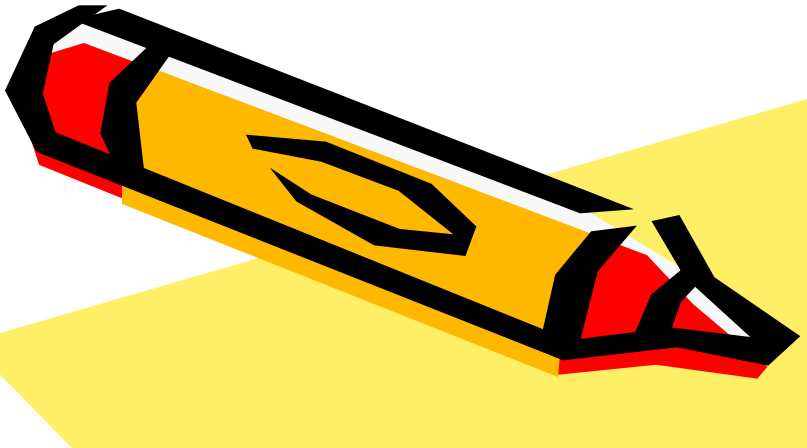
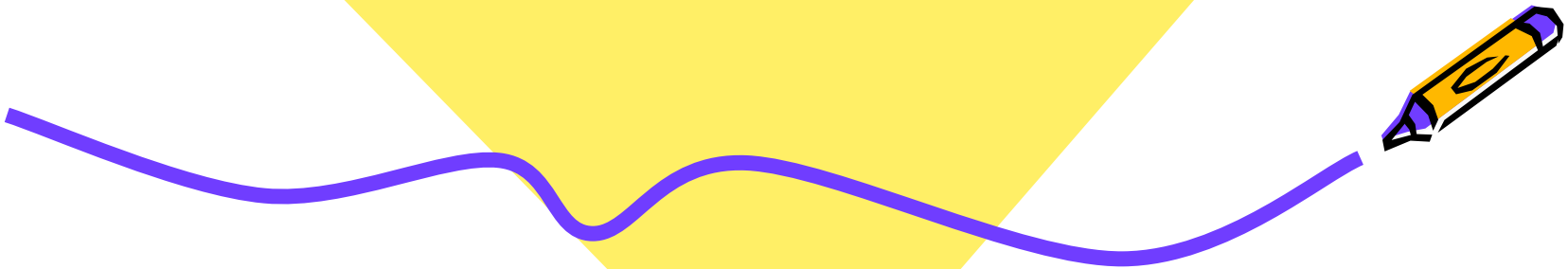


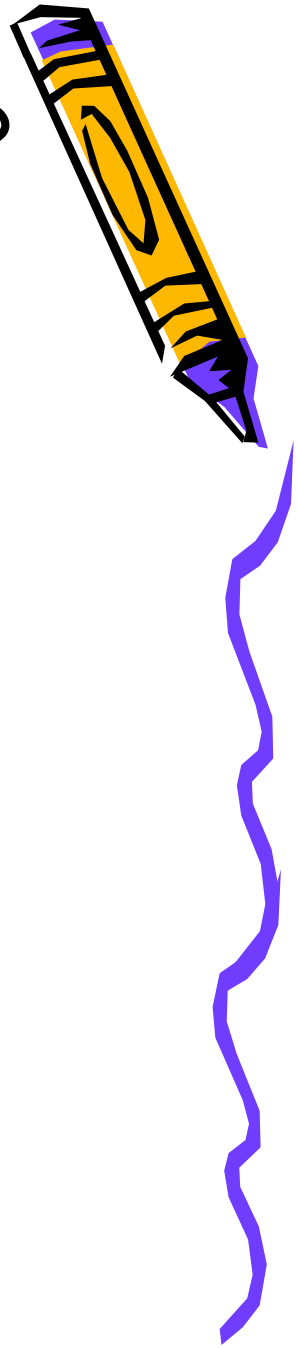
Amphibian Chapter Review

Good Luck!



