Ecdysis is the process of an arthropod moulting its exoskeleton. ... Moulting is a critical but vulnerable time for arthropods. Their existing cuticle weakens at specific points and by taking in water or air the animal splits its old exoskeleton. The animal then extracts itself from the old skin and inflates its new skin.

Summary of Molting

Step 1:Apolysis -- separation of old exoskeleton from epidermis

Step 3: Production of cuticulin layer for new exoskeleton

Step 4: Activation of molting fluid

Step 5: Digestion and absorption of old endocuticle

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Role of osphradia:

Osphradia are chemoreceptors in the anterior wall of the mantle cavity that detect sediment and chemicals in inhalant water or air.

- The osphradia of predatory gastropods help detect prey.

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To mate, oligochaete worms will lie next to each other head to tail. This allows the clitellum of one worm to align with the sexual organs of the other. Both exchange sperm with the other worm, which is then held by the recipient until the eggs ready.

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Determinate cleavage:

A second characteristic common to many protostomes is that early cleavage is determinate.

- Determinate means that the fate the cells is established very early in development.

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Arthropods/Annelids difference

Arthropods are invertebrate animals that possess a segmented body, an exoskeleton, and paired appendages. Whereas, annelids are another group of invertebrates that are segmented worms by transverse rings. Though arthropods have an exoskeleton, annelids do not. Furthermore, arthropods have an open circulatory system while annelids have a closed circulatory system. Moreover, arthropods have a chitinous cuticle while annelids have a collagenous cuticle Insects, crustaceans, arachnids are several groups of arthropods while earthworms, ragworms, and leeches are some groups of annelids. Thus, this summarizes the difference between arthropods and annelids.

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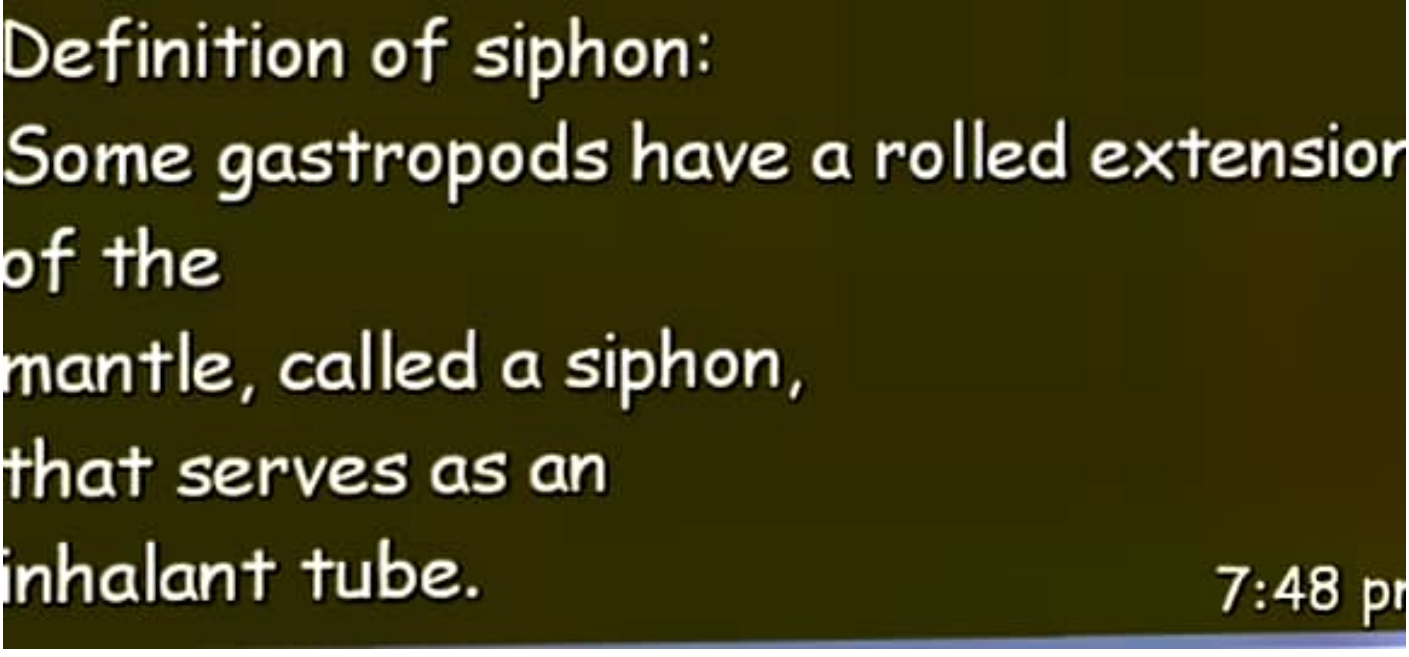
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Deuterostomes:
Pattern of embryonic cleavage: ...
Fate of embryonic blastomeres: ...
Fate of blastopore: ...
Formation of mesoderm: ...
Formation of coelom: ...
Arrangement of coelomic cavities: ...
Larval type: ...
Larval ciliary bands:

