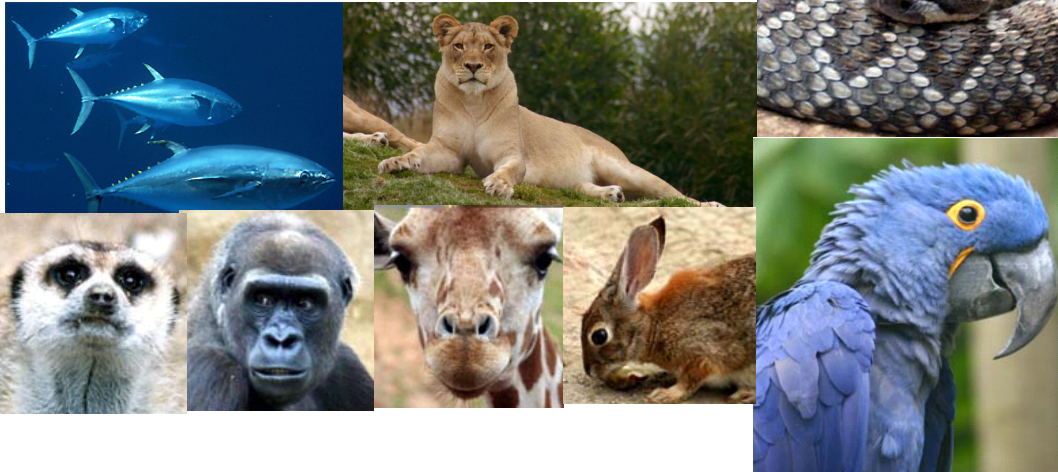


30-1 The Chordates

- Phylum Chordata
- 4 key characteristics:
 - 1) dorsal, hollow nerve cord
 - 2) notochord
 - 3) pharyngeal pouches
 - 4) tail



Nerve Cord

- The hollow nerve cord runs along the dorsal side.
- Nerves branch out and connect to internal organs.

Notochord

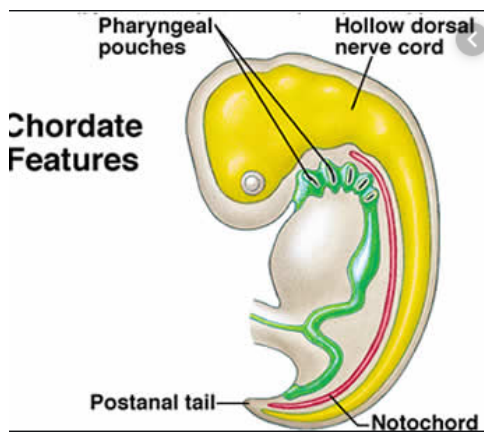
- The notochord is a long supporting rod that runs through the body just below the nerve cord.
- Many chordates only have a notochord when they are embryos.

Pharyngeal Pouches

- Pharyngeal pouches are paired structures in the throat (pharynx) region.
- In some chordates (fish, amphibians), slits develop here and eventually become gills.

Tail

- At some point in the life cycle, all chordates have a tail.



Most Chordates are Vertebrates

- ~96% are in subphylum Vertebrata
- Vertebrates have a strong supporting structure called the backbone.
- Dorsal, hollow nerve cord = spinal cord
- Backbone is made of individual segments called vertebrae.
- Endoskeleton continues to grow along with the animal, and contains living material.

Animals_with_Backbones_The_Vertebrate_Story_Fish_and_Amphibians.asf

Major Groups

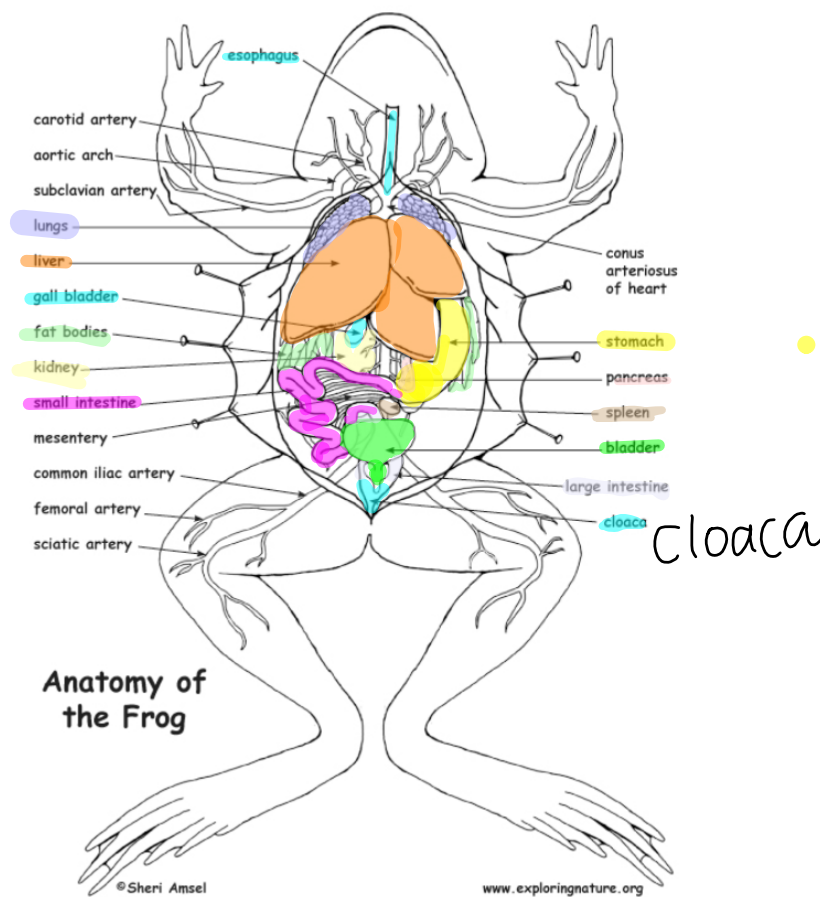
Fish

- aquatic vertebrates with paired fins, scales and gills
- includes jawless fish (eels), cartilaginous fish (sharks, rays) and bony fish (angelfish, salmon, seadragon, etc.)



Amphibians

- amphibian = "double life"
- aquatic larvae, terrestrial adults
- moist skin; lacks scales and claws
- includes salamanders, frogs, toads



8.8 Chordates.notebook

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Reptiles

- dry, scaly skin helps retain moisture
- adapted for life on land (terrestrial eggs; lungs for breathing air; large, strong limbs; many have claws)
- cold-blooded ([ectotherms](#)): body temperatures controlled by behaviour
- includes lizards, snakes, crocodiles, turtles



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Birds

- [Birds](#) are reptile-like animals that maintain a constant internal body temperature.
- They have an outer covering of feathers; two legs that are covered with scales and are used for walking or perching; and front limbs modified into wings.
- [Feathers](#) are made mostly of protein and develop from pits in the birds' skin; they help them to fly and also keep them warm.



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Life_Science__Mammals.asf

Mammals

- All mammals have hair and mammary glands.
- Mammary glands produce milk to nourish the young.
- Mammals also breathe air, have four-chambered hearts, and are endotherms that generate body heat internally. (warm-blooded)
- Includes monotremes (platypus), marsupials (kangaroos) and placental mammals (humans).