Slide show by Jamie Tucker/Brookings Biology

What is the term we use for eardrum?

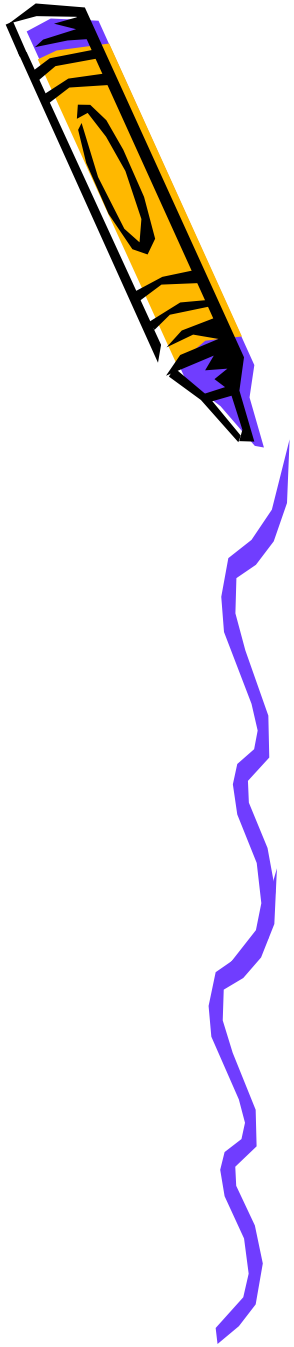


Tympanic membrane

What is the first section of the small intestine called?

The duodenum

What is the lower coiled portion of the small intestine?



the ileum

What is the fan-like membrane that holds the digestive organs in place?

mesentery

What is the bone that transmits sounds from the eardrum to the inner ear?

columella

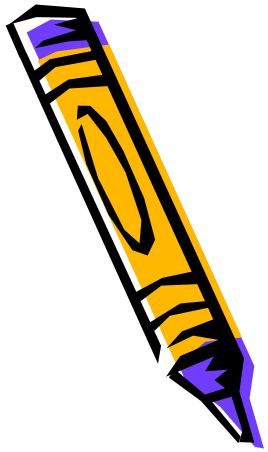
In amphibians and reptiles, the opening through which nitrogen waste, digestive waste and eggs or sperm exit the body.

vent

A third membrane that can cover the eyeball so that the frog can see underwater.

Nictitating membrane

Movement of blood between the heart and the lungs.



Pulmonary circulation

Movement of blood between the heart and all parts of the body except the lungs.

Systemic circulation

Order that includes frogs and toads and means "without tail".

Anura

Order that includes salamanders and newts and means “visible tail”.

Urodela

Order that includes caecilians and means "no feet" or "no legs".

Apoda

The grasping of the female frog by the male so that eggs and sperm are released together.

amplexus

The common chamber into which the digestive, reproductive and excretory systems ENTER.

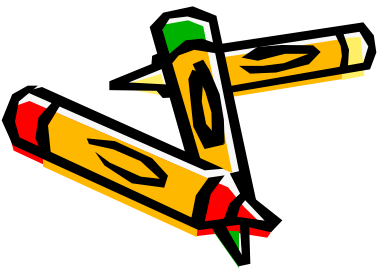
cloaca

A major change in form that occurs as a larval animal develops into an adult.

metamorphosis

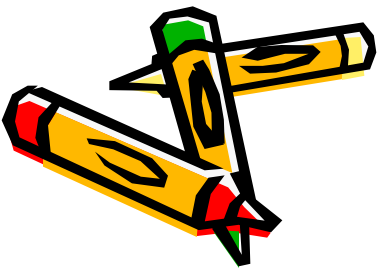
An animal whose body temperature is determined by the environment.

ectothermic

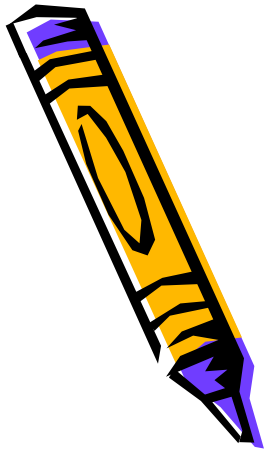


The name of the larva of a frog.

tadpole



Breathing through the skin.