Cnidarians_____
What are the Characteristics of Cnidarians?
They are characterized by the presence of stinging cells called Cnidoblast and a cavity called coelenterates, justifying the name Cnidaria or Coelenterata.
They are exclusively aquatic and marine.
They are radially symmetrical and diploblastic animals.

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rotifer, also called wheel animalcule, any of the approximately 2,000 species of microscopic, aquatic invertebrates that constitute the phylum Rotifera. Rotifers are so named because the circular arrangement of moving cilia (tiny hairlike structures) at the front end resembles a rotating wheel.

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trichinosis

Trichinosis is a food-borne disease caused by a microscopic parasite called Trichinella. People can get this disease by eating raw or undercooked meat from animals infected with the parasite.

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The advantages of the coelom are as follows:

The organs like that of the digestive tract need more space to grow. ...

Some organs like gonads need more space only during the breeding season. ...

Coelom also allows the formation of well-organized circulatory system with an efficient heart to draw blood from vessels.

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Phylum Nematoda is a phylum of invertebrate animals. They are comprised of roundworms (or nematodes). They are identifiable by their smooth and tough outer covering and narrow cylindrical unsegmented body. Their name is etymologically derived from the Greek word nema, nematos, meaning "thread

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Function of pellicle in protozoan

Most protozoans are enclosed by a skeletal structure known as the pellicle consisting of the plasma membrane and underlying cytoskeleton (with additional membranes, microtubules, microfilaments, or plates of cellulose or protein). The pellicle maintains the shape of the cell.

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Hydra reproduction

The common asexual method of reproduction by hydras is budding. Buds originate at the junction of the stalk and gastric aregions. The bud begins as a hemispherical outpouching that eventually elongates, becomes cylindrical, and develops tentacles. The bud then pinches off and a new individual becomes independen

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Four kinds of malaria parasites infect humans: Plasmodium falciparum, P. vivax, P. ovale, and P. malariae.

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Five species of Plasmodium (single-celled parasites) can infect humans and cause illness:

Plasmodium falciparum (or P. falciparum)

Plasmodium malariae (or P. malariae)

Plasmodium vivax (or P. vivax)

Plasmodium ovale (or P. ovale)

Plasmodium knowlesi (or P. knowlesi)

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The mouth opens into a characteristic chewing pharynx (called the mastax), sometimes via a ciliated tube, and sometimes directly. The pharynx has a powerful muscular wall and contains tiny, calcified, jaw-like structures called trophi, which are the only fossilizable parts of a rotifer.

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• Ostia are the outer openings of porocytes and lead directly to a chamber called the spongocoal.

Spongocoel is single, large, spacious central cavity in sponge's body.

