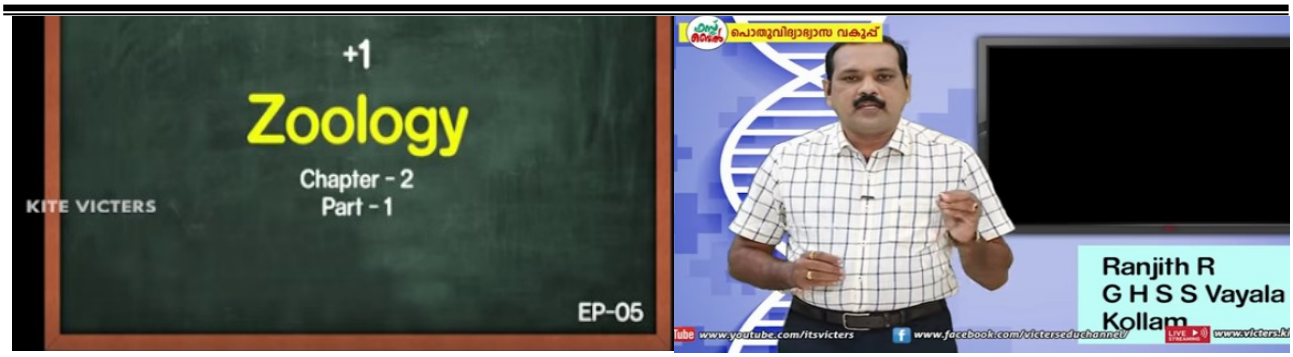
ANIMAL KINGDOM

KITE VICTERS Plus One Zoology Class 5

(First Bell- ഫസ്റ്റ് ബെൽ) 18/12/2020

For viewing the class click the link below

https://www.youtube.com/watch?v=T4kff6VsNPo&t=570s



BASIS OF CLASSIFICATION

Some of the important features used as the basis of animal classification are the following

- Levels of Organisation
- Patterns of digestive System
- Patterns of Circulatory System
- Symmetry
- Diploblastic and Triploblastic Organisation
- Coelom
- Segmentation
- Notochord

Levels of Organisation

- Cellular level of organisation
- Tissue level of organisation
- Organ level of organisation
- Organ system level of organisation.

1.Cellular Level Of Organisation

In this level of organization the cells are arranged as loose cell aggregates.

Eg.sponges

2.Tissue Level Of Organisation

In this organization the cells performing same function are arranged into tissues.

Eg.Coelentrates .

3. Organ Level Of Organisation

Here the tissues are grouped together to form organs .Each organ perform a particular function.

Eg. Members of phylum Platyhelminthes, organs such asstomach, heart , liver etc.

4.Organ System Level Of Organisation

Here the organs are associated to form functional systems, each system is concerned with a specific physiological function.

Eg.Annelids, Arthropods, Molluscs, Echinoderms, Chordates etc.

Types of digestive system

1.Incomplete digestive system

This type of digestive system has only a single opening to the outside of the body that serves as both mouth and anus.

Eg; digestive system of platyhelminthes.

2. Complete digestive system

Complete digestive system has two openings, mouth and anus.

Types of circulatory system

1.Open circulatory system

In this type of circulatory system the blood is pumped out of the heart and the cells and tissues are directly bathed in it.

Eg:Circulatory system of Arthropods

2. Closed circulatory system

In this circulatory system the blood is circulated through a series of vessels like arteries, veins and capillaries.

SYMMETRY

Animals can be classified on the basis of their body symmetry into.

- **Asymmetry**
- **Radial symmetry**
- **Bilateral symmetry**

ASYMMETRY

Any any plane that passes through the centre does not divide the organism into equal halves

Eg: Sponges

RADIAL SYMMETRY

Any plane passing through the **central axis of the body divides the organism into two identical halves, it is called** radial symmetry.

Eg: Coelenterates,

Ctenophores,

Echinoderms

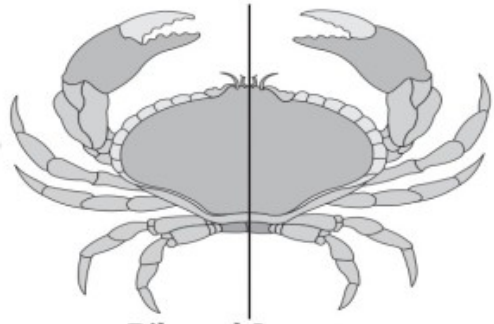
BILATERAL SYMMETRY

The body can be divided into identical left and right halves in only one plane.