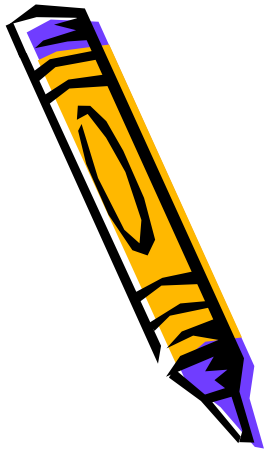


Cutaneous respiration

Breathing through the lungs.

Pulmonary respiration

Why are lobe finned fishes important?



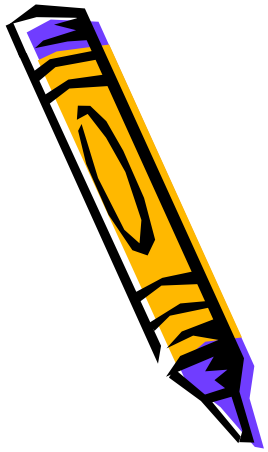
It is believed that lobe finned fishes are the ancestors to higher animals including amphibians.

Fill in the blank.

The pectoral fins of lobe finned fishes developed into the Front legs (forelimbs) of amphibians.

The pelvic fins of lobe finned fishes developed into the Back legs (hind limbs) of amphibians.

Why did amphibian ancestors leave the water?



It is believed that they left the water to escape predators and competition for food and to take advantage of the abundant resources on land.

Give 2 examples of animals belonging to the Order Anura.

Frogs and toads.

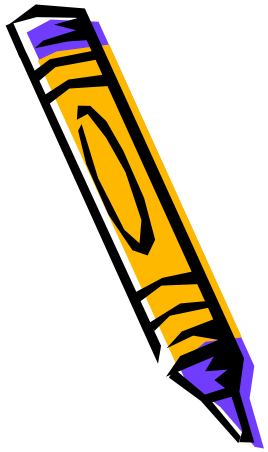
Name 2 examples of animals belonging to the Order Urodela.

Salamanders and newts.

Give an example of an animal belonging to the Order Apoda.

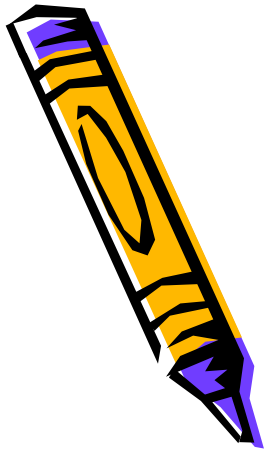
caecilians

Why is the skin of amphibians thin?



To allow the oxygen and carbon dioxide gases to exchange easily through the skin.

Why are most amphibians active at night?



Because of their thin skin water can escape easily. So, they try to avoid being in the sun to reduce the amount of water that can evaporate through their skin.

Fill in the blanks.

