.

10
What is pollination?

process of transfer of pollen grains from stamens to stigma of carpel.

What happens after the process of pollination?

Fertilization.

How many types of pollination are there?

No response.

It is transfer of pollen grains from the anther of a flower to the stigma of the same flower or to the stigma of another flower born on the same plants.

It involves the transfer of pollens from flower to one plant to the stigma of flower of another plant of the same species.

What is the end product
of fertilization?

zygote.

Sl. No.	Components	Rating Scale
1	Relevancy	0 1 2 3 4 5 6
2	Briefness	0 1 2 3 4 5 6
3	Specification	0 1 2 3 4 5 6
4	Clarity	0 1 2 3 4 5 6
5	Grammatical clarity	0 1 2 3 4 5 6

LESSON No. 02.....

Date 9.12.14

Duration of the period 35 mins

Pupil Teacher's Name Piyali Ojha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject 1.5c.

Topic Living & Non Living things

Skill of Explaining
Pupil Teacher activity

There are two kinds of things in our ecosystem — living and non living things.

1. Those things which can move from one place to another place.
2. Which show growth and development.
3. Which have a definite life-span.
4. Which can reproduce and multiply.

1. Which cannot move from one place to another by themselves.
2. Which do not show growth and development.
3. Which do not have definite life span.
4. Which do not multiply and reproduce.

Student activity

Students listen carefully and note down the characters of living things.

Students listen carefully.

Nutrition:

The process of intake and utilization of nutrients by an organism is called as Nutrition.

On the basis of nutrition, how many parts organism's divide? What are they?

Organisms are divided into three parts.

1. Herbivorous.
2. Carnivorous.
3. Omnivorous.

Herbivorous:

Those organisms which obtain their nutrition from green plants.

Carnivorous:

Those organism's which obtain their nutrition from flesh of other animals.

Omnivorous:

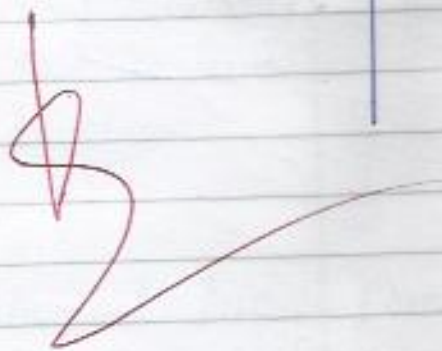
Those organism's which obtain their nutrition from green plants as well as flesh of other animals.

Give example of-

1. Herbivorous
2. Carnivorous
3. Omnivorous

Cow, Goat, Sheep.
Lion, Tiger
Human beings, Cat,
and dog.

Sl. NO.	Components	Rating scale
	Using appropriate beginning & concluding statements.	0 1 2 3 4 5 6
	Using explaining links	0 1 2 3 4 5 6
	Covering essential points.	0 1 2 3 4 5 6
	Testing pupils understanding	0 1 2 3 4 5 6



LESSON No. 03

Date 10.12.14

Duration of the period 35 mins

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Organic evolution

Skill of Questioning

pupil teacher's activity

pupil's activity

It refers to gradual changes from one form to another on living being with time is organic evolution.

Students listen carefully

Which performs different functions in different species but have same basic structure.

eg. The forelimb in a frog, lizard, bird and humans show similarity in basic structure but perform entirely different functions.

What is the function of forelimbs of frog, a lizard, a bird and a human being.

forelimb of a frog act as a shock absorber. In lizard Used for creeping & in birds for flying & in human beings for grasping.

Organs having different fundamental structure and embryonic origin but perform same function.
eg. Wings of bird and insect.

Students listen carefully

An insect wing is a fold of membrane supported by few muscles but the wings of a bird are formed of limb bones covered with flesh, skin and feathers.

The organs which are present in reduced form and are useless to the possessor but are homologous to the fully developed, functional organs in the ancestor or related form.

eg. Vermiform appendix in human beings.

What is vermiform appendix?

It is a large structure in herbivorous mammals & serves for the digestion of cellulose contents of the food by bacterial action. In human beings the habit of taking soft & cooked food has reduced the need for bacterial digestion, so it became reduced & useless.

It is a blind at the end of large intestine.

Sl. No.	Component	Rating scale
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.	Use of appropriate media for examples.	0 1 2 3 ④ 5 6
5.	Making use of inductive-deductive approach.	0 1 2 ③ 4 5 6

LESSON No. 04

Date 11.12.14

Duration of the period 35 minutes

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.Sc.

Topic Movement of Plant

Skill of - Stimulus variation
 pupil's teacher's activity pupils activity

Plants do not have numerous functional system, muscles and sense organs like animals, still they can react to various environmental stimulus such as light, gravity, water etc. Plants show two different types of movt. in response to various stimulus and these are called as plant movements:

Students listen carefully about various plant movts.

1. Nastic movements.
2. Tropic movements.

1. Nastic Movements.
2. Tropic Movements.

P.T. Writes on black board.

These are non-directional induced variat- movement and independent on growth.
 eg. In Mimosa pudica.

What happens when we touch the leaves of the Touch-me-not plant with our fingers.

It leaves immediately fold up and also drops down.

The directional movement of specific part of a plant in response to external stimuli are called tropic movement.

Movement of plant part in response to light [P.T. Shows through diagram]

Movement of a plant part in response to gravity.

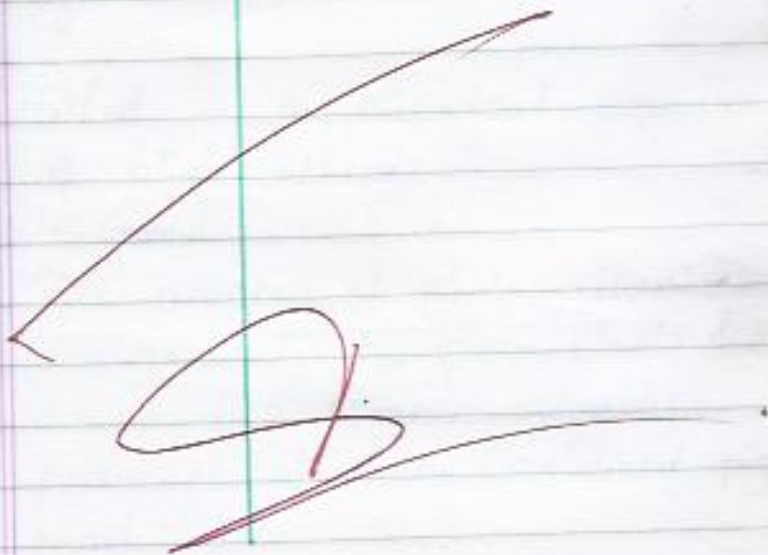
Movement of a plant part in response to chemical.

Movement of a plant part in response to water.

Students listen carefully and note down about various tropic movements.

- phototropism
- Geotropism
- Chemotropism
- Hydrotropism

Sl. No	Components	Rating scale
1	Movement	0 1 2 3 4 5 ⑥
2	Gestures	0 1 2 3 4 ⑤ 6
3	Change in voice	0 1 2 3 4 ⑤ 6
4	Focussing	0 1 2 3 4 ⑤ 6
5	Change in interaction style.	0 1 2 3 4 ⑤ 6
6	Aural-visual switching	0 1 2 3 4 ⑤ 6
		0 1 2 3 4 ⑤ 6



LESSON No. 05.....

Date 12.12.14
Pupil Teacher's Name Piyali osha
Class IX
Subject L.Sc.

Duration of the period 35 minutes
Pupil Teacher's Roll No. 9560155
Average Age of the pupils 15 years
Topic Photosynthesis

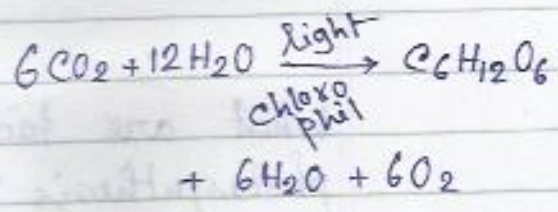
Skill of Illustration.

pupil's teachers activity

pupils activity.

Photosynthesis is a process by which the green plants synthesize complex carbohydrate & evolve molecular O₂ from simple inorganic substance like CO₂ & H₂O with the help of light energy.

What is a chemical equation of photosynthesis?
- Good



The process of photosynthesis occurs only in green plants because this process requires presence of green coloured pigment.

What is name of that green coloured pigment?
- Correct.

Chlorophyll.

What is site of photosynthesis +ve response by head movement.

Leaves.

Photosynthesis does not occur in all the cells of a green plant. It occurs only in those cells which possess the green coloured 'PLASTIDS' called CHLOROPLAST. Chloroplast are not found in upper and lower epidermis of green leaf except in guard cells of STOMATA. They occur in mesophyll cells that occupy the space between upper and lower epidermis.

Students listen carefully

What are factors affecting photosynthesis?

- Temperature
- Water
- Carbon-di-oxide (CO_2)
- Light

No response

S.No.	Components	Rating Scale
1.	Use of acceptable sentences	0 1 2 3 4 (5) 6
2.	Favour of student suggestion	0 1 2 3 4 5 (6)
3.	Encouragement of students.	0 1 2 3 4 (5) 6
4.	Use of gesture and non-verbal clues.	0 1 2 3 4 (5) 6
5.	Correct use of reinforcement	0 1 2 3 4 (5) 6
6.	Writing answers of student on B.B.	0 1 2 3 4 (5) 6
7.	Use of reinforcement for everyone.	0 1 2 3 (4) (5) 6

**MEGA TEACHING
LESSONS**

LESSON No. 01.....

Date 13.12.15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Plant movement

INSTRUCTIONAL OBJECTIVES :-

After going through

the lesson, the student will be able to :-

- Able to recall plant movements.
- Able to recognize plant movements
- Able to see relationship between plant and animal movement.
- Synthesis the example of plant movements.
- Classify plant movement.
- Able to give their views about plant movement.

INSTRUCTIONAL AIDS :-

P.K. Testing

Pupil teacher activity

Student activity

What is stimulus?

Changes in environment to which the organism react and respond.

What are phytohormones?

Plant hormones are called phytohormones.

What is co-ordination?

No response.

Announcement of Topic: Students today we shall study about various plant movements.

Presentation

Pupil activity

Student Activities

sub matter
Co-ordination in plants. The working together of various organs (parts) of the body of an org./plant in a proper manner to produce proper rxn is Co-ordination control & Co-ordination in plants is not as elaborate as animals. plants do not have various system like animals still they can respond and react to various stimuli such as light gravity water etc. plant & co-ordinate.

Student listen carefully

Teaching Point

Pupil's teacher Activities

Their responses against environmental stimuli by using hormones.

Student's Activities

Plant movement

are brought about by some definite external & internal stimuli by using phytohormones. According to nature of stimulus the movements may be spontaneous (automatic) or induced (paratonic).

Students note down of plant movements.

Induced plant movement

Classification of plant movements
Nastic: These are non directional induced variations that occur due to trigger changes.
1) Seismonastic movements: Such movement occur in response to touch. These are best seen in touch me not (Chui-mui).

Students note down the type of induced plant movements.

Example of touch movement

Mimosa pudica (sensitive plant)
What happen when we touch the leaves of a Chui-mui. After sometime the leaves regain their original state.

Its leaves immediately fold up and down.

2. Nyctinastic movement: The movements involving the diurnal variation in the position of flowers are called nyctinastic movements. These involve photonastic & thermonastic movements.

Students listen carefully.

Explanation of photonastic movements.

Photonastic movement: If the diurnal variation in the position of plant parts are caused by light stimulus such non-directional movements.

Students Activities

Students listen carefully.

Explanation of tropic movement

Tropic movements: Directional movements of specific part of plant in response to external stimuli are tropic movements.

Students note down about tropic movements.

- If the movement of plant part is towards the stimulus it is termed as the tropism.

- If the movements of plant is away from stimulus it is -ve tropism.

Types of tropism:

Various types of tropism & phototropism.

1. Phototropism: It is directional movement of the plant part in response to light stimulus. eg. Stem/shoot of growing plant moves towards light and thus show +ve phototropism.

Students note down the types of tropism.

Student's Activities

2. Geotropism
2. Geotropism: Directional movement of plant part in response to gravity.

3. Chemotropism

What kind of geotropism does stem/shoot show? Why?

-ve, because it grow against gravity.

4. Hydrotropism

3. Chemotropism: Directional movement of plant part in response to chemical stimulus.

4. Hydrotropism: Directional movement of plant part in response to water.

What is +ve hydrotropism?
- If plant part moves towards water stimulus.

No response

What is -ve hydrotropism?

If plant part moves away from water stimulus.

Recapitulation :-

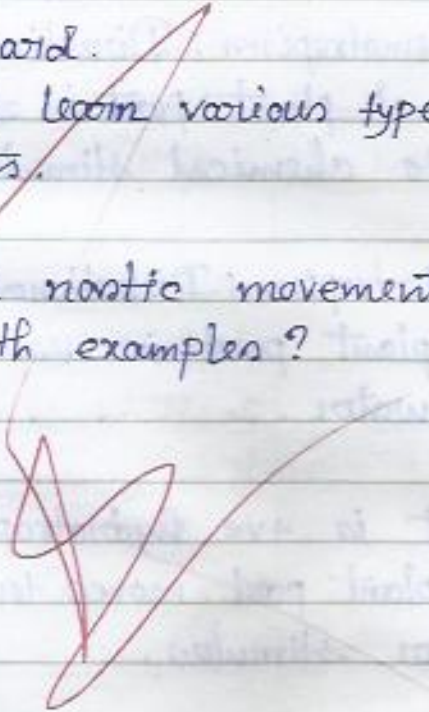
- 1) What is nastic movement?
2. What is tropic movement?
3. How many kind of tropic movements are there?

