

# Chapter 26-1: Introduction to the Animal Kingdom

## Essential Questions:

- What characteristics do all animals share?
- What essential functions do all animals carry out?
- What are important trends in animal evolution?

## ■ What is an animal?

- Heterotroph
- Multicellular
- Eukaryotic
- 95% are invertebrates/5% vertebrates



## ■ What animals do to survive

- Feeding – herbivore, carnivore, filter feeder, detritivore, parasites
- Respiration & circulation
  - Some transport  $O_2$ , nutrients & wastes via *diffusion*
  - Larger animals have respiratory & circulatory systems

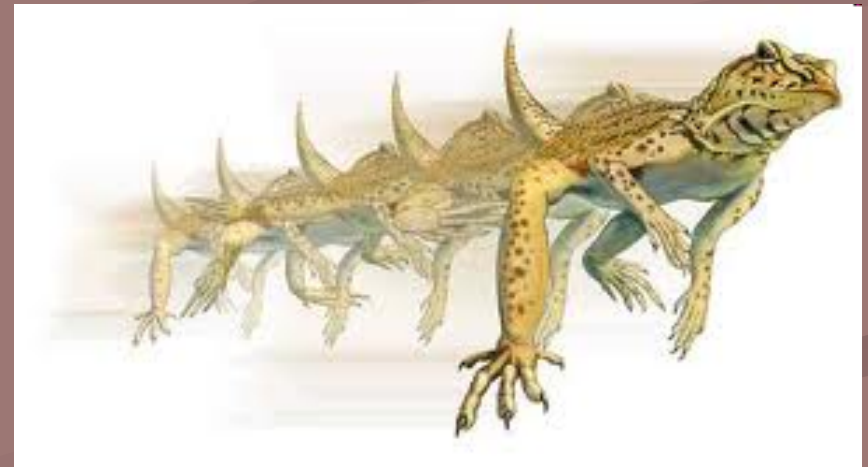


## ■ Excretion

- Waste product of cell metabolism is ammonia = poison = must be discarded

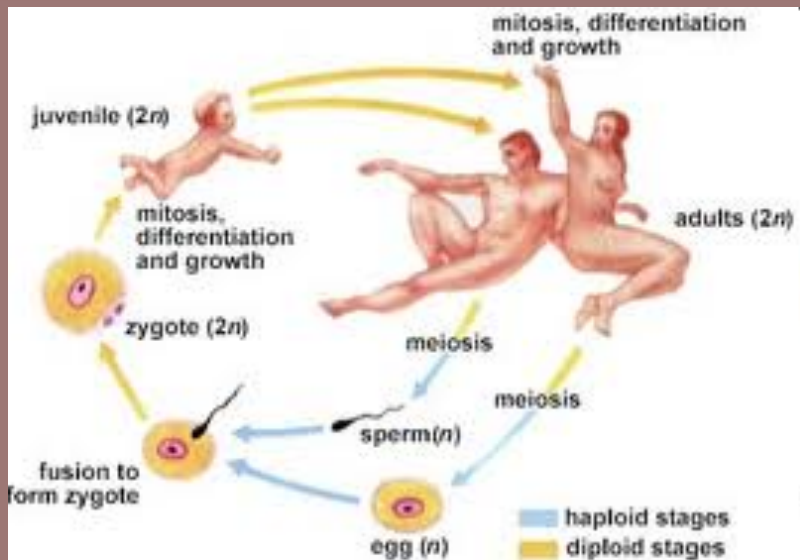
## ■ Response

- Most animals *motile*
- Muscles or muscle-like structures



## ■ Reproduction

- Most produce haploid gametes & reproduce sexually
- Many invertebrates reproduce asexually – allows rapid increase in numbers but less genetic diversity



