Classification

- Grouping & Identifying Living Things

Classifying Living Things

- We put livings things into three Domains

  EukaryaBacteriaArchaea

- Which are divided into 6 Kingdoms

PlantAnimal Fungi

ProtistEubacteria Archaebacteria

- We are in the Domain Eukarya and the Kingdom Animalia

Animal Kingdom

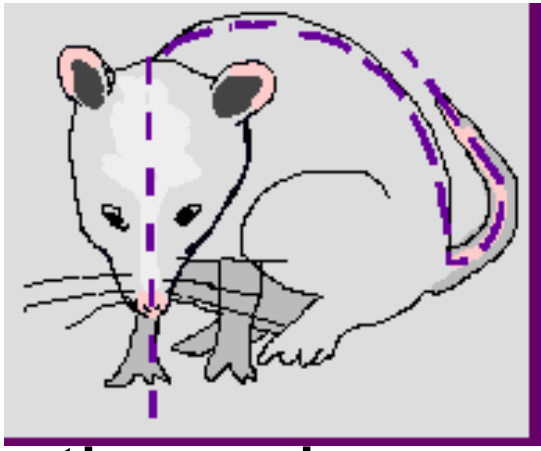
- So…what makes an animal an animal?
  - Multicellular
  - Eukaryotes
  - Usually reproduce sexually
  - Have many specialized parts
  - Are able to move
  - Heterotrophs

Animal Kingdom

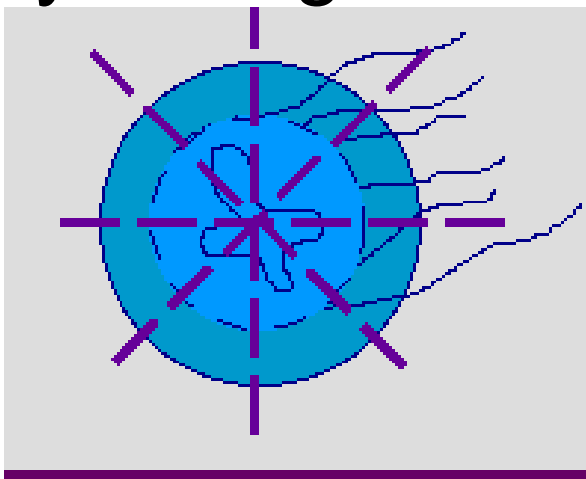
- All animals have specialized parts that do specific jobs.
  - Animals have different types of cells (ex. Heart cell vs. brain cell)
  - Animals have different kinds of tissues for their various organs.
  - The different organs in an animal perform different jobs for the whole body.

Symmetry

- Bilateral—Can be divided into two mirror-images halves

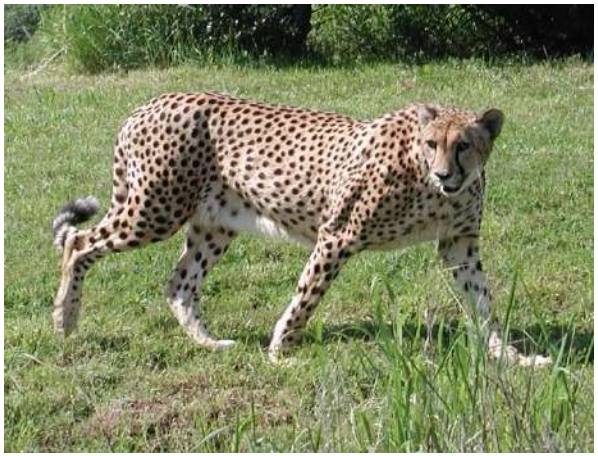


- Radial—many lines of symmetry through a central location



Animals

- Animals are spilt into two major groups:
  - Vertebrates
    - Phylum Chordata



  - Invertebrates
    - Most animals are invertebrates
    - 29 different Phyla

Vertebrates

- These are animals with a backbone.
- There are five groups of vertebrates:
  - Amphibians
  - Birds
  - Fish
  - Mammals
  - Reptiles

Endo or Ecto?