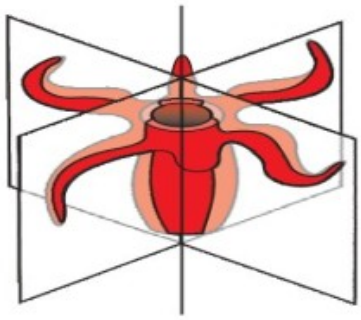
Eg: Annelids

Arthropods

Vertebrates



Bilateral Symmetry



Radial Symmetry

Diploblastic and Triploblastic Organisation

Diploblastic Animals

Animals in which the cells are arranged in two embryonic layers, an external ectoderm and an internal endoderm, are called diploblastic animals.

An undifferentiated layer present in between the ectoderm and the endoderm is called mesoglea

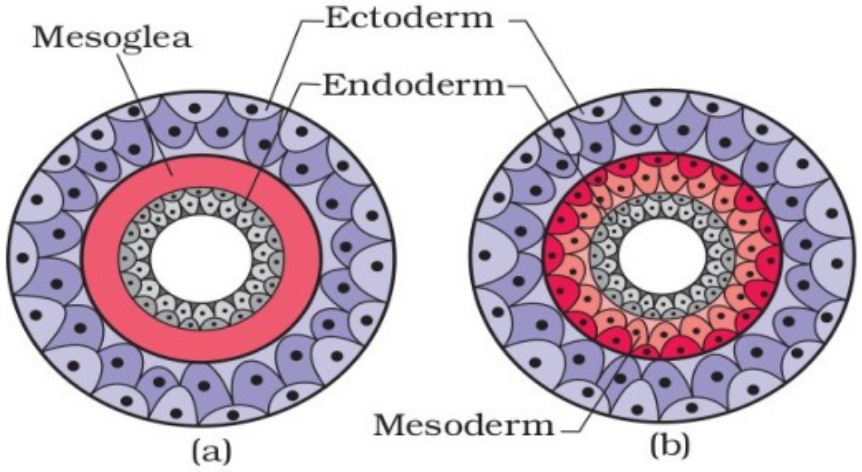
e.g.coelenterates.

Triploblastic Animals

The animals which possess three embryonic layers are called triploblastic animals.

These animals posses a third embryonic layer in between the ectoderm and endoderm called mesoderm.

E.g.Platyhelminthes to chordates.



(a) Diploblastic (b) Triploblastic

COELOM

- The cavity present in between the body wall and gut is known as coelom.
- It is lined by mesoderm.

On the basis of coelom animals are classified into three.

1. Coelomates
2. Pseudocoelomate
3. Acoelomate

1.Coelomate

Animals which posses a true coelom is coelomate animals.

Eg .Annelids, Molluscs, Arthropods, Echinoderms, Hemichordates and Chordates.

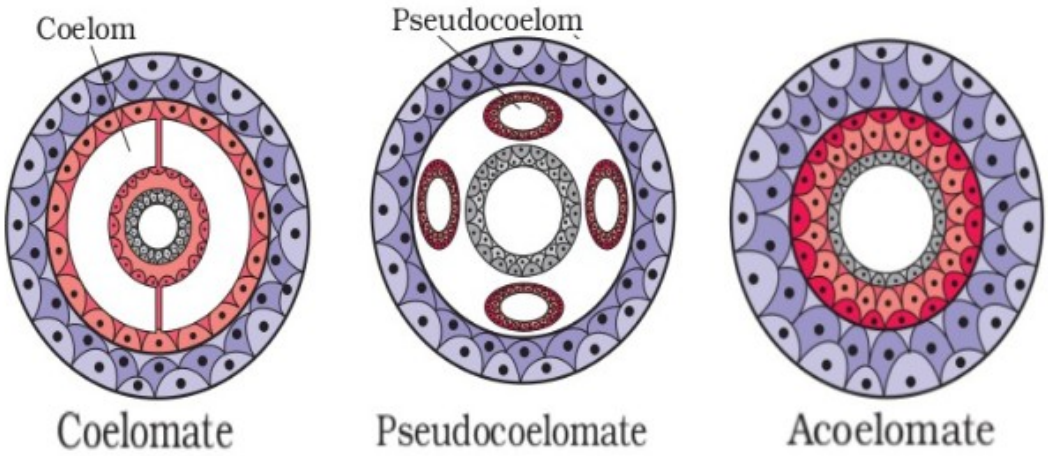
2.Pseudocoelomate

- In some animals the body cavity is not lined by mesoderm, instead the mesoderm is present as scattered pouches in between the ectoderm and endoderm.
- Such a body cavity is called pseudocoelom and the animal possessing them are called pseudocoelomate.
- Eg.Aschelminthes

3.Acoelomate

- The animals in which the body cavity is absent are called acoelomate animals.

Eg Platyhelminthes



SEGMENTATION

- In some animals, the body is externally and internally divided into segments with a serial repetition of at least some organs.
- This pattern called metameric segmentation and the phenomenon is known as metamerism.

Eg: Earthworm

ASSIGNMENT
Closely observe your nature and list out 50 animals in around you and try to find out its local and zoological names.

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