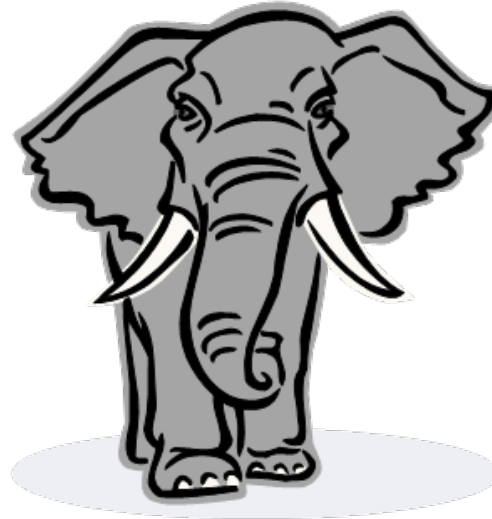


# Compare and Contrast



© 2002 John P. Clare  
(www.caudata.org)

<http://www.caudata.org/daphnia/>



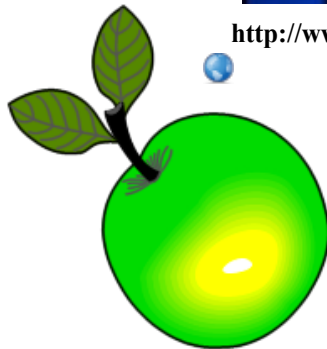
When Linnaeus classified animals in the 1700's, he counted 4,236. There are now over a million.

Many animals are important to each other. Give an example.

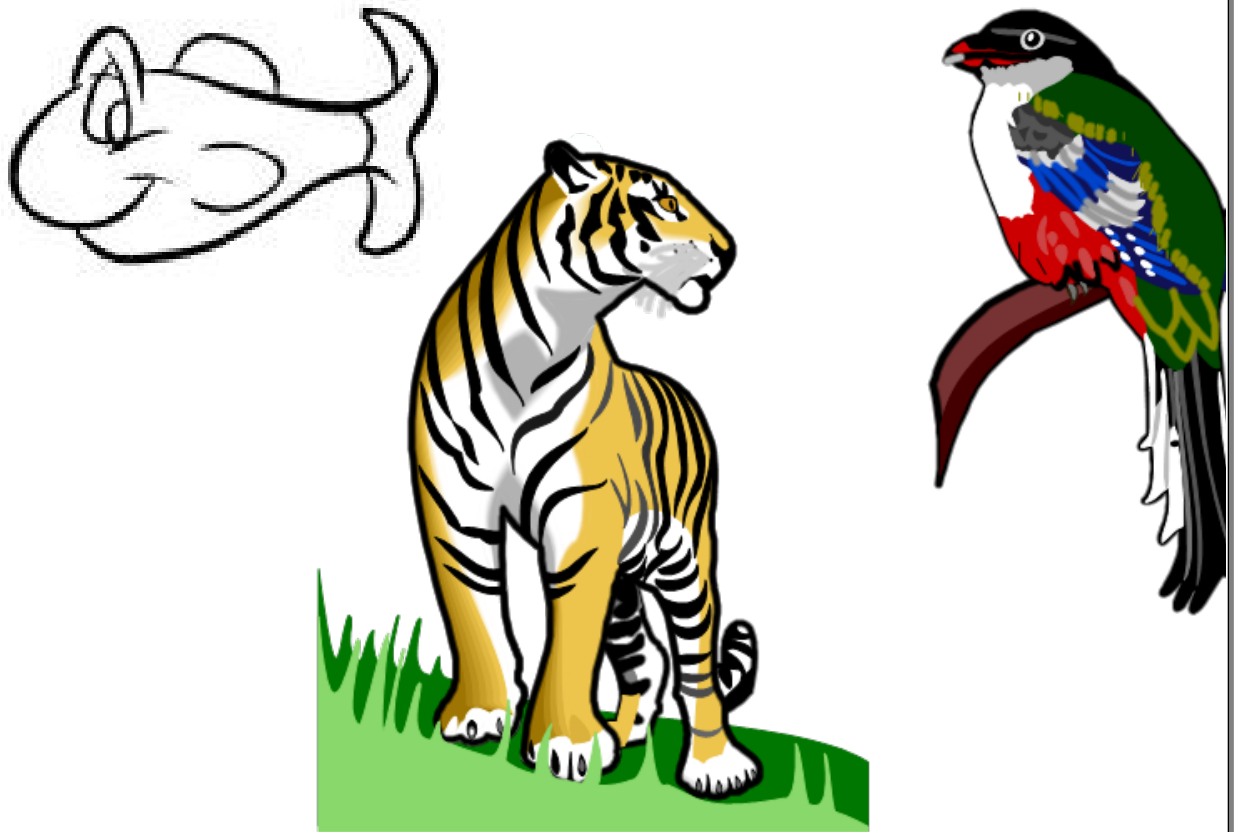
Heterotrophy - they cannot make  
their own food