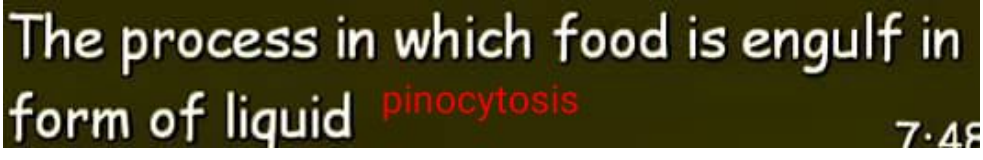
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The nephridia are the excretory organs of earthworm. ... Nephridia are analogous to kidneys of vertebrates. Nephridia are present in all segments of the body except in first 3 segments and last segments. In earthworm, the nephridia functions for the removal of the excretory wastes both from blood and the coelomic fluid

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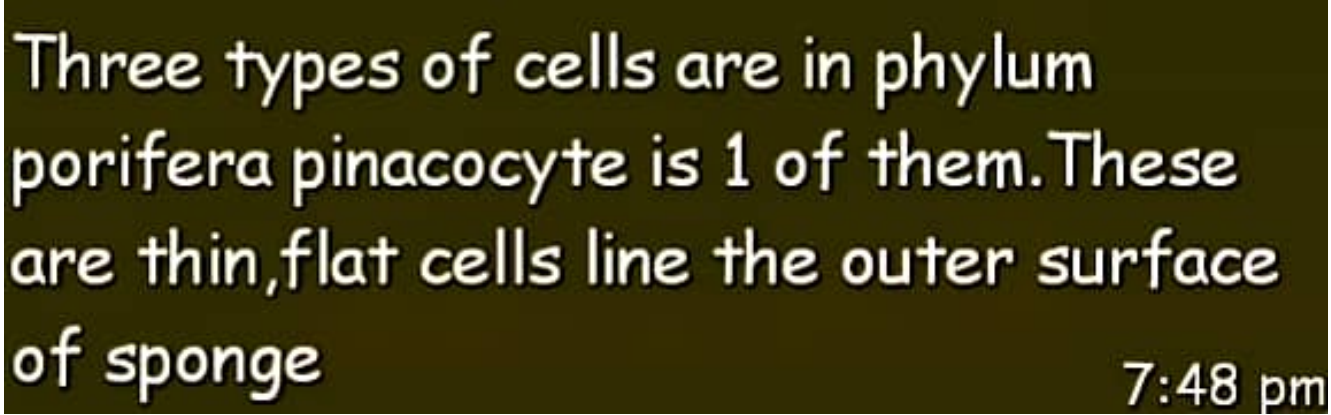
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monoecious/diecious species

Dioecious species are either male or female. Each individual, when it produces reproductive structures, produces only male or female structures.

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What is Hydra in reproduction?

Reproduction. The common asexual method of reproduction by hydras is **budding**. Buds originate at the junction of the stalk and gastric regions. The bud begins as a hemispherical outpouching that eventually elongates, becomes cylindrical, and develops tentacles.

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what is hydra and describe th

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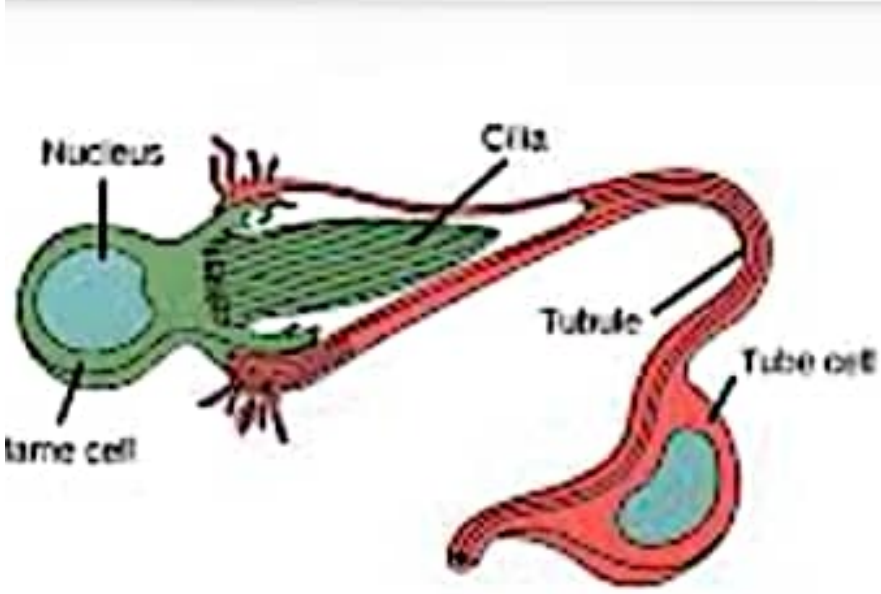
When food is plentiful, many Hydra **reproduce asexually by budding**. The buds form from the body wall, grow into miniature adults and break away when mature. ... When conditions are harsh, often before winter or in poor feeding conditions, sexual reproduction occurs in some Hydra.