Home Work :-

Written on black board.

question: Study and learn various types of tropic movements.

question: What are nastic movements.
Explain with examples?



LESSON No. 02.....

Date 14.12.14

Duration of the period 35 mins.

Pupil Teacher's Name Pijali ojha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.S.C.

Topic Natural Resources

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the student will be able to :-

- Able to recognize natural resources.
- ~~Able~~ Define various natural resources.
- Classify & explain various types of natural resources.
- Give example of natural resources.
- Differentiate b/w natural and man-made resources.

INSTRUCTIONAL AIDS :-

General :- Chalk, BlackBoard, Duster, pointer.

Specific :- Ray diagram on the chart.

PREVIOUS KNOWLEDGE ASSUMED :-

Assure the student must know about difference b/w natural resources and man made resources and their uses.

I.P.K. Testing

Pupil teacher activity

Student activity

What are natural resources?

Those responses which are obtained directly from the nature.

Give examples.

Can you classify natural resources.

forests, wild life
No response.

Announcement of topic: Students today we shall study about various plant movements.

Presentation

Subject matter

Pupil teacher activity

Student's activity

Activities

Natural resources

Resource is a source of supply or support held in reserve for - Eg - Wood off from forest is used for making furnitures, fibres obtain from cotton are used to wearing cloth, fossil fuel, river lakes, air etc.

Students note down about natural resources

Definition: A resource is any means of supply ing a natural field in reserve which can

be transferred into more valuable and useful item.

Student's Activities

Types of Resources :

Natural and Man made resources

Natural and Man made National resources are directly obtained from nature eg. forest, wild life, minerals, air, water etc.

Students listen carefully

Man made resources are manufactured by man eg: plastic, pesticides etc.

Types of Natural resources: Natural resources are obtained from earth & its environment.

They are classified in 3 ways:

Classification of Natural Resources

A. Based on chemical nature

i. Inorganic resources

ii. Mixed resources

iii. Organic resources

B. Based on abundance and availability:

I. Inexhaustible resources:

These occur in such abundance that they are not likely to be exhausted by human use - air, clay, sand.

Students note down the classification of Natural resources

II. Exhaustable resources:

They are likely to be finished due to continuous use eg. minerals, fossil, fuel. These are of two types -

- a. Renewable resources
- b. Non-renewable resources

Renew-
able
resources

Renewable: These resources can maintain themselves by natural recycling and reproduction or can be replenished if managed wisely. They include forests, crops, domestic animals etc.

Non-
renewable
resources

Non-renewable: They get exhausted with use because they are not recycled. They include metallic mineral and fossil fuels, coal, natural gas, petrol.

- c. Based on their distribution:
 - i. National resources: These are confined to national boundaries eg. minerals, land & forest.

Students
note down
distribution
classification.

Student's Activities

ii. Multinational resources: These are shared by more than one nation (certain river), lakes.

iii. International resources: Shared Uniformly by all the national. eg. air, sunlight.

Conservation of natural resources for sustainable development: Continuous increase in human population and unending desire of man has resulted in increasing demand for natural resources. Utilization and exploitation of resources of such vast state are definitely causing their depletion. So nature has only limited amount of them in resources.

Need for Conservation of natural resources

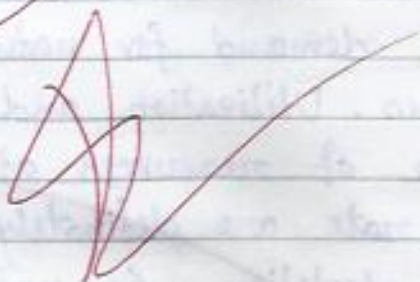
Students note down importance of Conservation

Recapitulation

1. What are natural resources?
2. What are inexhaustible resources?
3. What are renewable & non renewable resources?
4. What conservation of natural resources is necessary?

* Home Work

1. What are natural resources? Classify them & give example of each type?



Date 16.01.15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali oja

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Food chain

Instructional objectives :-

After going through the lesson, students will be able to :-

- Recall about the ecosystem and its components.
- Recognize about different trophic level of food chain.
- Classify different ecosystem.
- Generalize the term used in Ecosystem (i.e. Autotrophs, Producers, Carnivores herbivores etc.)
- Synthesize example of different types of ecosystem.
- Distinguish b/w food chain & food web.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Black Board.

Specific :- Chart of food chain.

PREVIOUS KNOWLEDGE ASSUMED :-

It is expected

the students should have knowledge about ecosystem.

I.P.K. Testing

Pupil teacher activity

What are primary consumers

What are secondary consumers

Define food chain

Student activity

The green plants (autotrophs) are primary consumers.

The flesh eating animals are secondary consumers.

No response.

Announcement of Topic: Well students today we study about food chain.

Presentation

Pupil activity

Student activity

Sub matter

Food chain

Primary, secondary & tertiary consumers

In any green ecosystem all living organisms are linked in a systematic chain with respect to their mode of manufacturing food habits. The interaction among various components of env. involves flow of energy from one component to another.

During photosynthesis producers capture solar energy and convert it into chemical energy.

These are eaten up by

Students note down about food chain

plant eaters i.e. herbivores. These are further eaten up by flesh eating animals carnivores which in turn may be eaten up by large — carnivores.

Definition: This sequential interlinking of organisms involving transfer of energy from producers, through series of organisms with repeated eating and being eaten called food chain.

The distinct sequential steps in the food chain where transfer of energy occurs are referred to as different trophic level eg. green plant from 1st trophic level. The plant eaters also called primary consumers level belong to 2nd trophic level. The 1st consumers level & flesh eaters (carnivorous) also called secondary consumers represent 3rd consumer level the 2nd consumer level & so on.

Characteristics of food chain:

1) It involves a nutritive interaction between living organisms (biotic components) of an ecosystem.

2) A food chain is always straight and proceeds in organic progressive straight line.

Students Activities.

Students note down the definition of food chain.

Students note down definition of trophic level.

Students list carefully.

3) In a food chain, there is unidirectional flow of energy from sun to producers and subsequently to series of different types of consumers.

4. Usually there are 3 or 4 trophic levels in a food chain. There may be maximum 5 trophic levels.

5. Some organisms are omnivorous e.g. Grasshopper, Tiger.

Food web:

It is a network of food chain which become interconnected at various trophic levels so as to form a number of feeding connections amongst different organisms of a biotic community.

Students note down definition of food web.

Recapitulation :-

Define food chain ?

What are the characteristics of a food chain ?

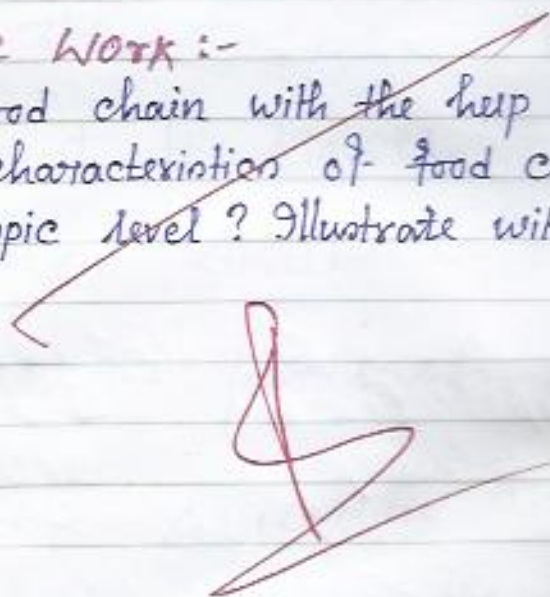
What is food web ?

Home Work :-

Illustrate food chain with the help of a diagram.

Write the characteristics of food chain.

What is trophic level ? Illustrate with an example.



LESSON No. 04.....

Date 17.01.15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali Ojha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.S.C.

Topic Various flower parts of flower

Instructional Objectives :-

After going through

the lesson, the student will be able to -

- Recall about the flower
- Recognize the structure of a flower.
- Identify all the parts of flower.
- To develop scientific thinking, reasoning and imagination among the students.
- Tell about functions of different parts of flower.

INSTRUCTIONAL AIDS :-

General :- Chalk, Blackboard, Duster etc.

Specific :- Chart of different part of flower.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher

assume the student must know the different trees and plants parts.

IPK. Testing

IPupil teacher activity

How many types of reproduction are there?

What is reproductive part of plant.

What kind of reproduction occurs in flowering plants.

Student activity

Two - Sexual & Asexual

Flower .

No response.

Announcement of Topic :

Sexual reproduction occurs flowering plants. So today we shall study about parts of flower.

IPresentation

Sub
matter

IPupil teacher
activities

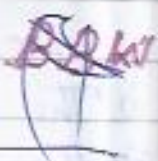
Student
activity

various
parts of
a flower.

In flowering plants all the steps of sexual reproduction occurs with in specialized reproductive organs called flower.

Thus a flower may be defined as a specialized condensed reproductive shoot of plants on which are inserted the essential reproductive parts.

Students
listen
carefully.



Main Parts of flower

What are the main parts of flower?

calyx, corolla
Androecium
Gynoecium

Structure & Function of

Calyx: It is outermost whorl of floral leaves called sepals. Sepals are generally green in colour & protective in function occasionally they are bright coloured.

- calyx
- corolla
- Androecium
- Gynoecium

Corolla: It is collection of petals and are generally large and show and brightly coloured.

Why corolla is brightly coloured? No response
To attract insects for pollination.

~~Calyx & corolla are non essential parts of flower. So they are not directly involved in reproduction.~~

Androecium: It is collection of stamens the male reproductive organ of flower. Each stamen consist of another filament. Filament is a long stalk that bears an another of the top. Usually anthers are contain pollen sacs. The pollen grains are made inside the pollen sac. Thus each pollen

Students note down the structure and function of androecium.

grains produces two male gametes which germinate to produce pollen tube.

Gynoecium:

It is the collection of carpels, the female reproductive organ of flower. Each carpel has a swollen ovary, long style and a terminal stigma. If a flower has only one carpel, it is called monocarpellary, generally flower have more than one carpel, either free or fused. The stigma receives pollen grains during pollination & support their growth.

Structure of ovary

The ovary is the swollen and hollow basal part that contain ovule. Each ovule has an embryonic sac that a haploid egg. The female gamete.

Student's activities

Students listen carefully

Students listen carefully

Student's activities

Pollination
and its
types

Pollination: The transfer of pollen grains from the opened anther to the stamen to receptive stigma of carpel.

Student note down definition of pollination

Types of pollination:

i) **Self pollination:** Transfer of pollen from anther of a flower to stigma of the same flower to the stigma of another flower born on same plant.

Students listen

ii) **Cross pollination:** It involves transfer of pollens from flowers one plant to stigma of flower of another plant of same species.

Carefully

Recapitulation :-

What are parts of stamen ?

What are parts of pistil ?

What is cross-pollination ?

Home Work :-

What is pollination ? Types of pollination ?

Describe various parts of flower with the help of a diagram ?

LESSON No. 05

Date 18.01.15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.S.C.

Topic Organic evolution

i) Knowledge activity :-

- i) The learner is able to define organic evolution.
- ii) The learner is able to reproduce organic evolution.
- iii) The learner is able to recall organic evolution.

Understanding Objectives :-

- i) The learner is able to illustrate organic evolution.
- ii) The learner is able to explain organic evolution.

Application Objectives :-

- i) The learner is able to integrate organic evolution.
- ii) The learner is able to analyze organic evolution.

Instructional aids

Chalk, blackboard, duster.

What is evolution?

The gradual changes from one form to another in an organism.

What are fossils?

The dead remains of the organism which lived in the remote past.

What is Homologous organ?

No response.

Announcement of Topic : There are many evidences in favour of organic evolution. So, today we shall be discussing about these evidences.

Presentation

Sub
matter

Pupil Teacher
activity

Students
activity

B/B/W
activities

Organic
evolution

Evolution has been derived from latin word evolve which means to unfold. It helps to a gradual changes from one form to another. such a change in living org. with time since the beginning of life is termed organic evolution.

Students
listen
carefully

Define
&
explanation
of organic
evolution.

Enormous types of org. that exist on the earth at present & also the fossils have large no. of common features which provide evidence in favour of organic evolution. All these evidences support the view that the present day diverse forms of living org. have evolved from common ancestors.

Students
note down
carefully

Morphological & Anatomical evidences:

Student's activities

What is morphology?

No response

The external features of an organism is called morphology.

What is anatomy?

The internal str. or frame work of the body.

Homologous organs:

Homologous organs.

The organs which perform diff. function in diff. species but have similar basic str. & similar embryonic origin are called as homologous organs eg: fore limb of frog, a lizard, a bird & a human.

Students listen carefully about it.