<http://www.imagequest3d.com/photos/zooplankton/index.htm>



Mobility -They can perform rapid, complex movements. Some can walk, swim, crawl, run, and fly.



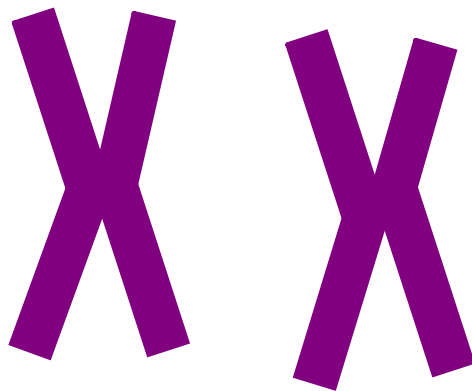
Multicellularity-all animals are multicellular, some are microscopic and some are as big as city buses. There is little difference in cell size.



<http://www.caudata.org/daphnia/>



Diploidy-animals have 2  
copies of each chromosome, one  
from the father and one from the  
mother



Sexual Reproduction-  
almost all animals

reproduce sexually

Absence of cell wall- of the  
multicellular organisms only  
animals lack a cell wall

Choose an animal and give evidence for each of the following.

**Heterotrophic**

**Mobility**

**Multicellular**

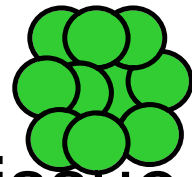
**Diploidy**

**Lacking Cell Walls**

**Sexual Reproduction**



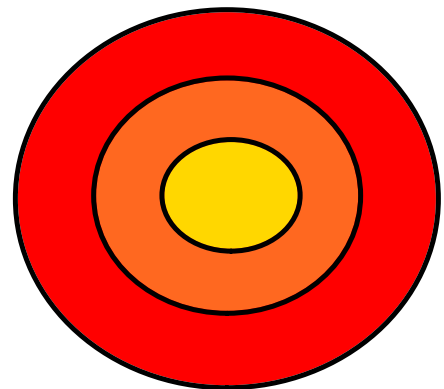
Blastula-hollow ball of cells



Ectoderm- outer layer of tissue

Mesoderm- Middle layer of tissue

Endoderm- inner layer of tissue



## Ecto

Skin

Eyes

Nervous  
System

## Meso

Muscles

Skeleton

Glands

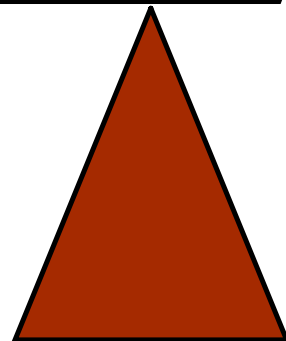
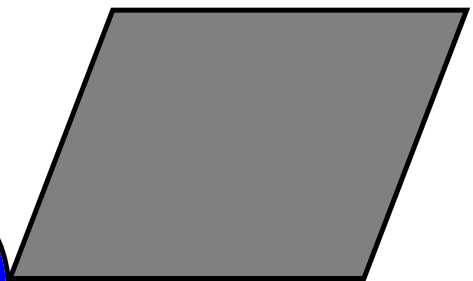
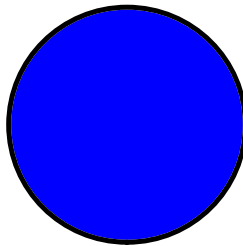
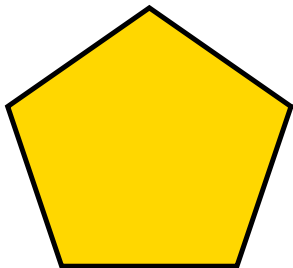
Veins