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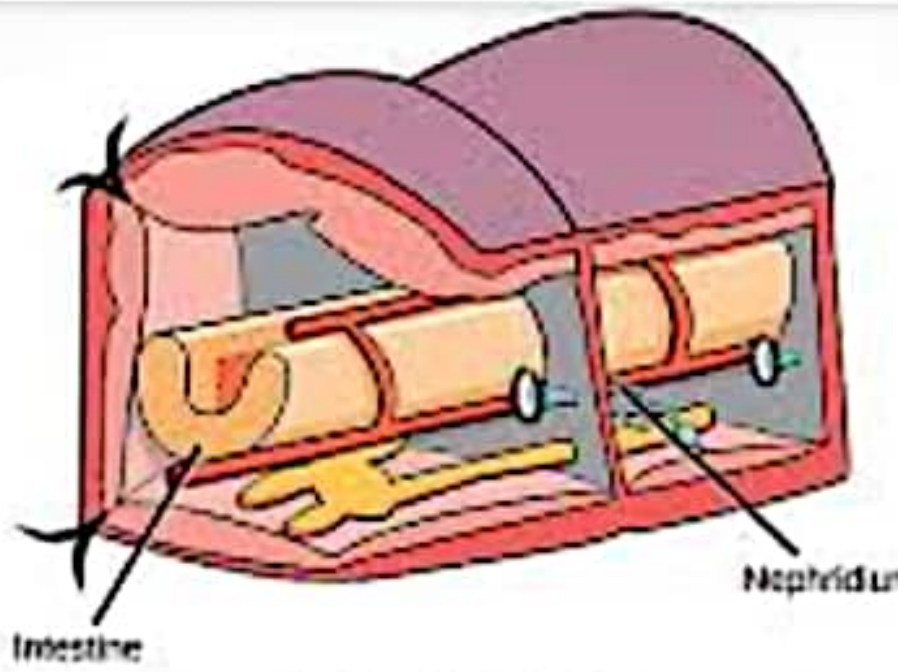
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deff between metanephridia

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(a) Flame cell of a planarian



(b) Nephridium of an earthworm

Protonephridia are composed of ciliated or flagellated flame cells that aid in the release of waste fluid via the **nephridiopore**. Metanephridia are composed of funnel-like structures known as nephrostome with an interior opening that collects the waste fluid from the body cavity. 09-Apr-2018

https://www.differencebetween.com › ...

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circulatory system of caplop

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Showing results for circulatory system of ***cephalopods***

Search instead for circulatory system of caplopods

Cephalopods are the only molluscs with **a closed circulatory system**. Coleoids have two gill hearts (also known as branchial hearts) that move blood through the capillaries of the gills. A single systemic heart then pumps the oxygenated blood through the rest of the body.

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common character arthropoc

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The nematodes and the arthropods belong to a clade with a common ancestor, called **Ecdysozoa**. The name comes from the word ecdysis, which refers to the periodic shedding, or molting, of the exoskeleton.