~~These have same basic str. but perform entirely diff. functions. The forelimb of a frog help the organism to prop up the front end of body at rest. In lizards it is used for creeping. In birds for flying & in human for grasping. So, this shows that they have evolved from a common ancestor.~~

Students listen carefully

-- Same --

Student's activity

Analogous organs: The organs which are quite different in fundamental str. & embryonic origin but perform same function & may superficially look alike in entirely diff. species are called analogous organs.

eg. wings of an insect & that of a bird. These organs are used for flying but they are very diff. in str. An insect wing is a fold of membrane supported by few muscles. but its wings are formed of limb bones covered with flesh, skin & feather.

So, what does it show? That they both are evolved from common ancestor.

Vestigial organ. Vestigial organs: The organ which occur in reduced form and are useless to possessor but are homologous to

fully developed functional organs in the ancestor or related form are called vestigial organ.
 eg. vermiform appendix is a blind tube at end of large intestine in certain mammals including us. In herbivorous mammals it is a large structure & serves for the digestion of cellulose contents of the food by bacterial action. In human beings the habit of taking soft and cooked food has reduced the need for bacterial digestion. So it become reduced & useless.

Students listen carefully

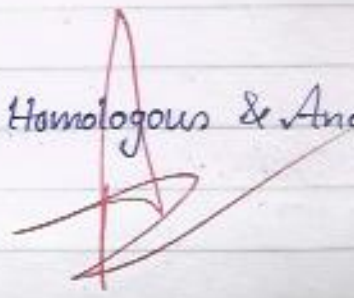
Explanation of vestigial organs present in human beings.

Recapitulation :-

- 1) Define organic evolution?
- 2) What are homologous analogous & vestigial organs?

Home Work

- 1) Differentiate between Homologous & Analogous organs?





**DISCUSSION
LESSON**

LESSON No. 01

Date 04.02.15

Duration of the period 35 min

Pupil Teacher's Name Piyali ojha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 14 years

Subject L.Sc

Topic Respiratory system: human.

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to:-

- learn about Respiratory system in human body.
- learn about different organs comprising respiratory system.
- Process of respiration.
- Generalize the term used in respiration (Pharynx, larynx, alveoli etc.)

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board pointer etc.

Specific :- Model of Respiratory System

PREVIOUS KNOWLEDGE ASSUMED :-

It is expected that students should have knowledge about various tissue inside body.

It is expected that students should have knowledge about various tissue inside body.

Introductory Objectives :

- i) What is air ?
- ii) Which gases are present in air ?
- iii) How do we get oxygen.

Announcement of the topic : Today we shall study about the system of Respiratory in human body.

Presentation

subject matter
organ's
constituting
respiratory
system

pupil teacher's activity

student's Activity ~~Q. W.~~
~~activity~~

What are the different parts present in respiratory system? consist

No response

- i) Pharynx
- ii) Larynx
- iii) Trachea
- iv) Lungs
- v) Bronchioles

Buccal cavity

Where does breathing start → from?

Student's activity
Breathing starts from nose which we take air in.

What → function do the hairs in the nostril perform?

They help in getting the air warmed and filter.

Pharynx

What is the name given to this narrow tube? PTS statement:

No response

It is called pharynx. After pharynx where does inhaled air enter?

pharynx

Larynx

What is name of given to this organ? PTS - This stretched organ is larynx?

No response

~~larynx~~

Trachea

What is the name give to this pipe? PTS - It is called trachea.

No response

Trachea

Student's activities

How respiration is carried out? Inhaled air through nostrils passing through various respiratory organs reach to alveoli from where air goes to blood & CO_2 is taken up & it is expelled out. Thus respiration occurs.

Recapitulation:

- i) What is the function of pharynx?
- ii) What is the function of larynx?
- iii) What is Trachea?

Home work:

- i) Mention the different organs in respiratory system with its functions.



**SCHOOL TEACHING
PRACTICE LESSONS**

LESSON No. 01

Date 13.02.15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali osh

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Plant movements

INSTRUCTIONAL OBJECTIVES :-

After going through

the lesson, the students will be able to :-

- Able to recall Plant movements.
- Able to recognize plant movements.
- Classify the types of plant movements.
- Differentiate b/w animal & plant movements
- Example of plant showing movements.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Black Board, pointer etc.

Specific :- Chart showing plant movement.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher

assume the student must know the ~~plant~~ various types of plant movements.

P.K. Testing

Pupil teacher activity

What is stimulus?

What are phytohormones?

What is co-ordination?

Student activity

The changes on environment to which the organisms react & resp.

Plant hormones are called phytohormones.

No response.

Announcement of topic: Students today we shall study about various plant movements.

Sub
matter

Presentation Pupil Teacher activity

Students activity

activities
B/W

Co-ordination
of
plant

The working together of various organs (plants) of the body of an organism / plant in a proper reaction is called as co-ordination control & Co-ordination in plants is not as elaborate as an animals plants do not have nervous system muscles & sense organ like animals still they can respond are react to various stimuli such as light, gravity, water etc. plants Co-ordination their

Student's activities

responses against environmental stimuli by using hormones.

Plant movements: Plant movements are brought about by some definite external & internal stimuli by using phytohormones. According to the nature of stimulus the movements may be spontaneous (automatic) or induced (Paratonic) classification of induced plant movements.

1) Nastic movements 2. Tropic movement.

Nastic Movements: These are non directional induced variation movement that occur due to trigger change.

i) Seismonastic movements: Such movements occur in response to touch. These are best seen in touch-me-not.

Mimosa pudica: Sensitive plant
What happens when we touch its leaves immediately the leaves of a touch-me-not plant fold up and drop down.

After sometime, leaves regain their original state.

ii) Nyctinastic movements: The movements involving the diurnal variation in the position of-

Students note down about phytohormones

Student's activities

flowers & leaves & called nyctinastic mvt. This involve photonastic & thermonastic movements.

a. Photonastic: If diurnal variation in position of plant part are caused by light stimulus such non-directional mvt are called photonastic movement.

b. Thermonastic movement: If the diurnal variation in the position of plant parts are caused by the change in the temperature of the surroundings.

Tropic Movement:

Directional Movements of specific part of a plant in response to external stimuli are called tropic movement.

If the movement of the plant part is towards the stimulus, it is termed +ve tropism.

Types of tropic movements:

1) Phototropism: It is the directional movements of

Students note down about +ve -ve tropism.

Students listen carefully

Explanation of topic most bits types

Student's activities

plant part in response to light stimulus.

eg. Stem/shoot of a growing plant moves towards light & thus shows +ve phototropism & not shows -ve phototropism.

ii) Geotropism: It is the directional movt. of the plant part in response to the gravity.

What kind of geotropism does a stem of a plant shows? -ve geotropism
So, it grows gravity

iii) Chemotropism: It is the directional movt of the plant part in response to chemical stimulus. Students listen carefully about

iv) Hydrotropism: It is directional movt of the plant part in response to water stimulus. Chemotropism & Hydrotropism

- What is +ve hydrotropism? No response.
If plant part moves towards the water stimulus.

What is -ve hydrotropism? plant part moves away from water stimulus.

Recapitulation :-

i) What is co-ordination?

ii) Differentiate between tropic & nastic movements?

iii) What is chemotropism?

Home Work :-

i) Study & learn various types of tropic movement?

Date 14.02.15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.Sc.

Topic Living things

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the student will be able to →

- ↳ List up various living things
- able to define living things
- able to name few habitats & explain adaptation.
- Find the kind of adaptation in an organism or plant.
- Differentiate between various habitats.
- Evaluate adaptation.

INSTRUCTIONAL AIDS

General :- Chalk, Black Board, Duster & charts.

Specific :- Model

PREVIOUS KNOWLEDGE ASSUMED :-

Assume the student must know the difference between living & non-living things.

IP. III. Testing

Pupil teacher activity

1. What are living things?

Those things which are alive and can move from one place to another place called living things.

2. What are ^{non} living things?

Those things which are dead & can not move from one place to another place.

3. What is habitate of living things?

In the surroundings which is suitable for their body.

4. What is habitat?

No response to habitat.

Student activity

activity

Announcement of the topic: Well students, today we shall study about living organisms & their surroundings.

IPresentation

Pupil teacher activity

It differ from one place to another place according to their surroundings. Eg:

In desert, desert plants & animals are found. The desert plants & animals are modified according to their dry conditions.

Eg: plant cactus.
animal - camel. hyaena.

Student activity

Students listen carefully

Sub matter

Living things.

activities

~~activity~~

Student's activities

Can you tell me aquatic adaptation? No answer

- In aquatic habitat animal body is modified according to the aquatic conditions. There is no place in this earth where no living organism is present.

Habitat: It is a place in the ecosystem where an organism live & interacts with the surroundings.

Students note down diff. of habitat.

Let us start with a forest. Think about various plants & animals found there.

In aquatic habitat, plants live in marine water & animals respire through gills by using dissolved oxygen in water.

Adaptation: The characteristics of an organism due to which an organism becomes able to live in the surrounding or environment is called adaptation.

Students note down the definition of adaptation.

Students Activities

1. Desert organisms require less amount of water. In desert areas days are hot & night are cold.

2. Animals do not release much water from their fecal matter remains dry.

3. Sweating do not occur in their body that is reason of their living in dry conditions.

Aquatic adaptation:

i) The animals have gills which are used for breathing.

ii) The animal body is usually stream lined or spindle shaped.

iii) The plant parts are coated with wax to reduce water accumulation.

iv) The leaves are scaly.

Students

note down

characteristics

of aquatic

habitat.

Components
of
ecosystem

These are two component of the ecosystem

i) Biotic

ii) Abiotic components.

Students note

down the

components of

ecosystem.

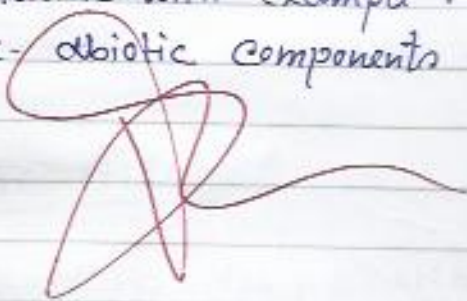
Biotic components: It include all living things such as plants and animals.

Abiotic components: It include rocks, soil, water and air all other non-living things.

Recapitulation :-

- i) What is habitat? Define with example.
- ii) What are the components of ecosystem.

Home work :-

- i) Define adaptation with example?
 - ii) Define biotic-abiotic components of an ecosystem?
- 

LESSON No. 03.....

Date..... 16.02.15

Duration of the period..... 35 minutes

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class..... VIII

Average Age of the pupils..... 15 years

Subject..... L.S.C.

Topic..... Plant & their classification

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

the students will be able to —

- List the parts of plant
- Recognize plant parts.
- Distinguish various plant parts.
- Explain the function of plant parts.
- Name parts of plants.
- Classify different kind of plant i.e. Herb, Shrub & tree.

INSTRUCTIONAL AIDS :-

General :- Chalk, duster, Blackboard, pointer etc.

Specific :- Chart showing well labelled diagram of a plant.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher

Assume the student must know the structure & function of plant.

IP. II. Testing

Pupil teacher activity

Student activity

- | | |
|--|--|
| 1. What are the main parts of plant? | Stem, branch, leaves, root |
| 2. Do every plant have same height? | No all the plants are of different height. |
| 3. Do every plant is following? | No some are following & not. |
| 4. In how many parts we can classify plants? | No response. |

Announcement of topic: Well students today we shall study about plants & their classification.

Presentation

Sub matter

Pupil teacher activity

Student activity

Activities

Plants & their parts

In our environment we can see various kinds of plants. eg. some plant are following & some are non following, some are big & some are small & some are herbaceous & some are spiny.

Students listen carefully

Morphology of Plants

Do you know in how many parts they are classified according to their morphological str.?

No response

- The external structure of a plant is called as its morphology.

plants are classified into three parts according to the difference in various morphological characters. Herb, Shrub, Tree

Student's activities

Students note down the classification of plants.

i) Green & soft stemmed plants are called herbs. Students note down

ii) They are usually short in height. the classification of

iii) They are usually less branched. eg. Brinjal, Tomato, Mustard plant. herbs.

i) Some plants are branched from the lower part of stem & forms a bunch of branches are called shrubs. Students note down the classification of shrubs.

ii) Stem is hard but not thick in those plants.

i) Trees are very tall in height. Students

ii) Their stems are quite hard & strong & brownish in colour. listen carefully

iii) They are branched from the upper part of stem.

: Tendrils are the modified leaves which curls around any support nearby it and makes the plant stand upright.

Student's activity

Have you seen the money plant, grape plant, pumpkin, bottle gourd? What kind of plants are these?

Students answer that we have seen it. These plants have tendrils.

Creeping plants:

Some weak stemmed plants which can't stand upright and remains separated on the land are called creeping plants.

Students note down about creeping plants.

Function of various plant parts:

i) Roots: Absorption of water & minerals from the soil. It helps the plant to remain attached to the soil.

Students note down function of plant parts.

ii) Stem: It gives mechanical support to the stem plant. In higher plant, it helps in 2^o growth.