## Endo

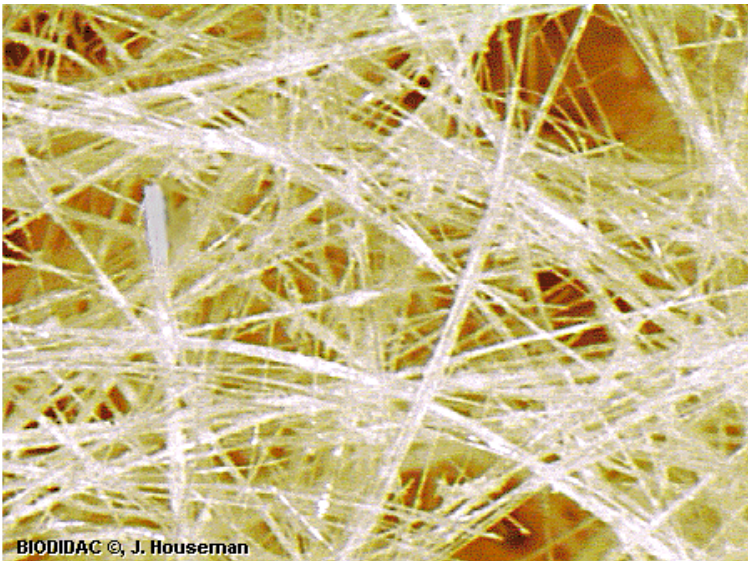
Lungs

Stomach

Body Plan- a term used to describe an animals shape.