- **Endothermic** means their body temperature does not change much, even when the temperature of the environment changes. (Warm Blooded)
  - Mammals and Birds
- **Ectothermic** means their body temperature changes with the environment. (cold blooded)
  - Fish, Amphibians, and Reptiles

Mammals

- Have hair or fur and produce milk
- Specialized teeth
- Give birth to live offspring (no eggs)
- Have a four chambered heart
- Endothermic

Birds

- Have feathers, scales on feet and legs and hollow bones
- Have a gizzard that holds small stones to help grind food
- Have a four chambered heart
- Lay hard shelled eggs
- Endothermic

Fish

- Have wet scales
- Lays eggs in water
- Lives in water
- Uses gills for breathing
- Ectothermic

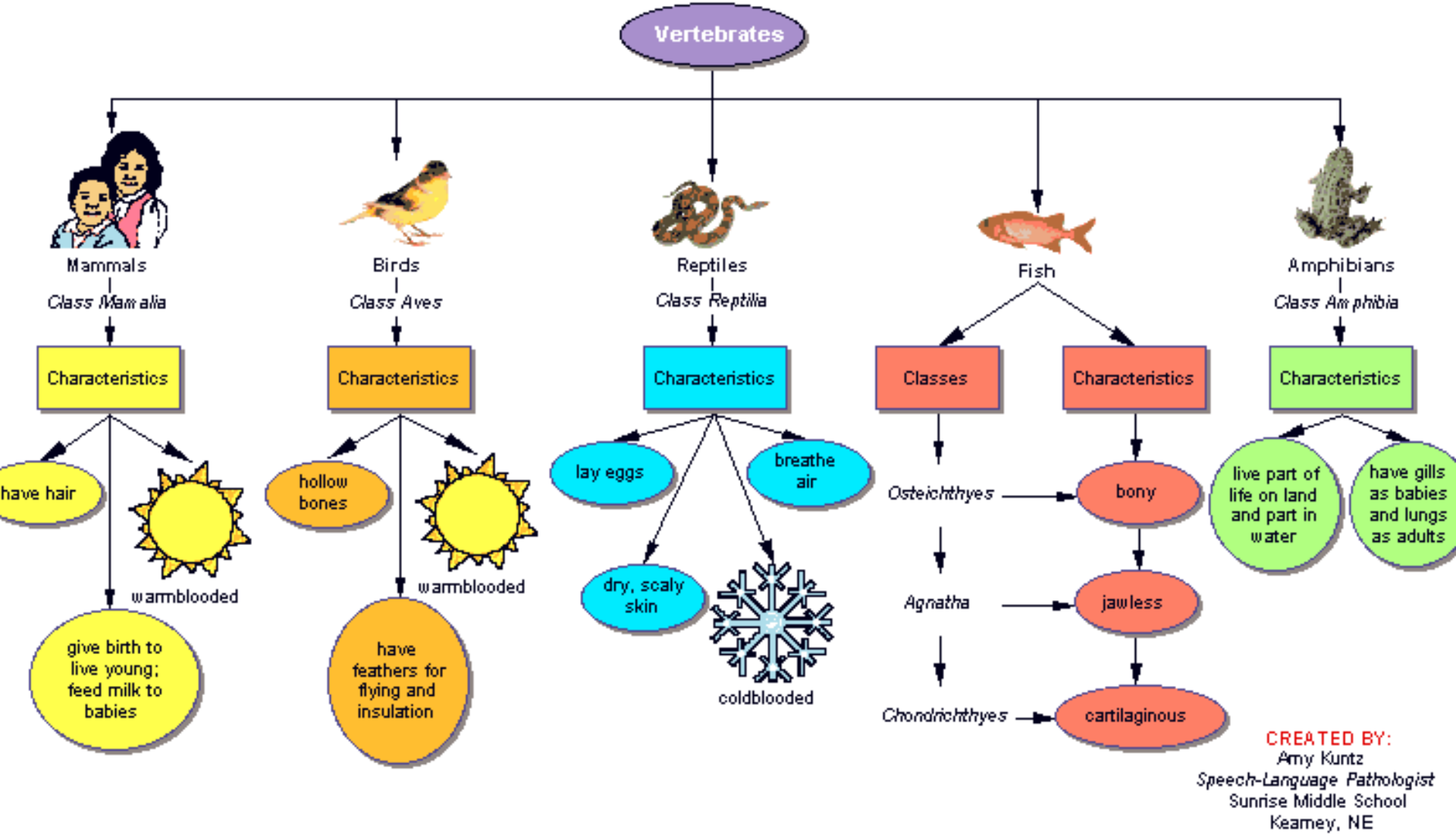
Amphibians

- Have moist skin
- Obtains oxygen through lungs and skin
- Lay jelly coated eggs in water
- Lives on land and water
- Ectothermic