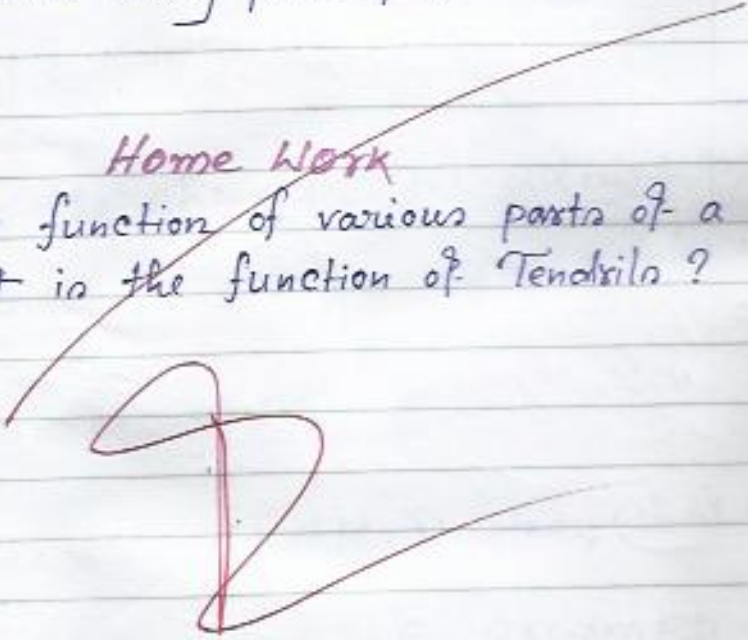
iii) Leaves: It helps in preparation of food by the process of photosynthesis. It also helps in transpiration.

iv) Flowers : It helps the plants in reproduction. It also helps in formation of seeds and fruits.

Recapitulation :-

1. What is morphology?
2. Define tendrils with an example?
3. In how many plant parts are divided?

Home Work

1. Write function of various parts of a plant?
 2. What is the function of Tendrils?
- 

LESSON No. 04.....

Date 18.02.15

Duration of the period 35 mins

Pupil Teacher's Name Pijali oja

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Adolescence

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students must will be able to →

- Define the age of adolescence.
- Recognize changes occurs during adolescence.
- Identify & summarize the change occurring during adolescence.
- Discuss the changes after adolescence.
- Evaluate the changes after adolescence.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, Pointer etc.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher

Assume the student must know ~~change~~ what kind of changes occurs during adolescence period.

Pupil teacher activity

1. How many types of reproduction are there?
2. From which age adolescence starts?
3. What are male and female reproductive organs?
4. What is adolescence?

IP. 1k. Testing Student activity

Sexual & Asexual.

From 11-19 years.

Male reproductive organ - Testis, penis. Female reproductive organ - ovary, fallopian tube & uterus.

No response.

Announcement of the topic: Well students today we shall study about adolescence.

IPresentation

IPupil teacher activity

The age from 11-19 years in which many changes occur in the body is called as adolescence.

Only after reaching a particular age an organism becomes able to reproduce.

The children coming under this are also called - Teenagers.

Students ~~activity~~ activities

Students note down/definition of adolescence.

Sub matter

Adolescence:

Student's activities

After the initiation of adolescent stage boys & girls becomes able to reproduce or they becomes sexually mature.

→ Growth in height: In this time increase in height occurs. Growth of height occurs due to growth and development of bones of head & legs. Calculation of total height (in cm)

$$\frac{\text{Present height (in cm)} \times 100}{\% \text{ of total height in present time}}$$

Our height depends upon the genes of our parents. During this period of growth a balanced diet is required.

During this time period chest and shoulder broadens as compared to children of lower age development of muscles occur in boys which is different from girls.

In adolescent period growth of larynx (voice-box) occurs. In boys it can be seen as an expanded area in the neck which is called as Adam's apple. In girls we can't see it.

Students listen carefully.

Students note down various changes occurring during adolescence the formula

Students listen carefully.

Students note down changes in larynx.

Students Activities

What are male & female reproductive organs.

Male organs:

Testis, Penis.

In teenage breast development occurs in girl and in boys beard & moustache grows on the face.

Female organs:

Ovaries.

Uterus &

Fallopian

tube.

These characteristics makes difference in a girl & a boy and are called as 2^o sexual characters.

Do you know which thing initiates these changes in body of a teenagers?

No

response.

- These changes are brought about by 'HORMONES'

Hormones:

Hormones: Hormones are chemical substances released by the special glands called endocrine glands into the blood stream.

Students

note down

about

hormones.

Male & Female hormones

From the initiation of adolescence testis start the secretion of male hormones called as 'Testosterone' & ovaries starts secretion of female

Students

note down

about

male &

female

hormones.

Student's activities

hormone called as 'Estrogen'
secretion of these hormones
is controlled by pituitary gland.

Target
site:

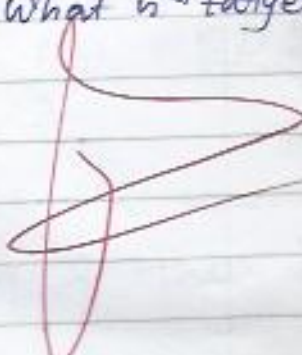
Target site: Target site hormones
are released in the blood —
stream by the endocrine —
glands and they act on parti-
cular sites where the changes
can be seen and are called as
target site.

Students
listen
carefully.

Recapitulation :-

- 1) Define adolescence? What are the various changes which occur during adolescence?
- 2) What changes occur in larynx during adolescence?
- 3) What are Hormones?

Home Work :-

- 1) Explain various changes occurring during adolescence?
 - 2) What are Hormones & what is target site?
- 

LESSON No. 05

Date 19.02.15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali oshu

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Nutrition & its kinds

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson,

the students will be able to →

- :- Define Nutrition
- :- Classify organism on basis of nutrition
- :- Name different types of nutrition.
- :- Demonstrate various kind of nutrition.
- :- Compare various nutrition modes.
- :- Evaluate nutrition.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Chart showing flow diagram of nutrition.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher

Assume the student must know about types of nutrition & their importance in our body.

IP.K. Testing

Pupil teacher activity	Student activity
1. What are nutrients?	Nutrients are organic & inorganic substances which an organisms obtain from its surroundings.
2. Based on the kind of nutrients in how many parts organisms are divided?	Herbivorous, Omnivorous and Carnivorous.
3. Give examples of few nutrients.	Vitamins, minerals, carbohydrates, water, fats etc.
4. What is nutrition?	No satisfactory answer.

Announcement of topic: Well students, today we shall study about nutrition & its kinds.

Presentation

Sub matter	Pupil teacher activity	Student's activities
Nutrients	We use nutrients for growth and development of body.	Students listen
Definition of nutrition	Nutrition is defined as the process of intake of nutrients and utilization by an organism in various biological activities.	Carefully
	What are inorganic & organic nutrients?	No response.

Inorganic Nutrients: Inorganic substances such as water, CO_2 , minerals (Fe, Cu, Zn) are inorganic nutrients.

Students
listen
carefully

Organic Nutrients: The organic nutrients are obtained from the organism (Plants & animals) eg: fat, vitamins, proteins etc.

Modes of Nutrition: Depending on the modes of obtaining nutrients all the organisms can be classified into two major groups - ① Autotrophic ② Heterotrophic.

Students
note the
mode of
nutrition

Autotrophic Nutrition: It is a kind of nutrition in which the organism prepare their own organic food utilizing only the inorganic raw materials that in surrounding eg. green plants.

Heterotrophic Nutrition: It is kind of nutrition in which the organisms derive energy from the intake and digestion of the organic substances prepared by autotrophs & other organic sources:

Students
note down
types of
heterotrophic
nutrition

Student's activities

Types of heterotrophic mode of Nutrition.

- 1) Saprophytic nutrition.
- 2) Parasitic nutrition.
- 3) Holozoic nutrition.

Saprophytic Nutrition: It refers to such kind of nutrition in which the organisms derive their nutrients from dead & decaying organic matter such as rotten leaves, rotten bread, dead animals etc.

The organisms having saprophytic mode of nutrition are called 'SAPROPHYTES'.

Can you give any example of organisms having saprophytes Nutrition? eg. fungi & bacteria

No response

Parasitic Nutrition: It is a types of nutrition in which the organisms (or parasites) derive their nutrients or food from other living organisms.

Students listen carefully.

The organisms that support or provides sustenance to a parasitic is called a host.

What is the example of organism having parasitic nutrition.

No response

Student's activities

eg. several fungi (Albugo phyto troph etc) bacteria, a few parasitic algae. Some flowering plants like cuscuta (amarbel), bladder wort etc are also parasites.

Students note /
down the
examples. /

Holozoic Nutrition: In which the organisms take in food in the form of complex organic matter by ingestion is called holozoic nutrition.

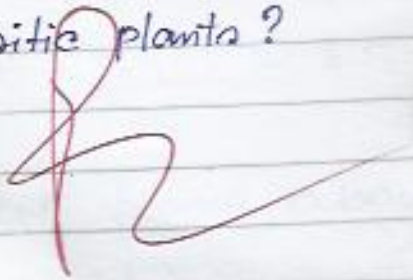
Students /
listen /
carefully. /

All the herbivores, omnivores and carnivores are holozoic. It involves ingestion, digestion, assimilation.

Recapitulation :-

- 1) What are organic & inorganic nutrients?
- 2) Define nutrition?
- 3) What is parasitic nutrition?

Home Work

- 1) Explain various kinds of nutrition with example?
 - 2) Name few parasitic plants?
- 

LESSON No. 06

Date 20.02.15

Duration of the period 35 mins

Pupil Teacher's Name Piyali Ojha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.S.C.

Topic Human Reproductive System

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to →

- :- Define reproduction
- :- Name few reproductive organs of human beings.
- :- Distinguish between male & female reproductive organ.
- :- Explain different mode of reproduction in animals.
- :- Summarize & evaluate human reproduction.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, pointer etc.

Specific :- Model of Reproductive System in Male & Female.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil teacher

assume the student know about Reproductive System in human.

IP-1K. Testing

Pupil & teacher activity

Student activity

- 1) What is reproduction? It is defined as production of new generation of individual of the same species that are physically independent of their parents.
- 2) Why reproduction is necessary? Reproduction produce a group of immortality by replacing the dead individual with new ones.
- 3) How many types of reproduction are there? Two: Sexual & Asexual.
- 4) What are primary & secondary sex organ? No response.

Announcement of Topic: Today we shall study about human reproductive system.

Sub
matter

Human
reproductive
system

Presentation

Pupil & teacher activity

Human beings are unisexual & the human reproduction is highly evolved. There is a distinct sexual dimorphism i.e. makes one visibly diff. from gender in physical - build up & external genital organs & accessory sex characters.

&

Student activity

Student
listen
carefully.

activities
P/B/R

Student's activities

Primary & secondary sex organs: The primary sex organs are gonads which produce gametes & secrete sex hormones. The gonads of male are called testis which produce male gametes sperms and male hormone testosterone. The gonads of female are ovaries which produce female gametes ova & female hormone estrogen & progesterone.

Students note down name of ♂ & ♀ - hormones

Primary (1°) & Secondary (2°) Sexual characters: 1° sexual characters are those present at birth where as 2° sexual characters are those that develop at puberty.

Student note down 1° and 2° characters.

2° sexual characters in males.

Secondary Sexual characters in human males:

- 1) Enlargement of penis and scrotum.
- 2) Broadening of shoulders & increase muscle development.
- 3) Enlargement of larynx & thickening of vocal cords

Student's activities

producing deepening of voice.

4. Growth of pubic hair & extra hair on the face, in the armpits & on the chest.

5. Changes in behaviour associated with courtship & mating.

6. Increase in light.

Students

note down

the 2° characters of

male and

female.

Secondary sexual characters in human female:

i) Growth of breast & external genitalia.

ii) Growth of pubic hair & in the armpits.

iii) Hair on face & chest are lacking.

iv) Broadening of pelvic.

v) Initiation of menstruation & ovulation.

vi) Increase in the subcutaneous fat, particularly in thigh, shoulders, buttocks & face.

organs of male reproductive system

Organs of male reproductive system:

i) Testis

ii) Scrotum

Students

note down

the en-

ded organs

iii) Vas Deference.

iv) Urethra

v) Penis.

of male
& female
reproduc-
tive system

Organs of female reproductive system

i) Ovaries

ii) Fallopian tubes

iii) Uterus

iv) Vagina.

organs
of
female
reproduc-
tive system

Recapitulation

- i) What are the primary & secondary sex organs in males & females?
- ii) What are the organs of males & females reproductive system?

Home work

- i) Define primary & secondary sexual characters?
- ii) List of various secondary characteristics in males & females.

LESSON No. 07

Date 21.02.15

Duration of the period 35 minutes

Pupil Teacher's Name Pijali oja

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.S.C.

Topic Population Control

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to →

- Name few methods of population control.
- Define population control.
- Explain method of population control.
- Factor affecting the population.
- Demonstration the method of population control.
- Analyze & Evaluate population control.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, pointer.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

Assume the student knows the method of population control.
pupil's teacher

P.K. Testing

Pupil teacher activity

Student activity

1. What is reproduction?

Reproduction may be defined as the production of new generation of individuals of the same species that are phy physically independent of their parents.

2. From which age a person becomes able to reproduce?

After reaching age to puberty.

3. What is population control & its various methods.

No satisfactory response.

Announcement of topic: Well students today we shall study about various methods of population control and its importance.

Pre-natal

Sub matter

Pupil teacher activity

Student activities

Population Control

Having pregnancies too frequently & giving child birth at quick succession reduce mother's health & vitality & cause mental strain. Large families are also a cause of tension.