Asymmetrical- irregular in shape



<http://cas.bellarmine.edu/tietjen/images/HEXA004P.GIF>

Radial symmetry- body parts all arranged around a central axis

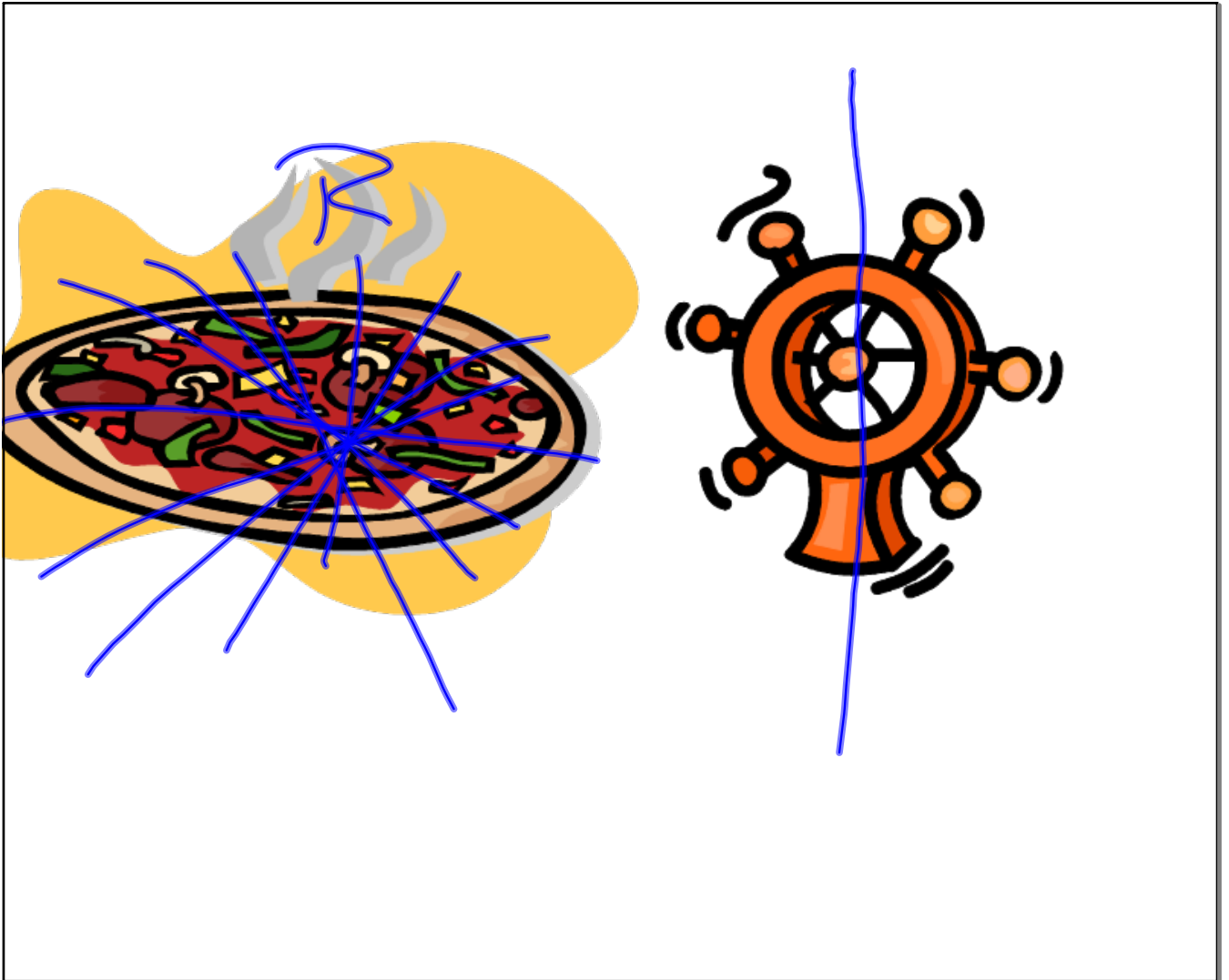


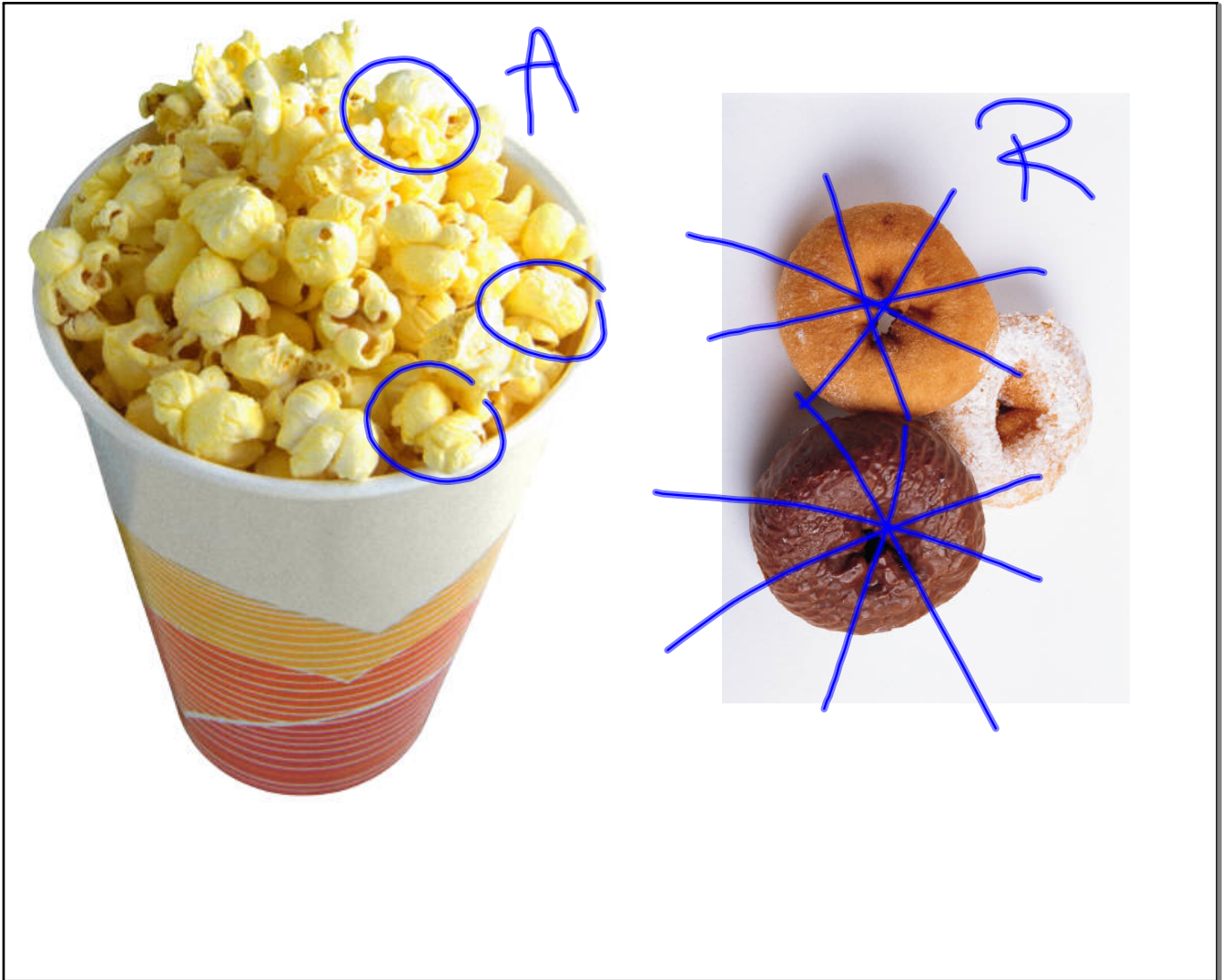
<http://www.cyhaus.com/marine/anemone.htm>