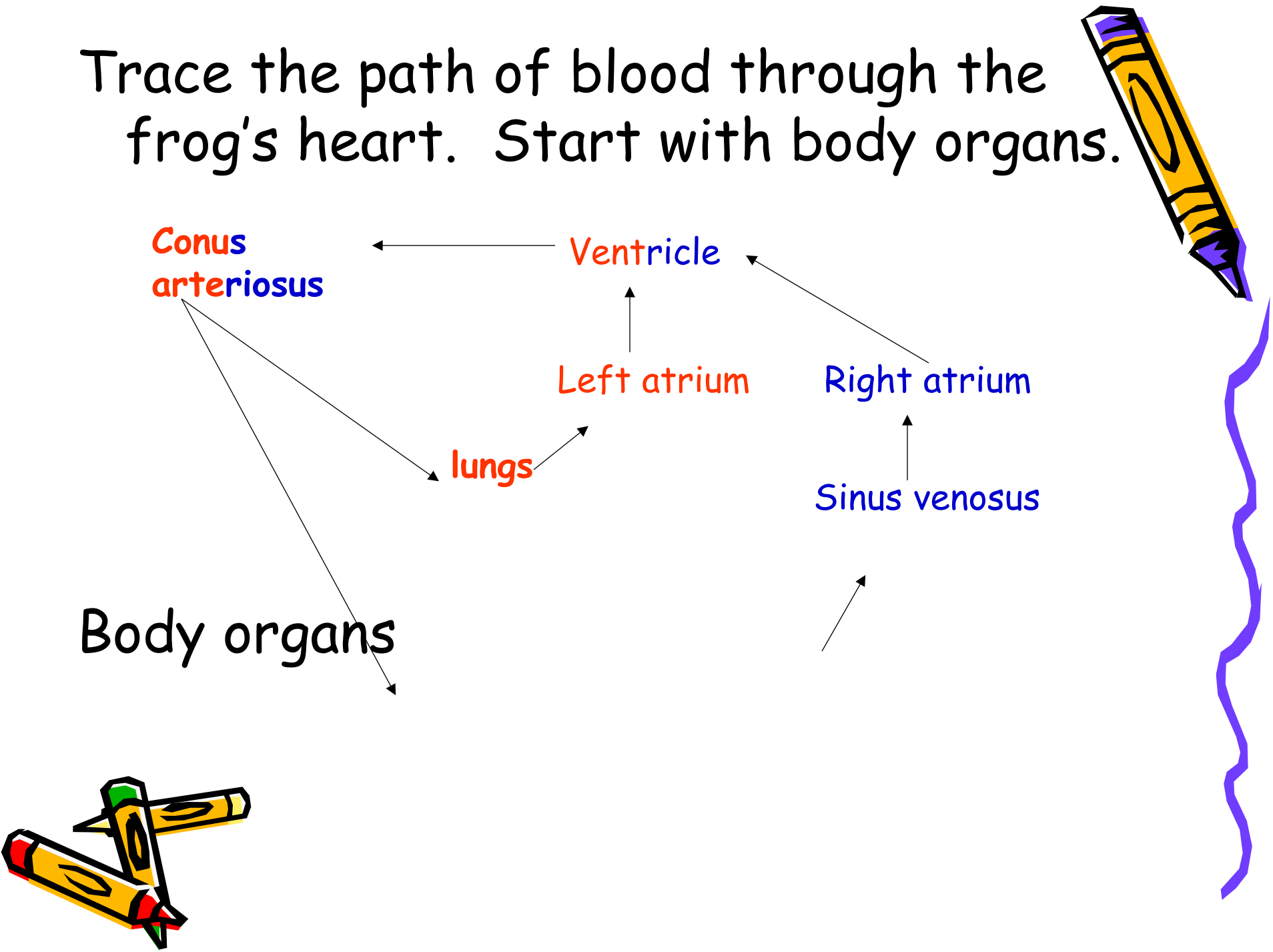
Amphibians are vertebrates meaning they have a backbone.

Amphibians are deuterostomes meaning their blastopore develops into their anus.

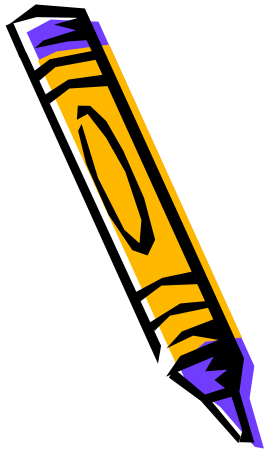
Most amphibians have external fertilization, meaning that the eggs are fertilized outside the body.