Students listen carefully

Birth Control

Birth control: The regulation of conception by preventive measures or devices to control the

Students note down definition of birth control.

number of offsprings is called birth control.

The methods or device of birth control which deliberately prevent fertilization are contraception.

Students note down methods of birth control

These methods are broadly categorized as follows.

- 1) Barrier methods
- 2) Chemical methods
- 3) Natural methods
4. Surgical methods
5. IUCD

1. Barrier Method: These are physical devices to prevent the entry of sperm in female genital tract during population. They also protect against sexually transmitted diseases. Some common barrier methods are —

Students listen carefully.

i) Condoms: These are thin, strong, rubber sheaths used by a male to cover erect penis. It is simple but effective & widely used. It checks pregnancy by preventing deposition of semen in vagina.

ii) Femidom: It is not a common contraceptive method. A femidom is a thin rubber tube which fits inside vagina.

iii) Diaphragm: It is a flexible rubber cover that is fitted over the cervix in the

Student's activities

female vagina.

2. Chemical method: From tablets, jellies, pastes, creams & spermicides are some common chemicals used by females.

These are placed in vagina. Oral pills and vaginal pill are also used.

3. IUCD: A copper T is inserted into uterus by a practising doctor or nurse & left in place. It prevents implantation in uterus.

Students note down full form of IUCD.

4. Natural methods: These methods include abstinence, rhythm method and coitus interruptus.

5. Surgical methods: Surgical methods are i) vasectomy — ii) Tubectomy.

Vasectomy: This is a small surgical operation performed in males. It involves removed about of a small portion of the sperm duct by surgical operation.

Students note down Vasectomy & Tubectomy

Tubectomy: This operation is performed in females. It involves the removal of a small portion of fallopian tubes by surgical operation. The cut ends are then ligated with threads. It prevents the egg to enter fallopian tube.

Recapitulation

- i) What is birth control?
- ii) What is name of surgical method of birth controls in males?
- iii) What is the name of surgical method of birth controls in females?

Home Work

- i) What is IUCD?
- ii) What are the natural methods of birth control?
- iii) Explain vasectomy and tubectomy?

LESSON No. 08

Date 23.02.15

Duration of the period 35 mins

Pupil Teacher's Name Piyali osha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.Sc.

Topic Endocrine Gland

INSTRUCTIONAL OBJECTIVES :-

After going through

the lesson, the student will be able to:-

- Name few hormones.
- Recognize hormonal changes.
- Explain the function of hormones.
- Distinguish between male & female hormones.
- Demonstrate the changes due to hormones.
- Compare the function of male & female hormones.
- Discuss the function of hormones.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Chart showing endocrine gland.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assure the student must know about endocrine gland.

IP-K. Testing

Pupil teacher activity

1) What are female reproductive hormones?

2) What are male reproductive hormones?

3) What are hormones?

4) Which gland controls secretion of various gland?

Student activity

Estrogen & progesterone

Testosterone

These are chemical substances

No response.

Announcement of topic: The secretion of hormones is controlled by endocrine glands which are ductless glands. So we shall study about various hormones secreted by endocrine glands.

Presentation

Sub matter

Pupil teacher activity

Before discussing human endocrine glands we should know what is meant by a gland & its types.

Gland: A cell, a tissue or an organ which secretes certain useful chemical compounds - required for particular function is called a gland.

Types of Gland:

- 1) Exocrine glands
- 2) Endocrine glands

Student activity

Students listen carefully

~~ABW~~

Glands

Types of glands

3) Heterocrine glands.

Exocrine glands

Exocrine Glands: These glands - have ducts for discharging their secretions on to the body surface or into the cavities in the body sweat & sebaceous glands of skin, salivary glands of oral cavity, gastric glands in stomach and liver are some example of exocrine glands.

Students listen carefully & notes of type of glands.

Endocrine gland

Endocrine glands: These glands lack duct & pass their secretion into surrounding blood for transport to site of action.

Heterocrine gland

Heterocrine glands: They consist of both endocrine and exocrine tissue. The exocrine part has a duct and endocrine part discharged into secretion into blood.

Endocrine glands and their hormones:

Hypothalamus:

- i) Release hormone.
- ii) Inhibiting hormone.

Students note down hormones which is secreted by endocrine gland.

Pituitary gland :

Anterior lobe :

i) Follicle stimulating hormone.

ii) Leuteinising hormone.

iii) Somatotrophic hormones.

iv) Prolactin

v) Adrenocorticotrophic hormone.

vi) Thyroid stimulating hormone (TSH)

Intermediate lobe :

i) Melanocyte stimulating hormone.

Posterior lobe :

i) Oxytocin (ii) Vasopression

Thyroid :

i) Thyroxine

ii) Triiodo thyroxine

iii) Calcitonin

Parathyroid :

i) Parathormone.

Adrenals :

i) Glucocorticoids

ii) Mineralo corticoids

iii) Sex corticoids.

Medulla

i) Adre Adrenaline.

ii) Nonadrenalins.

Students

make a

notes of

endocrine

glands

hormones

Student's activities

Pancreas :

i) Insulin ii) Glucagon

Gonads :

A. Testis : i) Testosterone

B. Ovaries : i) Estrogen -

ii) Progesteron

Pineal :

i) Melatonin

Thymus : i) Thymoxin

Students note
down carefully

Recapitulation

- 1) What are types of gonads.
- 2) Define gland & their functions.

Home Work

- 1) Write name of various endocrine glands & the hormones secreted by them?
- 2) Differentiate b/w endocrine, exocrine & heterocrine glands?

Date 23.02.15

Duration of the period 35 mins

Pupil Teacher's Name Piyali Ch

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.Sc.

Topic Plant hormones

INSTRUCTIONAL OBJECTIVES :-

After going through

the lesson, the student will be able to :-

- Name plant hormones.
- Define plant hormones.
- Explain the function of plant hormones.
- Compare the function of various hormones.
- Explain different types of plant hormones.
- Evaluate the role & function of plant hormones.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assume

that student must know about role of plant hormone in growth & development.

IP.K. Testing

Pupil teacher activity Skill activity

1. What is a plant hormone? Plant hormones are naturally occurring organic chemical substances present in plants.
2. What are plant hormones called as? Phytohormones.
3. What is the function of plant hormones? Growth & development in plants.
4. What are the various plant hormones? No response.

Announcement of topic: Students today we shall study the function of various plant hormones of Phytohormones.

Presentation

Sub
matter

Pupil teacher activity
Plant hormones are also known as plant growth substances.

Student's ~~act~~ ^{act} of ~~his~~ ^{her}

Plant-
hormones
or
phytohormo-
nes

Q. Beside growth various other activities are performed by plant hormones what are these?

Students answered that opening and closing of stomata

- Breeding of dormancy, -
falling of leaves, fruits -
growth in plants are also controlled by phytohormones
Following are the major types of phytohormones.

- 1) Auxins 2. Gibberelins.
3. Cytokinins 4. Abscisic acid
5. Ethene.

On the basis of their effect they are divided into two groups -

- 1) Growth promoters - These stimulate the plant growth.
- 2) Growth inhibitors - These inhibit the plant growth.

Auxin Functions :

i) They promote cell enlargement & cell differentiation in plants.

ii) These also promote stem and fruit growth.

iii) These regulate important plant growth movements and tropism.

iv) These induce parthenocarpy i.e. the formation of seedless fruits without fertilization.

Gibberelins Functions :

i) These promote cell enlargement & cell differentiation.

ii) These also promote growth of stem & fruits.

iii) Rosette plants i.e. plants that show profuse development but

Students activities

reduced internode growth.

Cytokinins functions:

- i) These promote cell division in plants.
- ii) These play vital role in the morphogenesis in plants.
- iii) These help in breaking the dormancy of seeds & buds.
- iv) These delay wilting of leaves.
- v) They promote opening of stomata.
- vi) They also promote fruit growth.

students

note down

function

of cytokinin

functions.

Ethene function:

- i) It promotes growth & riping of fruits.
- ii) It helps in breaking the dormancy in buds & seeds.
- iii) It promote yellowing and senescence of leaves.

Students

note down

about

Ethene

hormones

Abscisic Acid function:

- i) It promotes the dormancy in seeds & buds & thus inhibits growth.
- ii) It also promotes the closing of stomata.

Students

note down

function

of abscisic

acid -

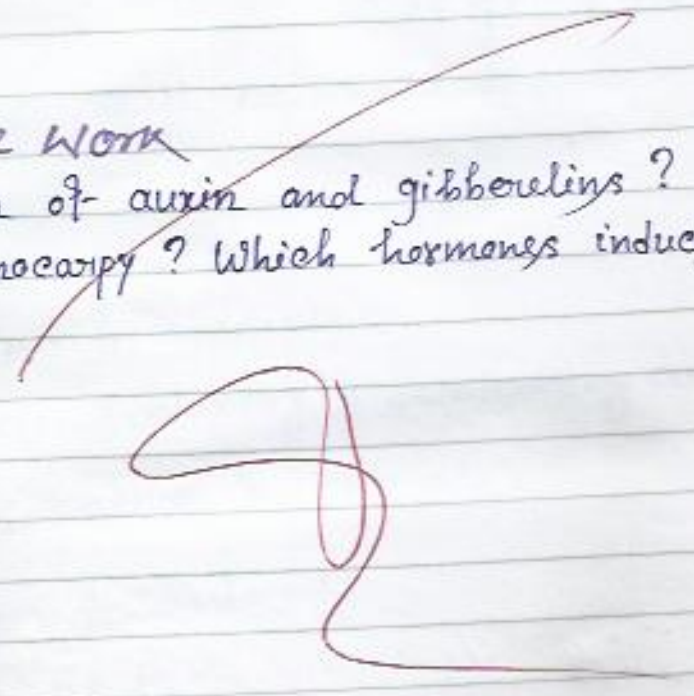
hormones

carefully

Recapitulation

- i) Define plant hormones?
- ii) What is function of auxin & cytokinins hormones?
- iii) What are growth promoters and growth inhibitors?

Home work

- i) Write function of auxin and gibberelins?
 - ii) Define parthenocarpy? Which hormones induces parthenocarpy?
- 

Date 24.02.15Duration of the period 35 minsPupil Teacher's Name Piyali oshaPupil Teacher's Roll No. 9560155Class IXAverage Age of the pupils 15 yearsSubject L.Sc.Topic Various Action in AnimalsINSTRUCTIONAL OBJECTIVES :-

After going through the lesson, the students will be able to :-

- :- List eg. of actions.
- :- Define actions in animals.
- :- Summarize actions in animals.
- :- Distinguish between voluntary & involuntary action.
- :- Demonstrate fear action in animals.
- :- Evaluate action in animals.

INSTRUCTIONAL AIDS :-

General :- Chalk, Puster, Chalk-Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

pupils teacher assume the student must know about Various action in animals.

10-11. Testing

Pupil teacher activity

Student activity

1. What is co-ordination? The working together of various organs (parts) of body of an organism in a proper manner to produce proper reaction to a stimulus is called Co-ordination.
2. Which system controls co-ordination in animals? Nervous system.
3. What does nervous system composed of? Neurons.
4. What are various actions in animals? No response.

Announcement of topic: Well students we shall study about various actions in animals.

Presentation

sub
matter

Pupil teacher activity

Students activities

~~Activity~~

Reflex
action

Specific changes in the environment evokes an appropriate response in the form of mot. of action in all living organisms. Such mot. or actions in these organisms are carefully controlled.

Types of
action

Animals perform 3 types of actions (i) Reflex action (ii) Voluntary actions (iii) Involuntary action

Student's activities

Reflex action: These are involuntary action that occur without the will of an animal.

Definition: Spontaneous, automatic and mechanical response to a stimulus acting on a specific receptor without the will of an animal.

Example: Blinking of eyes, mut of diaphragm during respiration withdrawal of hand or feet when something painful is stricked or touch.

Students

listen

Carefully

and

write the

eg. of-

reflex

actions

What happens in reflex actions?

In reflex action fine tips (dendrites) of receptors (sensory neurons) quickly relay a message (electric impulse) via secondary nerves to spinal cord.

The spinal cord then sends information via motor neurons to effectors.

The path taken by ~~ner~~ nerve impulse in a reflex arc.

Thus reflex actions generally involve spinal cord for quick response to specific stimulus. However, information input- also goes on to reach the main where thinking process occurs.

There are some reflexes which involve brain such reflexes are

cerebral reflexes.

Involuntary
action

Involuntary Actions: Involuntary muscular actions are performed by the animal without its will. These occur automatically & the animal has no choice in it. eg: Regular beating of heart, blood pressure, peristaltic movements of the oesophagus.

Voluntary
action

Voluntary Actions: Voluntary muscular actions are performed by the animal with its will.


In each voluntary action the animal exercises its choice so that the same stimulus may receive different responses at different times depending upon the situation eg: walking in a straight line, riding a cycle, picking up a pencil.

Students
note down
about -
voluntary
action.

Recapitulation

- 1) Under which action, blinking of eyes comes?
- 2) Contraction of pupil of human eyes in the presence of bright light comes under which action?
- 3) What is reflex arc?

Home work

- 1) Differentiate b/w involuntary & voluntary actions?
 - 2) Explain reflex action with the help of an example?
- 

LESSON No. 11

Date 25.02.15

Duration of the period 35 mins.

Pupil Teacher's Name Piyali Dha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.Sc.