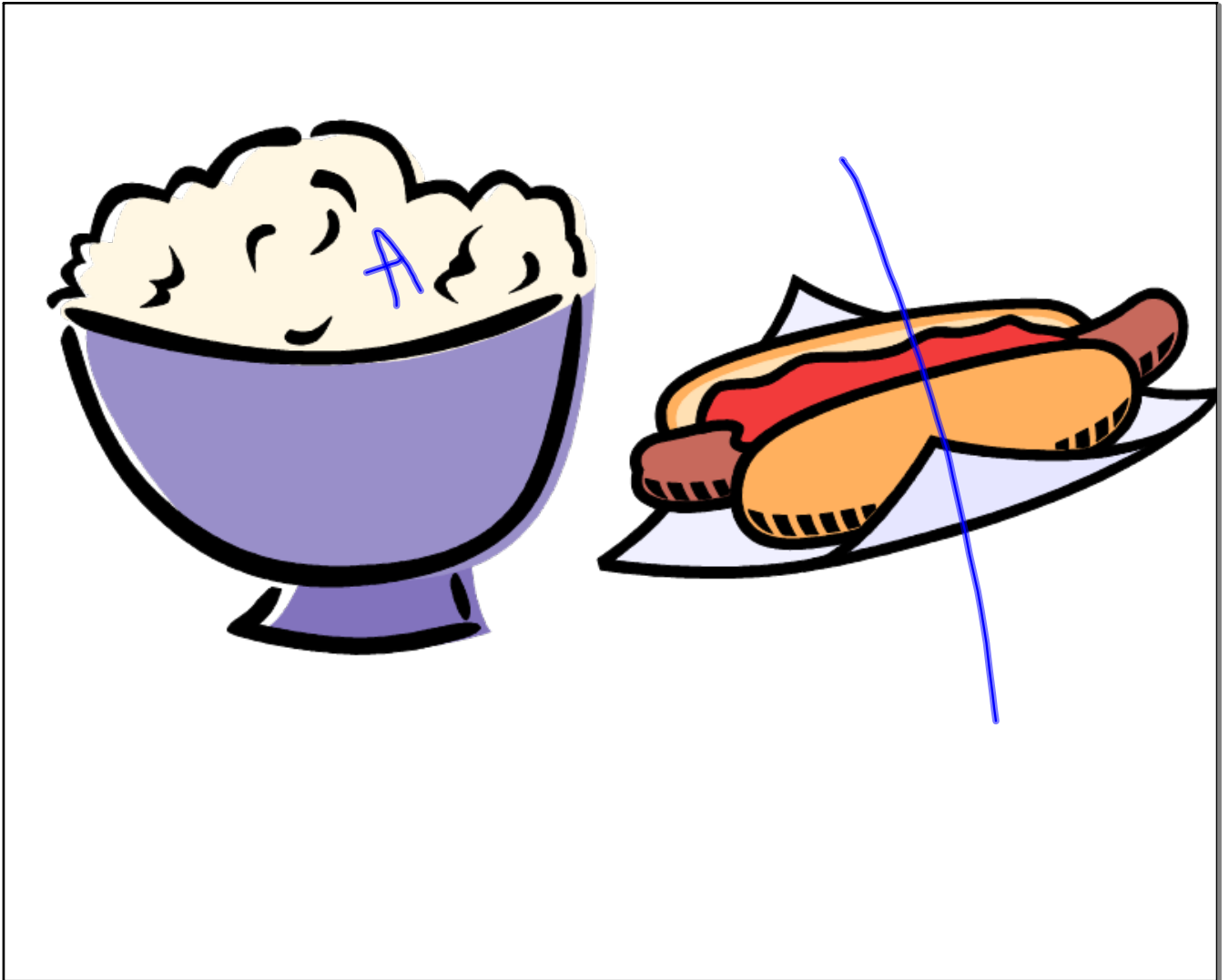
Bilateral Symmetry- distinct  
left and right halves