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determine cleavage

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To determine the angle of cleavage, **look at the intersection of cleavage planes**. Commonly, cleavage planes will intersect at 60°, 90° (right angles), or 120°. Be cautious when you see a flat surface on a mineral – not every flat surface is a cleavage plane. 04-Sept-2019

https://geo.libretexts.org › Laboratory

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Body wall of turbellarian

Body wall:
A basement membrane that separates the epidermis from mesodermally derived tissues. An outer layer of circular muscles and inner layer of longitudinal muscle lie beneath the basement membrane. The innermost layer is endodermis that comprises the digestive cavity. Rhabdites a protective mucus sheath around the body possibly in response to attempted predation or desiccation. Adhesive glands attract part of turbellaria to the substrate. Releaser glands release the enzyme that dissolved the attachment.

Locomotion:
They move using cilia using muscular undulation.

They move using cilia using muscular undulation.

Digestion and Nutrition:
Most turbellarians are carnivores, some are herbivores. Food digestion is extra cellular and intra-cellular.

7:48 pm

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• A fundamental question concerning animal origins is whether animals are;
• Monophyletic (derived from a single ancestor)
• Diphyletic (derived from two ancestors)
• Polyphyletic (derived from many ancestors).

Monophyletic:

The goal of animal systematics is to arrange animals into groups that reflect evolutionary relationships.
• Ideally, these groups should include a single ancestral species and all of its descendants.
• Such a group is called a monophyletic group.

Some zoologists believe the animal kingdom to be at least diphyletic, with the porifera being derived separately from all other phyla.
• The similarity of poriferan choanocytes and choanoflagellates protists suggest evolutionary ties between these groups.

Polyphyletic groups have members that can be traced to separate ancestors.

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They move using cilia using muscular undulation.

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- The **polyp** is usually asexual and sessile.
- It attaches to a substrate at the aboral end.
- It has a cylindrical body, called the **column**.
- It has a mouth surrounded by food-gathering tentacles.

ternation of Generations

- The **medusa** is dioecious and free swimming.
- It is shaped like an inverted bowl, and tentacles dangle from its margins.

ternation of Generations

- The mouth opening is centrally located facing downward.
- The medusa swims by gentle pulsations of body wall.

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Find...

suspended organic material.

- The coronal cilia create a current of water.
- This current brings food particles to the mouth.
- Pharynx contains a unique structure called the **mastax** (jaws).

nd the Digestive System

- The mastax is a muscular organ that grinds food.
- The inner walls of the mastax contain several sets of jaws called **trophi**.
- The trophi vary in morphological detail, and taxonomists use them to distinguish species.

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- In monoecious species, male gametes mature earlier than female gametes so that self–fertilization does not occur.

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evolutionary pathways are speculative.

- **ORIGIN OF THE COELOM**

  A number of hypotheses focus on the origin of the coelom.

Animals; Origin of the Coelom

- These hypotheses influence how zoologists picture the evolutionary relationships among triploblastic phyla.
- **The schizocoel hypothesis** (Gr. *schizein,* **to split** *koilos,* **hollow**) is patterned after the method of mesoderm development and coelom formation in many protostomes.

Animals; Origin of the Coelom

- Mesoderm fills the area between ectoderm and endoderm.
- The coelom arises from a splitting of this mesoderm.
- If the coelom formed in this way during evolution, mesodermally derived tissues would have preceded the coelom.

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- A dorsal fold of the lumenal epithelium called the **typhlosole** substantially increases the surface area of the intestine.
- The intestine ends at the anus.

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- Parasitic nematodes have a more advances system, called the **tubular system** that developed from the renette system.
- In this system, the renettes unite to form a large canal which opens outside through an excretory pore.

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Identification of Family Salticidae

- Some jumping spiders mimic other insects such as ants.
- Others are able to camouflage themselves to blend into their surroundings, helping them sneak up on prey.
- Salticids hunt diurnally as a rule, which is consistent with their highly developed visual system.

Identification of Family Salticidae



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- Although jumping spiders are generally carnivorous.
- Many species have been known to include nectars in their diets and one species, *Bagheera kiplingi* feeds primarily on plant matter

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