Topic Excretion & Osmoregulation

INSTRUCTIONAL OBJECTIVES :-

After going through lesson, the student will be able to :-

- Define excretion
- List excretory substances.
- Understand the process of excretion.
- Explain process of excretion in animals.
- Summarize the process of excretion
- Evaluate the importance of excretion.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Model of Excretory System.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher

Assume the students most know about kidney function & their regulation.

IP. I.K. Testing

Pupil teacher activity

Student activity

1. What is human excretory organ?

Kidney

2. What is excretion?

It is a biological process by which an organism gets rid of excess toxic waste products of metabolism.

3. Why excretion is important for living beings?

Because it removes the unwanted toxic substances from body.

4. What is the main excretory substance in humans?

No response.

Announcement of topic: Well students today we shall study about excretion & osmoregulation in animals.

Presentation

sub matter

Pupil teacher activity

Student activity

activities

Excretion and Osmoregulation

Two important homeostatic processes occurring in living organisms which help to maintain the steady state are :-

Students listen carefully

- ① Excretion and
- ② Osmoregulation

Excretion: It is a biological process by which an organism gets rid of excess or toxic waste products of metabolism.

It allowed to accumulate these product of organisms cells would generally be harmful & prevent the maintenance of a steady state.

Osmoregulation: It is a process that maintain the amount of water & proper ionic balance in the body. It maintain the constant osmotic condition in the body by regulatory the water content & solute conc. of body fluids, particularly of sodium, potassium and chloride ions.

Students listen carefully

Q. What is importance of excretion & osmoregulation?

Excretion removes the unwanted by products of metabolic activities & no answer for osmoregulation.

Importance of excretion & osmoregulation:

- i) Excretion removes the unwanted by products of metabolic pathways which unnecessarily hinder the chemical equilibrium of reactions.
- ii) Excretion removes many toxic substances which damage the cells, act as enzyme inhibitors or affect the metabolic activities of the organism.
- iii) Excretion & osmoregulation regulate the ionic concentration of body fluids. This important because proper balancing of ions is necessary for enzyme

Student's activities

Importance
of
excretion
regulation

activity protein synthesis etc.

Students

iv) It regulates the water content of body fluids - which is very important in maintaining the solute potential & volume of body fluids.

listen /
carefully /

v) Excretion is a very important process in regularly the pH of body fluid.

/
/
/
/

Excretion of Animals :

Animals usually have definite excretory organs through which they eliminate waste products & water. The sponges excrete through osculum.

Students

listen

carefully

& note

down -

excretion

In flat worms (tape worms) planarian etc.) have flame cells. Earthworm have nephridia. In insects centipedes and millepedes malpighian tubules.

in animals.

In mollusca & vertebrates have kidney for excretion and osmoregulation.

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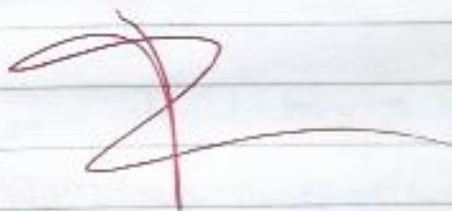
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Recapitulation

1. What is excretion and osmoregulation?
2. What is excretory organ of earthworm, centipedes?
3. What is the importance of osmoregulation?

Home Work

1. Write importance of excretion & osmoregulation?
2. Write the names of excretory organs in Millipedes, Molluscs, Earthworm, Flatworms.



LESSON No. 12

Date 26.02.15

Duration of the period 35 mins.

Pupil Teacher's Name Piyali oja

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Lymphatic System

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson

Students will be able to :-

- Know the lymphatic system.
- Identify the function of lymphatic system.
- Understand the meaning and function of lymphatic system.
- Differentiate between circulatory & lymphatic system.
- Evaluate the function of lymphatic system.
- Illustrate lymphatic system.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Model.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher
assume the student must know function of lymphatic system in body.

IP. 1K. Testing

Pupil teacher activity

1) What is transportation in human beings?

2) Which system helps in transportation of synthesized substance?

3) What is other system which help in transportation?

Student activity

It is a life process in which a substance synthesized or absorbed in one part of the organism is carried to other parts.

Blood circulatory system.

No response.

Announcement of topic: Well students, today we shall study about the circulatory system other than blood circulatory system which is lymphatic system.

Presentation

Sub matter

Pupil teacher activity

Lymphatic system is the second important circulatory system that permits the entire human body & transport the liquid-called lymph from body tissues to the blood-vascular system.

Students activity

Students listen carefully.

It consist of following:
1) Lymph & 2) Lymph capillaries.

Lymphatic system

Student's activity.

iii) Lymph vessels iv) Lymph nodes.

Lymph

Lymph: It is light yellow colour red mobile, fluid connective tissue which drains into the lymphatic capillaries from the inter cellular spaces. It consist of two parts -
1) Plasma 2) Lymphocyte cells.
The plasma is fluid matrix which is somewhat similar in composition to blood plasma. It contains protein molecules, digested fat, germs & fragment of dead cells.

The lymphocyte cells are special type of white blood cells which fight against infection. The lymph is also called extra-cellular fluid because it bathes the cells & lies outside the cell.

Lymph Capillaries:

Lymph capillaries:

These are blindly ending mesh work of thin walled & highly permeable tubes having variable diameters.

Students listen carefully & note down about lymph and consist of part. plasma. Lymphatic cells. Students note down about lymph capillaries.

Lymph vessels :

These are lymph containing vessels formed by joining of lymph capillaries. These are large tubes, resembling veins, with non return valves. They finally join with the venous system usually near the heart.

Lymph nodes :

Lymph nodes

The lymph nodes are situated at intervals through the lymphatic system. They are masses of reticular tissue wrapped in a capsula of fibrous tissue.

Students makes a notes of lymph nodes.

Functions of Lymphatic system:

Functions of lymphatic system

- i) Lymph absorbs some of the fluid from the digestive tract. It possess proteins from circulation to tissues.
- ii) The lymph drains excess fluid from extracellular spaces back into the blood.
- iii) It protects the body by killing the germs.

Students write the function of lymphatic system.

Recapitulation

1. What is lymphatic system?
2. What is lymph?
3. What does lymphatic system consist of?

Home Work

1. Why lymph is also called as extracellular fluid?
2. What are the functions of lymphatic system?



LESSON No. 13

Date 27.02.15

Duration of the period 35 mins.

Pupil Teacher's Name Piyali Ojha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.Sc.

Topic Human Heart

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

the students will be able to :-

- Define function of human heart.
- Name part of human heart.
- Understand function of heart.
- Explain function of arteries and veins.
- Illustrate structure of human heart.
- Discuss the structure of human heart.
- Evaluate human heart.

INSTRUCTIONAL AIDS :-

General :- Chalk, Poster, Chalk Board, pointer etc.

Specific :- Model of human heart.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher

Assume the student must know about Str. & function of human heart.

IP. 11K. Testing

Pupil teacher activity

Student activity

1. Which system circulates blood around the body.
2. Which organs pumps the blood in human body.
3. What are the main parts of a heart?
4. Can you explain the structure of a heart?

Blood circulatory system.
Heart -
Auricles, ventricles & septa.
No response.

Announcement of topic: Students today we shall study the structure & functions of human heart in detail.

Presentation

Sub
matter

Pupil teacher activity

Student's ~~activity~~ activities

Structure
of
human
heart

Structure: The heart is a double pump. It is divided by septa into two halves right & left.

Students
listen
carefully

Explanation
of
heart

Each half consist of two communicating chamber, upper smaller auricle or atrium & lower larger - ventricle. Thus the heart has four chambers called atria and two lower chambers called left & right ventricles.

Student note
down about
chamber
of heart.

Student's activities.

There are valves b/w left atrium and left ventricle & b/w right atrium and right ventricle. These valves provide one way passage and prevent return of blood.

The wall of heart are composed of special muscle cells called cardiac muscle fibres.

Function: The most vital function of heart is heart beats which take place all the time throughout one's life. The seq. of events which takes place during the completion of one heart beat called cardiac cycle. It involves repeated rhythmic contraction & relaxation of heart muscles.

- Contraction called systole.
- Relaxation called diastole.

The cardiac cycle involves following.
i) During the time when the muscles of all four chambers of heart are relaxed, the blood returning to the heart under low blood pressure in the veins enters the two atria. Blood from vena cava pour into right atrium. Thus the deoxy generated blood enters the right atrium.

Students listen carefully about function of human heart

Students note down about systole & diastole.

Student's activities

Explanation
of
cardiac
cycle

ii) As the right and left atria fill with blood pressure in them so that the valves b/w left atrium & left ventricle (bicuspid valves) & b/w right atrium & right ventricle (tricuspid valve) open and the atria contract. Atrial contraction (atrial diastole) faces pumping of de-oxygenated blood from right atrium into the right ventricle through tricuspid valve and oxygenated blood from left atrium into left ventricle.

Students
listen
carefully

iii) Almost immediately the ventricle contract. This is called ventricular systole. During contraction of ventricles the deoxygenated blood from right ventricle flows to the lungs through pulmonary artery or oxygenated blood from left ventricle is distributed to all parts of body.

Students
listen
carefully.

Recapitulation

1. What are the main parts of human heart?
2. What is pericardium?
3. Which membrane separates right and left auricles and ventricles?

Home Work

1. Explain the function of human heart in detail?

LESSON No.14.....

Date..... 02.03.15.....

Duration of the period..... 35 mins.....

Pupil Teacher's Name..... Piyali Ojha.....

Pupil Teacher's Roll No..... 9560155.....

Class..... IX.....

Average Age of the pupils..... 15 years.....

Subject..... L.Sc.....

Topic..... Respiration & its types.....

INSTRUCTIONAL OBJECTIVES :- After going through lesson,

the students will be able to :-

- Define respiration
- Name part of respiratory system.
- Explain & summarise respiration.
- Compare aerobic and anaerobic respiration.
- Explain process of respiration.
- Evaluate respiration.

INSTRUCTIONAL AIDS :-

General :- Chalk, Poster, Chalk-Board, Pointer etc.

Specific :- Model of Respiratory System.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher

Assume the student must know about structure & function of respiratory system.

P.K. Testing.

Pupil teacher activity

1. What is respiration?

2. What is the byproduct of respiration?

3. What is end product of respiration?

4. How many types of respiration there.

Student activity

The scientific meaning of respiration is a complex process involving intake of O_2 from atmosphere.

CO_2

ATP (Energy)

No response.

Announcement of topic: Students today we shall study about respiration and its types.

Presentation

Subject matter

Pupil teacher activity

It is very difficult to define respiration.

Therefore it has been separated or splitted into two separate processes - breathing & cellular respiration.

Breathing: It is a kind of ventilation in which the organism take O_2 from the environment & release CO_2 .

Students activities

~~activity~~

Students note down about breathing & cellular respiration.

Concept of breathing & cellular respiration

Student's activities

Aerobic Respiration:

The oxidative breakdown of respiratory substances with the help of atmospheric O_2 is known as aerobic respiration.

During this process, the respiratory substances are completely broken down in CO_2 & H_2O by the process of oxidation.

Q. In eukaryotic organisms where is the respiratory system found?

- In cytosol the glucose is broken down to pyruvic acid step by step by glycolysis. In the presence of O_2 this pyruvic acid enters into mitochondria where it is completely broken down.

Students listen carefully.

No response
After taking sometime students give answer mitochondria.

Students activities

Anaerobic Respiration:
Oxidation of respiratory substrates in absence of atmospheric oxygen is termed as anaerobic respiration.

Explanation
of
Anaerobic
respiration

It involves incomplete breakdown of respiratory substrates in which the end products such as ethanol or lactic acid & CO_2 is released.

Students note down equation of anaerobic respiration.

Anaerobic respiration is also occurs inside the muscles during vigorous muscular activities. It usually occurs during the phase when O_2 gets used up faster than it is available for oxidation breakdown of respiratory substrates.

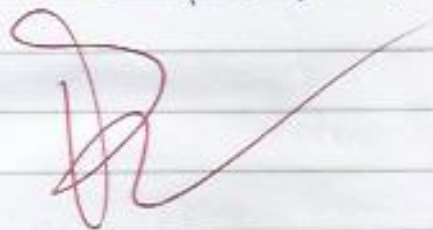
Students note down reaction down in muscle during muscular activities.

Recapitulation

- 1) What does anaerobic respiration takes place in our body?
- 2) Describe anaerobic and aerobic respiration?

Home Work

- 1) Differentiate b/w aerobic & anaerobic respiration?
- 2) Describe aerobic respiration with example of equation?



LESSON No. 15

Duration of the period 35 minutes

Pupil Teacher's Roll No. 9560155

Average Age of the pupils 15 years

Topic Chromosome

11/15

Date 03.03.15
Pupil Teacher's Name Piyali Ojha
Class IX
Subject L.S.C.

INSTRUCTIONAL OBJECTIVES :-

After going through the lesson

students will be able to :-

Define chromosome.

Know about chromosomes.

Distinguish b/w autosomes and sex chromosomes.

Illustrate sex determination.

Explain function of chromosomes.

Differentiate various method of sex-determination.

Evaluate function of chromosomes.

INSTRUCTIONAL AIDS :-

General :- Duster, Chalk, Chalk Board, Pointer etc.