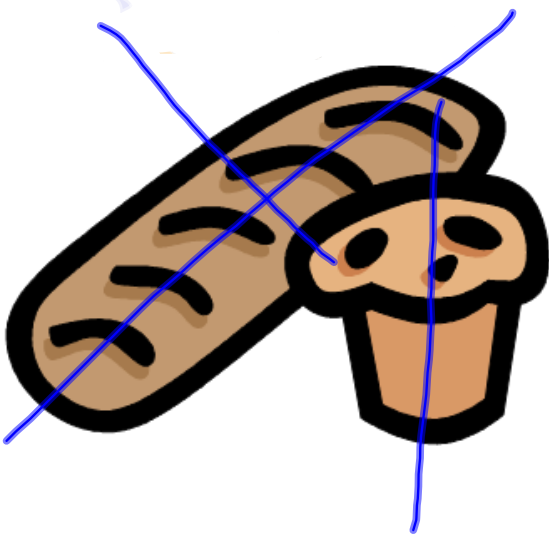






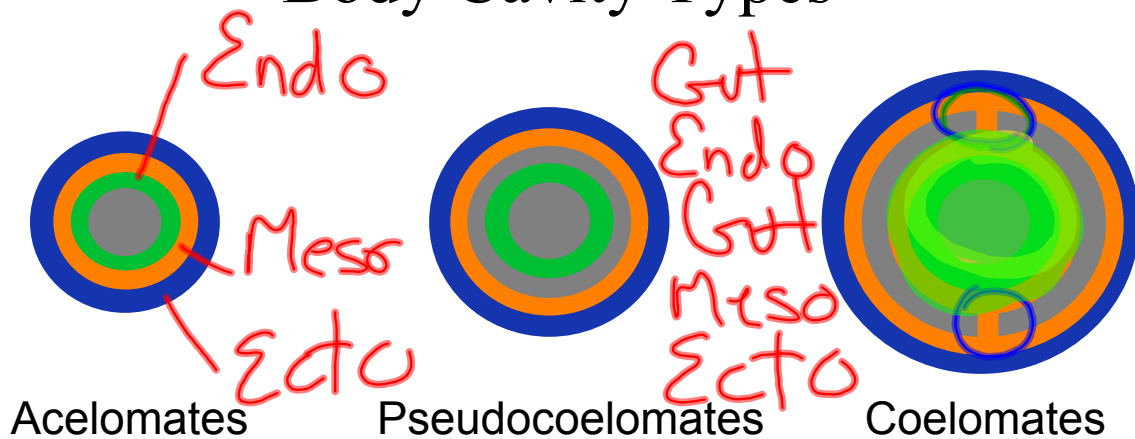






Bilaterally symmetrical animals have one of three basic body plans.