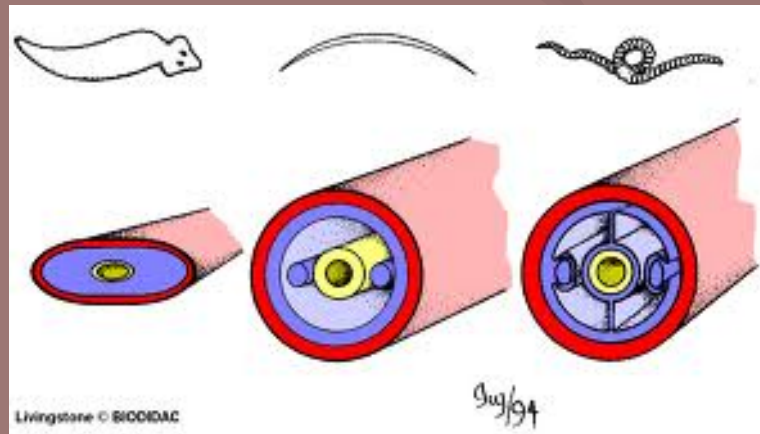
## ■ Trends in animal evolution

### ■ Cell specialization & levels of organization

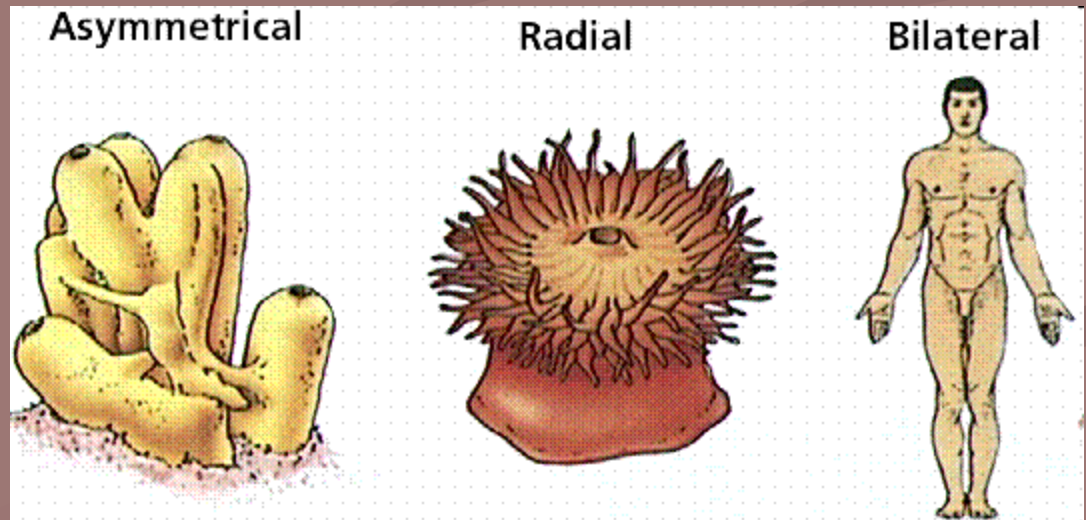
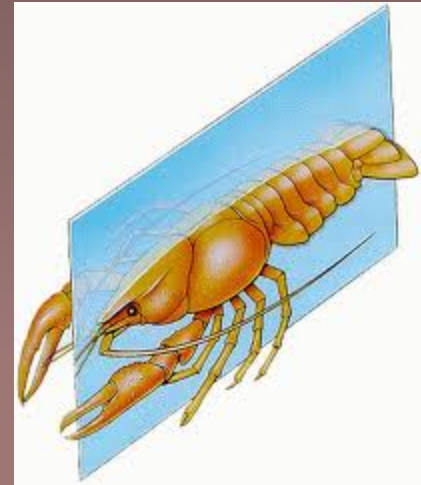
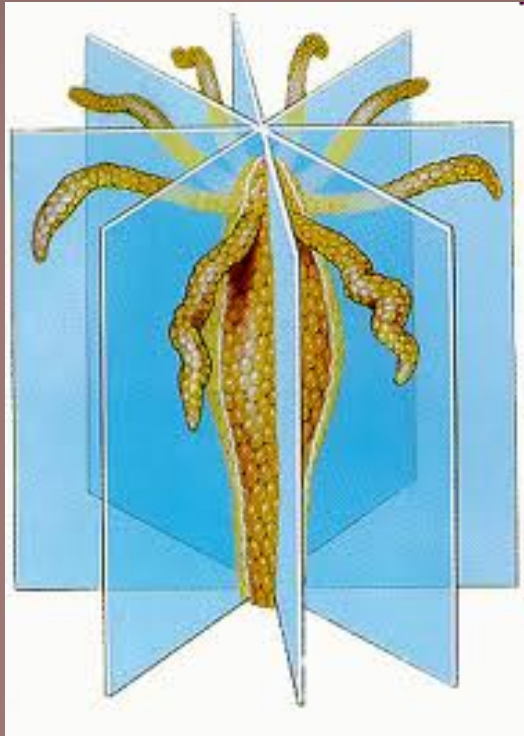
- Cell, tissue, organ, organ system

### ■ Early development-embryos differentiate into 3 layers

- Innermost layer: endoderm – becomes digestive tract
- Middle layer: mesoderm – becomes muscles, circulatory, reproductive, excretory systems
- Outer layer: ectoderm – becomes sense organs, nerves, skin



- Body symmetry
  - Radial or bilateral



- Cephalization – concentration of sense organs @ front of body
- Body cavity formation – important b/c it provides spaces for organs