Specific :- Chart showing cell division.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher

assume the student must know str & fun of chromosome.

IP.K. Testing

Pupil teacher activity

1. What are chromosomes?

2. How many chromosomes are there in human body?

3. How many chromosomes are autosomes & how many are sex-chromosomes.

4. What is sex determination?

Student activity

Chromosomes are thin thread like structure which transfer hereditary information from one generation to another.

46 [23 pairs]

22 pairs are autosomes & 2 sex chromosomes.

No satisfactory answer.

Announcement- of topic: Well students, today we shall be discussing about sex-determination in human.

Presentation

sub
matter

Pupil teacher activity

In sexual reproduction male & female gametes fuse during fertilization to form zygote.

This zygote develops into offspring - Mechanism by which the sex of an individual is determined as it begins its life is called sex-determination.

Sex
determi-
nation

Students' activities

Students listen carefully & note down definition of sex-determination.

Student's activities

In diploid organisms having separate sexes a specific pair of chromosomes in each diploid cell determines the sex of an individual. They are called sex-chromosomes. All other chromosomes are termed as autosome. There are 46 chromosomes of these 44 (22 pairs) are autosomes & 2 (1 pair) are sex-chromosomes. The sex chromosomes in human beings & also in fruitfly are of two types: X and Y.

Students note down that the man has 46 chromosomes

A male has one X chromosome and one Y chromosome i.e. XY male produces two different kinds of gametes (sperms) half of the gametes have X-chromosome and other half have Y chromosome. Therefore a male is heterogametic.

Students listen carefully

A female individual contains two similar X chromosomes i.e. XX female therefore produce same type of gametes (ova or egg). So, female is called homogametic.

Students listen carefully

The sex of a child is determined at the time of fertilization when male and female gametes fuse to form zygote.

Student's activity

If a sperm (male gamete) carrying X chromosomes fertilizes an egg or ovum (female gamete) carrying X chromosome, then offspring would be a female / girl child. This is because the offspring will have XX chromosome combination.

Students note down that female child having XX chromosome.

If a sperm carrying Y chromosomes fertilizing an egg / ova which has X chromosomes, then the offspring will be a male / boy child as it will be having combination of XY chromosomes.

Students note down that the male child is having XY-chromosomes.

This mechanism of sex determination in human beings and also in fertility is called XX-XY mechanism.

Students note down the XX-XY mechanism of sex determination.

Recapitulation

- 1) What is the meaning of sex-determination.
- 2) What are the sex chromosome in males & females.
- 3) How many chromosomes are found in human being.

Home Work

- 1) What will be sex of offspring when X chromosomes of male fuses with X chromosome of female.
- 2) Explain any one mechanism of sex determination.

LESSON No. 16.....

Date..... 04.03.15.....

Duration of the period..... 35 minutes.....

Pupil Teacher's Name..... Piyali Ojha.....

Pupil Teacher's Roll No..... 9560155.....

Class..... VIII.....

Average Age of the pupils..... 15 years.....

Subject..... L.Sc.....

Topic..... Evolution.....

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

Students will be able to :-

- State theories of evolution.
- illustrate different theories of evolution.
- Demonstrate theories of evolution.
- Explain theories of evolution.
- Analyse Darwin's & Lamarckism theory of evolution.
- Evaluate theories of evolution.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart showing Difference b/w Darwinism & Lamarckism theory of Evolution.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assume

the student must know about different theories of Evolution.

D.K. Testing

Pupil teacher activity

Student activity

- 1) What is evolution? Evolution is the sequence of gradual changes which takes place in the primitive organisms over millions of years in which new species are produced.
- 2) What are sources which provides evidence in support of evolution? Fossils, Homologous organs, analogous & vestigial organs.
- 3) What are theories of evolution? No response.

Announcement of topic: Students today we are studying about theories of evolution.

Presentation

sub
matter

Pupil teacher activity

Student ~~activity~~ activities

Theories
of
evolution

Several theories have been put forward from time to time to explain the process of evolution of the animals & plants.

Carl Linnaeus was the first scientist to who tried to explain evolution scientifically.

Lamarck's Theory of Evolution:
The Baptiste Lamarck explained

Students
listen
carefully

Students activities

his theory of evolution in his book "Philosophic Zoologique". This theory is known as "Theory of inheritance of acquired characters". also known as LAMARCKISM.

Students
listen care
fully & note
down the
point of
Lamarck's
theory.

- According to his theory
- i) The use & disuse of an organ by an organism leads to acquiring of 'change' in the features of that organ.
 - ii) These changes or variation are called acquired characters & are inherited by their offsprings.
 - iii) These favourable variations caused due to the use & disuse of certain organs over a considerably long period of time leading to evolution of a new species.
- iv) August Weismann rejected Lamarck's idea of inheritance of acquired characters, he showed that even after cutting the tails of mice continuously for 21 generations a tailless mouse was never born.

Students
note down
names of
scientist.

Darwin's Theory of Evolution:

Charles Robert Darwin gave the theory of evolution in his famous book, 'The origin of species'. The theory of evolution proposed by

Students activities

Darwin is called The theory of natural selection. It is also called as "Darwinism".

i) Within any population there is natural variation. Some individuals have more favourable variations than other.

ii) Even though all species produce a large no. of offsprings. Population remains fairly constant naturally.

iii) This is due to the struggle b/w members of the same species & different species for food, space and mat.

iv) The struggle for survival within populations eliminates the unfit individuals.

v) The individuals having favourable variation pass on these variations to their progeny.

vi) These variations when accumulated over a long period of time lead to the origin of species i.e. new.

Students

listen

Carefully

& note down

the main

points of

Darwin

theory of

evolution.

Recapitulation

- 1) What is evolution?
- 2) What rejected Lamarck's theory of evolution?
- 3) What is the main part of Darwin's theory of evolution?

Home Work

- 1) Name the most accepted theory of evolution.
- 2) State Darwin's theory of evolution.
- 3) What are the names of Darwin's theory of evolution?

LESSON No. 17

Date 07.03.15

Duration of the period 35 mins

Pupil Teacher's Name Piyali otha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.S.C.

Topic Chromosome

Knowledge activity

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

Student will be able to :-

- Give definition of chromosomes.
- Write about haploid & diploid chromosomes.
- Distinguish b/w various types of chromosomes.
- Illustrate function of chromosomes.
- Construct diagram of chromosomes.
- Differentiate b/w haploid & Diploid no. of chromosomes.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk Board, pointer etc.

Specific :- Chart showing different chromosomes.

PREVIOUS KNOWLEDGE ASSUMED :-

Pupil's teacher assume the student must know about haploid & Diploid chromosomes.

I.P.K. Testing

Pupil Teacher activity

1. How many chromosomes are present in human beings. 23 pairs
Chromosomes are thin thread-like structure.
2. Define chromosomes. like structure.
3. How many types of chromosomes are there and what are there. No response.

Announcement of topic: Well students, today we shall study about chromosomes.

Presentation

sub
matter

Pupil Teacher activity

Students activity

Definition
&
Structure
of
Chromosome

Chromosomes are thin thread-like structure present in the nucleus of a cell which contain hereditary information of a cell.

Chromosomes are made up of DNA & proteins. These are the components of chromosomes. Each chromosome consists of two strands called chromatids which are joined together at a point called centromere.

Students write down definition of Chromosome.



Students' activities

Types of chromosomes:

Depending on the position of centromere a chromosome may have either equal arms or unequal arms. So, on the basis of position of centromere there are 4 types of chromosomes:

- 1) Metacentric
- 2) Submetacentric
3. Acrocentric
4. Telocentric

1) Metacentric: In which centromere is near to middle point, so that its two arms are almost equal in length is called metacentric chromosomes.

2) Submetacentric: When centromere is not in middle but is slightly deviated from its middle point making both arms visibly unequal in which one arm is slightly shorter than other is called as submetacentric chromosome.

3. Acrocentric: In which centromere is deviated from its middle point at a good distance & is spotted near but not at the tip of chromosome making one arm very long & other arm very short is called as acrocentric chromosome.

Students note down types of chromosome.

Students activities

4. Telocentric : When centromere is at its tip is called telocentric chromosome

Diploid & Haploid number of chromosomes

- A cell which has the full number of chromosome, with two of each kind is called a diploid cell.

- A cell which has half the no. of chromosomes with one of each kind is called a haploid cell.

- All chromosomes in a cell are called autosomes. Thus autosomes are non-sex chromosomes.

Autosomes are of the same number and kind in both male & female of a species. In order to study the no. shape, size & type of chromosomes of an individual the chromosomes are seen in the cell of that individual during metaphase & they are arranged all to their length and position of centromere. This arrangement of chromosomes for the purpose of studying is known as Karyotype.

Students write down what are haploid & diploid - chromosomes

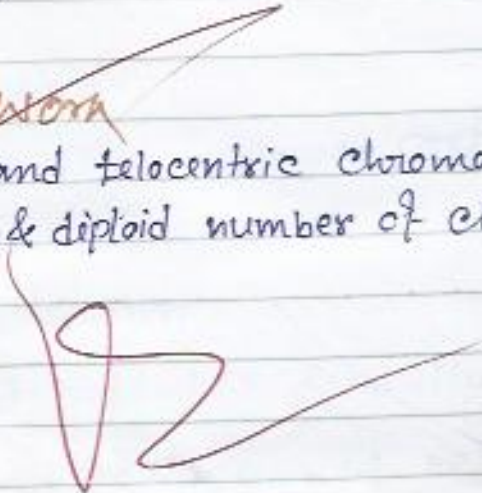
Students listen carefully

Students note down the definition of Karyotype.

Recapitulation

- 1) Define chromosomes?
- 2) What are types of chromosomes?
- 3) What is karyotype?

Home Work

- 1) Explain metacentric and telocentric chromosomes?
 - 2) Explain the haploid & diploid number of chromosomes?
 - 3) Define karyotype?
- 

Date 09.03.15

Duration of the period 35 mins

Pupil Teacher's Name Piyali Saha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.S.C.

Topic Sexual Reproduction

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

Students will be able to :-

- Define sexual reproduction.
- Differentiate b/w sexually & asexual reproduction of animals.
- Illustrate sexual reproduction
- Name the animals that reproduce sexually.
- Examples of sexual & asexual reproduction of animals.
- Evaluate sexual reproduction.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher assume

The student must know about difference between sexual & asexual mode of reproduction in animals.

IP. K. Testing

Pupil Teacher activity

1. What is reproduction?

2. How many types of reproduction are there?

3. What is external & internal fertilization?

Student activity

The production of new organism from the existing organism of same species is known as reproduction.

Asexual & sexual.

No response.

Announcement of topic: Well students today we shall study about sexual reproduction.

Presentation

Sub
matter

Pupil Teacher
activity

Student's
activity

activities

Sexual
reproduction
in
animals

Male: An animal having male sex cells (sperm) in its body is a male.

Female: An animal having sex cell (ova) in its body is a female.

Students
listen

carefully

Gametes

Gamete: Cell involved in sexual reproduction are gametes. Gametes types:

1) Male (sperm)

2) Female (ovum)

Male gamete is called sperm.

Students
note down

types of-
gametes.

Student's activities

Female gamete is called ovum.

Sperm & ova are extremely small cells which can be seen only with the help of a high power microscope.

- Fusion of gametes give rise to a single cell called zygote.

The cell which is formed by the fusion of male & female gametes is a Zygote.

Fertilizations: It is fusion of male gamete with a female gamete to form a zygote during sexual reproduction.

The fusion of a sperm with an ovum to form zygote is called fertilization.

The stage of development b/w the zygote & the newly formed is called Embryo.

Types of fertilization:

- Internal fertilization.
- External fertilization.

Internal fertilization: Which occurs inside a female body. eg. mammals, birds & reptiles.

External fertilization: Which occurs outside a female's body. eg. Amphibian

Students note down what is zygote.

Students note down what is fertilization & embryo.

Students note down types of fertilization.

Students note down what is internal & external fertilization.

Students activities

An organism which possesses only one kind of reproductive organs (male or female) in its body is called unisex. organism eg. human. In addition to humans frog, birds, fishes & reptiles etc are all unisexual organism.

Students
note down
Unisexual
organism

An organism which possess as both male & female reproductive organs in its body are called hermaphrodites.

Thus hermaphrodites are bi-sexual organisms. eg. Animals like earth worm, tapeworms & most of flowering plants are bisexual.

Students
note down
examples of
Unisexual
& bisexual
organism.

Recapitulation

- 1) What are gametes & name male & female gametes?
- 2) Difference b/w internal & external fertilization?
- 3) What are unisexual organisms & hermaphrodites?

Home Work

- 1) Explain the various terms related in sexual reproduction?
- 2) Explain unisexual & bisexual organisms?
- 3) Give some examples of animals having external fertilization.



LESSON No. ...19....

Date 11/03/15

Duration of the period 35 minutes

Pupil Teacher's Name Piyali Ojha

Pupil Teacher's Roll No. 9560155

Class VIII

Average Age of the pupils 15 years

Subject L.S.C.

Topic Digestive System

INSTRUCTIONAL OBJECTIVES :-

After going through lesson,

the students will be able to :-

- Names of the organs of human digestive system.
- Labels the parts of human digestive system.
- Explain human digestive system and their function.
- Demonstrate the function of various organs of human digestive system.
- Draw well labelled diagram of human digestive system.
- Evaluate organ of human digestive system.