### Body Cavity Types



Key

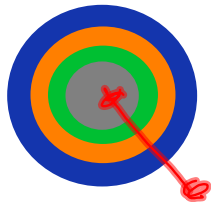
Gut, cavity

Mesoderm

Endoderm

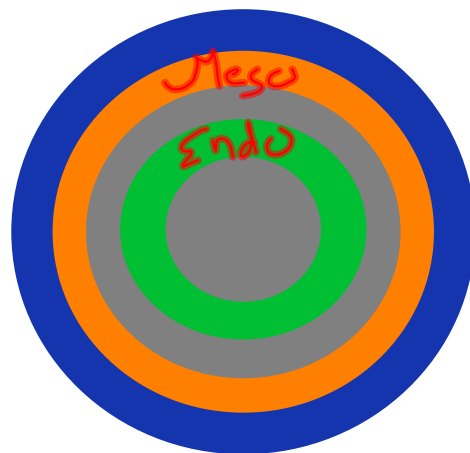
Ectoderm

Acelomates- animals with no body cavity

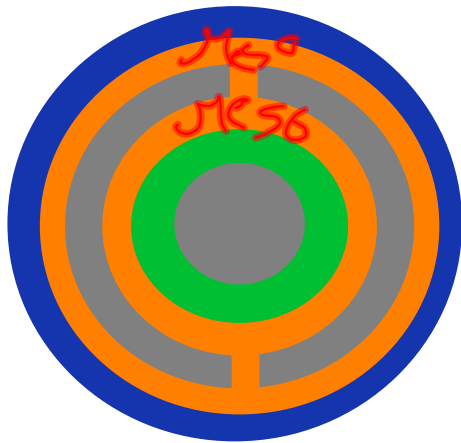


The space between the gut and the wall is completely filled with tissue.

Pseudocoelomates- have a body cavity located between the mesoderm and the endoderm.



Coelomates- a body cavity located entirely within the mesoderm.



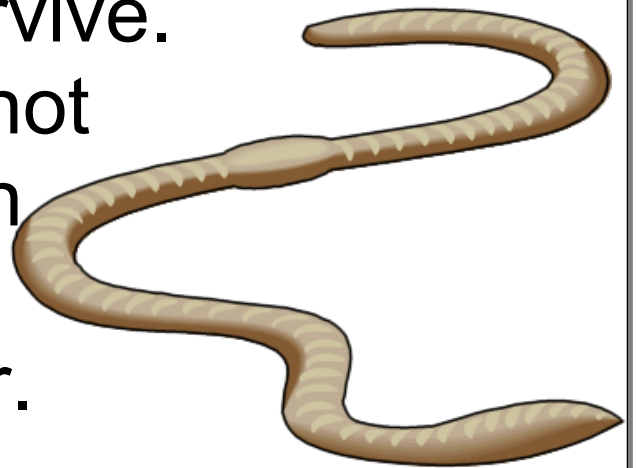
The gut and other organs are suspended in the coelom.

Advanced organism show segmentation.

Where is the segmentation in humans?

In an earthworm each segment repeats many of the organs so injured animals can still survive. The segments are not independant though materials still pass from one to another.

How?





Phylum	Evolutionary Milestone
--------	------------------------

Chordata

Echinodermata

Arthropoda

Annelida

Mollusca

Nematoda

Platyhelminthes

Cnidaria

Porifera

Jointed Appendages    Segmentation

Pseudocoelom    Bilateral Symmetry

Coelom    Tissues    Multicellularity

Deuterostomes    Notocord