Reptiles

- Have dry scales
- Lay waterproof eggs on land
- Skin is adapted to keep water in the body
- Breaths through lungs
- Ectothermic

Summary of Vertebrates



CREATED BY:
Amy Kuntz
Speech-Language Pathologist
Sunrise Middle School
Kearney, NE

Invertebrates

- These are animals without a backbone
- There are eight groups of invertebrates
  - Mollusks
  - Flatworms
  - Segmented Worms
  - Roundworms
  - Sponges
  - Echinoderms
  - Cnidarians
  - Arthropods

Sponges (Proifera)

- Filter feed
- Simplest Animals
- asymmetrical
- Reproduce sexually and asexually

Worms

- Bilateral symmetry
- Have head and tail ends
- Simplest organism with a brain

Flatworms

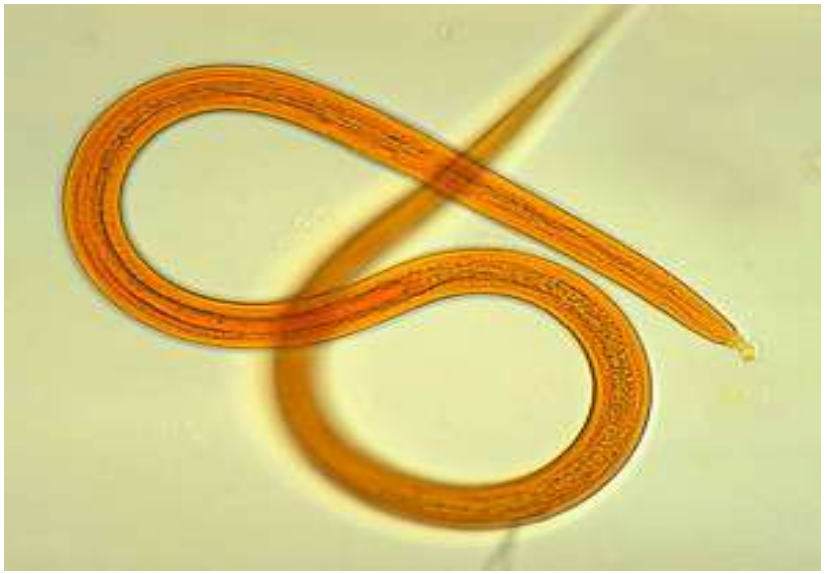
- Have flat worm like bodies
- Tapeworms and planarians

Annelids—Segmented Worms

- Have bodies made up of many linked sections
- Earthworms

Roundworms

- Digestive system is like a tube open at both ends
- Have bodies with no segments

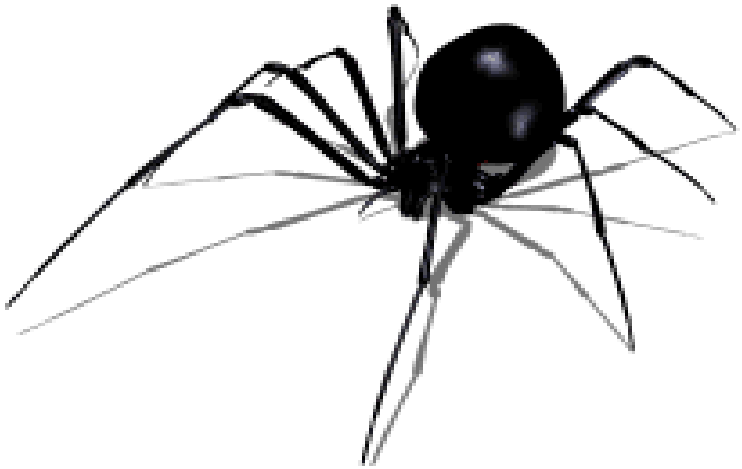


Arthropods

- Have
  - Segmented bodies
  - Jointed appendages
  - External skeleton
- There are four group of arthropods:
  - Arachnids
  - Crustaceans
  - Insects
  - Centipedes & Millipedes