INSTRUCTIONAL AIDS :-

General :- Chalk, Duster, ~~Black~~ Chalk Board, Pointer etc.

Specific :- Chart.

PREVIOUS KNOWLEDGE ASSUMED :-

pupil's teacher

Assume the student must know about structure & function of Digestive system.

P.K. Testing

Pupil teacher activity

1. What is digestion?

2. Where digestion of food begins.

3. What are various organs of human digestive system in sequence.

Student activity

Process in which the food containing large insoluble molecules is broken down into small molecules is called digestion.

In mouth.

No response.

Announcement of topic: Well students today we shall study about human digestive system.

Presentation

sub matter

Pupil teacher activity

organs of human digestive system

The human digestive system consist of alimentary canal & its associated glands. The various organs of human digestive system in sequence are: Mouth, Oesophagus, stomach, duodenum, ileum, colon & rectum.

The glands which are associated with the human digestive system are

Students activities

Students note down about digestive system & organs which are used in digestion of food.

Student's activities

Steps of nutrition in human beings:

① Ingestion: The human beings have a special organs for ingestion of food called as mouth.

② Digestion: In human digestion being in food teeth help in physical digestion & tongue helps in mixing of saliva with food. Then food passes onto oesophagus & further to stomach. The glands present in the walls of stomach produce gastric juice which contains 3 substances:-

Hcl. pepsin (enzyme) & Mucous.

Enzyme pepsin begins digestion of proteins present in food to form smaller molecules called peptones.

Then food goes to intestine. There pancreas secrete pancreatic juice which contains digestive enzymes.

Trypsin & pancreatic amylase.

[pancreas also secrete hormones insulin and glucagon]

Now partially digested food passes onto ileum. The wall of ileum secrete intestinal juice succus entericus which complete digestion of carbohydrates into glucose, proteins into amino acid & fat into fatty acid and glycerol.


Students note down enzymes used in digestion of food.

Students listen carefully.

Recapitulation

1. What are the parts (organs) of human digestive system?
2. What are the steps of nutrition?
3. What are the constituents of gastric juice?
4. What is egestion?

Home Work

1. Draw a well defined diagram of human digestive system?
 2. Explain process of Assimilation?
 3. What is the function of HCl in digestion?
- 

**DISCUSSION
LESSON**

LESSON No. 01

Date 02.03.15

Duration of the period 35 mins

Pupil Teacher's Name Piyali Saha

Pupil Teacher's Roll No. 9560155

Class IX

Average Age of the pupils 15 years

Subject L.Sc.

Topic Plant movements

INSTRUCTIONAL OBJECTIVES

After going through lesson,

Students will be able to :-

- Recognize plant movement.
- Recall plant movements.
- See relationship between plant and animal movements.
- Give examples of plant movements.
- Classify plant movements
- Discriminate b/w plant movement.
- Give their views about plant movement.
- Evaluate plant movements.

INSTRUCTIONAL AIDS

General :- Chalk, Duster, Chalk-Board, Pointer etc.

Specific :- Chart showing various plant movement.

PREVIOUS KNOWLEDGE ASSUMED

Pupil's teacher assume

the student must know about plant movement.

Student's activities

using hormones.

Plant Movements:

Plant movements are brought about by some definite external & internal stimuli by using phytohormones.

According to the nature of stimulus the movements may be spontaneous (autonomic) or induced (Paratonic).

Students note down carefully about plant movement.

Classification of Induced plant movement:

- 1) Nastic movements.
- 2) Tropic movements.

Students note down about classification of induced plant movements.

1. Nastic movements: These are non directional induced variation movements that occur due to change in turgor.

ii) Seismonastic movement: Such movements occur due to touch. These are best seen in touch-me-not plant or chhui-mui plant. (Mimosa pudica)

Students listen carefully.

What happens when we touch the leaves of chhui-mui.

Student's activities

ii) Nyctinastic movements :

The movements involving the diurnal variation in the position of flowers are called nyctinastic movements.

These involve photonastic & thermonastic movements. These involve photonastic & thermonastic movements.

Students note down about nyctinastic movements.

a. Photonastic movement : If the diurnal variation in the position of plant parts are caused by light stimulus such non-directional movements are called photonastic movements.

Students listen carefully.

b. Thermonastic movements : If the diurnal variation in the position of plants parts are called caused by the change in temperature of the surroundings.

Students listen carefully.

2. Tropic movements :

Directional movements of specific part of a plant in response to external stimuli are

Students note down about tropic movement & its type.

Students activities

are called tropic movements.

If the movements of a plant part takes place towards the stimulus is called as +ve tropism.

If the movements of a plant part takes place away from the stimulus is called -ve tropism.

i) Phototropism: The response of plant to light is called phototropism. If the plant part moves towards light it is +ve phototropism & if the plant part moves away from light then it is -ve phototropism.

Students
listen
carefully

ii) Geotropism: The response of a plant to gravity is called geotropism. If plant part moves in direction of gravity it is +ve geotropism & if plant part moves against the direction of gravity it is called -ve geotropism.

Students
listen
carefully

iii) Chemotropism: The movements of a plant part in response to chemical stimulus is called chemotropism.

Students
listen
carefully.

iv) Hydrotropism: The movement of a plant in response to water is hydro tropism eg. Root show +ve hydrotropism where as shoot shows -ve hydrotropism.

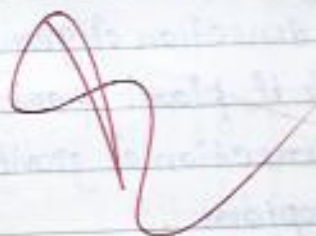
Students
listen
carefully.

Recapitulation

1. What is nastic movement?
2. What is tropism? How many types of-tropic movement?
3. What is seismonasty?

Home work

1. What is meant by tropism?
2. What is the stimulus in:
 - i) Phototropism
 - ii) Geotropism
 - iii) Chemotropism
3. What does a stem or shoot do in response to light?





**OBSERVATION
LESSONS**

Observation Lesson No. 01

Date 13.02.15

Duration of the period 35 minutes

Pupil Teacher's Name Aradhana Ray

Pupil Teacher's Roll No. 9560117

Class VIII

Average Age of the pupils

Subject L.Sc.

Topic Digestive System

1. Previous knowledge testing was satisfactory.
2. Black-board writing was clear.
3. Voice was clear and effective.
4. Explanation was proper.
5. Student were attentive and involved.
6. Home work was given.

P. osha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 02

Date Prithwisa B 14.02.15

Duration of the period 35 minutes

Pupil Teacher's Name Prithwisa Bera

Pupil Teacher's Roll No. 9560157

Class VIII

Average Age of the pupils

Subject L.Sc.

Topic Various parts of flowers

1. The teacher maintained discipline in the cells.
2. Previous knowledge testing was satisfactory.
3. Relevant examples were given.
4. Voice was clear and effective.
5. Black-board writing was very good.
6. Homework was given to the students.

P. osha

Sign. of Pupil Teacher

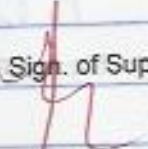
Sign. of Supervisor

Observation Lesson No. 03

Date 15.02.15 Duration of the period 35 mins
Pupil Teacher's Name Prithusa Bera Pupil Teacher's Roll No. 9560157
Class IX Average Age of the pupils.....
Subject L.Sc. Topic Plant movement

1. The teacher maintained discipline in the class.
2. Students were involved in the lesson.
3. The teacher was confident.
4. Model was used as teaching aid.
5. Homework was given to the students.

P. osha
Sign. of Pupil Teacher

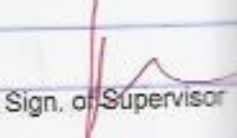
Sign. of Supervisor


Observation Lesson No. 04

Date 16.02.15 Duration of the period 35 mins
Pupil Teacher's Name Arunima Roy Pupil Teacher's Roll No. 9560117
Class VIII Average Age of the pupils.....
Subject L.Sc. Topic Population control

1. Previous knowledge testing was simple.
2. Blackboard writing was understandable.
3. Voice was clear, loud and effective.
4. Proper explanation was given.
5. Relevant examples were cited.
6. Home work was given to the student.

P. osha
Sign. of Pupil Teacher

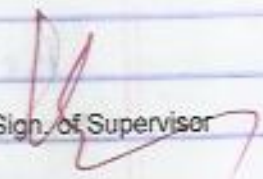
Sign. of Supervisor


90 Observation Lesson No. 05

Date: 17.02.15 Duration of the period: 35 mins
Pupil Teacher's Name: Moni Chuan Pupil Teacher's Roll No: 9560152
Class: VIII Average Age of the pupils:
Subject: L.Sc. Topic: Digestive System

1. Pupil's teacher was confident.
2. Voice was clear and effective.
3. Students were involved in lesson.
4. Model was used as teaching aid.
5. Proper explanation was given.
6. Board writing was clear.
7. Homework was given.

P. Ojha
Sign. of Pupil Teacher

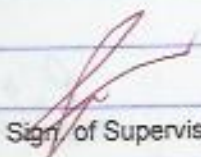

Sign. of Supervisor

Observation Lesson No. 06

Date: 16.02.15 Duration of the period: 35 mins
Pupil Teacher's Name: Prithwa Bera Pupil Teacher's Roll No: 9560157
Class: VI Average Age of the pupils:
Subject: L.Sc. Topic: Human Heart

1. The pupil teacher maintained discipline in the class.
2. The black-board writing was understandable and visible.
3. Pupil teacher voice was confident and loud.
4. Home work was given to the student.

P. Ojha
Sign. of Pupil Teacher


Sign. of Supervisor

Observation Lesson No. 07

Date 14.02.15

Duration of the period 35 mins.

Pupil Teacher's Name Arunima Roy

Pupil Teacher's Roll No. 9560117

Class IX

Average Age of the pupils.....

Subject L.Sc.

Topic photosynthesis

1. Previous knowledge testing was interesting.
2. Teacher maintained discipline in the class.
3. Voice was clear and loud.
4. Teacher maintained pupil's interest.
5. Teacher was confident and interactive.
6. Home work was given to students.

P. Ojha

Sign. of Pupil Teacher

[Signature]
Sign. of Supervisor

Observation Lesson No. 08

Date 18.02.15

Duration of the period 35 mins

Pupil Teacher's Name Prithwa Bera

Pupil Teacher's Roll No. 9560157

Class IX

Average Age of the pupils.....

Subject L.Sc.

Topic Living organisms

1. Teacher was confident and clear voice.
2. Teacher maintained discipline in the class.
3. Proper explanation's were given.
4. Board writing was visible clearly.
5. Homework was given to the students.

P. Ojha

Sign. of Pupil Teacher

[Signature]
Sign. of Supervisor

Observation Lesson No. 09

Date 17.02.15 Duration of the period 35 mins
Pupil Teacher's Name Arunima Roy Pupil Teacher's Roll No. 9560117
Class IX Average Age of the pupils.....
Subject L.S.C. Topic Adolescence

1. Students were involved in the lesson.
2. Proper explanation was given.
3. Proper teaching aids were used.
4. Relevant- examples were cited.
5. Voice was clear and loud.
6. Homework was given to the students.

P. osha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 10

Date 17.02.15 Duration of the period 35 mins
Pupil Teacher's Name Prithasa Bera Pupil Teacher's Roll No. 9560157
Class VIII Average Age of the pupils.....
Subject L.S.C. Topic Food chain

1. Pupil teacher maintained discipline in the class.
2. Previous knowledge testing was appropriate.
3. Relevant- examples were cited.
4. Teacher was loud, clear and confident.
5. Teaching aids were used.
6. Home work was given to students.

P. osha

Sign. of Pupil Teacher

Sign. of Supervisor

PO Observation Lesson No. 11

Date 14.02.15

Duration of the period 35 mins

Pupil Teacher's Name Aradhana Roy

Pupil Teacher's Roll No. 9560117

Class IX

Average Age of the pupils

Subject L.Sc.

Topic Plant movement

1. Board writing was clearly visible.
2. Model were used for explanation.
3. Class interacted well with teacher.
4. Pupil's teacher was confident.
5. Teacher maintained discipline in the class.
6. Home work was given to the students.

P. ojha

Sign. of Pupil Teacher

Sign. of Supervisor

Observation Lesson No. 12

Date 13.02.15

Duration of the period 35 mins

Pupil Teacher's Name Prithwa Bera

Pupil Teacher's Roll No. 9560157

Class IX

Average Age of the pupils

Subject L.Sc.

Topic Chromosome

1. Previous knowledge testing was interesting.
2. Board writing was satisfactory.
3. Teacher was confident and clear.
4. Concept clarification was good.
5. Relevant examples were cited.
6. Homework was given to the students.

P. ojha

Sign. of Pupil Teacher

Sign. of Supervisor

SCHOOL REPORT

The environment of CSM High School, Ruxee is very good. It is good luck to get the chance of teaching at such a school. The teachers of the school are very helpful and well behaved. There are many classrooms in that school. The school is consisting of 500 students. It took class standard and the students of the class are brilliant. They are very attentive and serious to their study. Their response to the lesson is very notable. There is a library, a play ground, a room with computers for advance technology facilitating the students. The headmaster of the school is too much good. He also helped in various ways to get adjusted with the school and students.

So, it is a good experience for me to get the chance of teaching at the school.