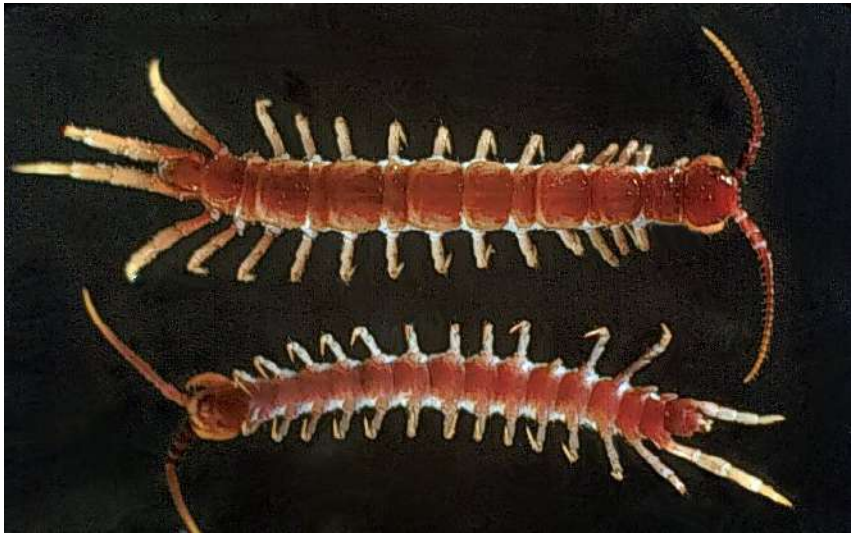
Arthropods - Arachnid

- Have four pairs of legs.
- Have bodies divided into two sections



Arthropods – Centipedes & Millipedes

- Have long thin bodies and pairs of legs on each of their many body sections



Arthropods - Crustacean

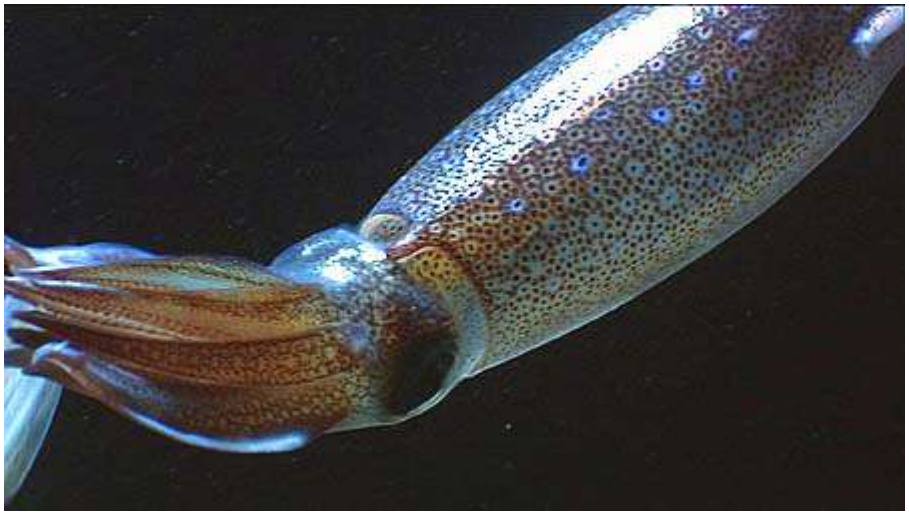
- Have five-seven pairs of legs
- First pair often used as pinchers
- Bodies covered in shell

Arthropods - Insects

- Have three pairs of legs
- Bodies divided into three sections
- Often have wings

Mollusks

- Soft bodies, some have a hard outer shell, foot for moving
- Three Groups
  - Gastropod-most diverse (ex: Snails, slugs)
  - Bivalve (Ex: Clams, Mussles)
  - Cephalopod (Ex: Octopus, Squid)



Cnidarians

- Have stinging tentacles
- Radial Symmetry
- Two body forms
  - Medusa-the form during the movement stage of life
  - Polyp- sessile (doesn't move)

Medusa Polyp

- Shaped like a bowl

- Shaped like a vase

Echinoderms

- Have radial symmetry
- Have spiny outer covering
- Have a water vascular system