Frogs are oviparous meaning that they lay eggs.

Trace the path of blood through the frog's heart. Start with body organs.



- Fill in the blanks. Where does the blood go to after the parts listed?



- Conus Arteriosus The body or the lungs
- Right Atrium ventricle
- Left Atrium ventricle
- Ventricle Conus arteriosus
- Capillaries veins
- Veins from the body Sinus venosus
- Pulmonary veins from the lungs Left atrium

- What does the term deoxygenated mean?

  It means the red blood cells are not carrying very much oxygen.

- What does the term oxygenated mean?

  It means that the red blood cells are fully loaded with oxygen.

- Which of the atria contract first, the right or the left?

Trick question:! The atria contract at the SAME time!!!!!!!

- The circulatory system in a frog is a double looped system.

- Adult amphibians are carnivorous.

Carnivorous or herbivorous

Larval amphibians are herbivorous.

Carnivorous or herbivorous

Adult frogs excrete urea as their nitrogen waste.

Tadpoles excrete ammonia as their nitrogen waste.

- List the parts that belong to the functions.

Begins breakdown of food and produces acid.

stomach

Absorbs the nutrients

Duodenum and ileum (small intestine)

Reabsorbs water from digestive waste.

Large intestine

Produces bile liver

Stores glycogen liver

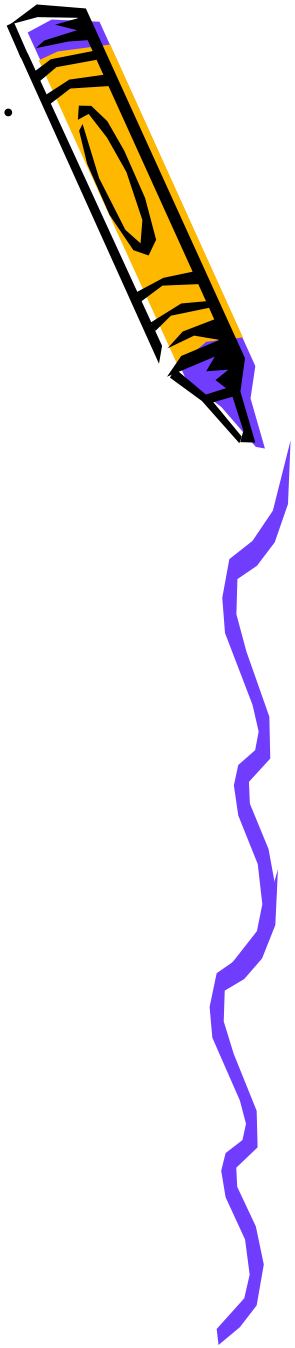
Processes toxins including nitrogen waste liver

- List the parts that belong to the function.

- Makes, stores, and recycles worn out red blood cells.
  spleen
- Secretes trypsin, insulin, and glucagon.
  pancreas
- Stores urine
  Urinary bladder
- Stores bile
  Gallbladder
- Makes eggs
  ovaries
- Makes sperm
  testes

- Name the function.
- Trypsin Breaks down proteins
- Insulin Hormone that causes cells to take up glucose.
- Glucagon Hormone that causes cells to release glucose.
- Bile Breaks down fats.

Match the part with the system that it belongs to.



Kidney excretory

Cerebrum nervous

Stomach digestive

Lungs respiratory

spleen circulatory

- List the parts the do the following functions.

Filter nitrogen waste from the blood.

kidneys

Excrete nitrogen waste and regulate water and ions

kidneys

Coordinate muscles and balance.

cerebellum

Receive information from the eyes.

Optic lobes

Compiles all sensory information, makes decisions, higher thinking occurs here.

cerebrum

Controls autonomic functions (ie. Heart and lungs)

Medulla oblongata

- What is the function of the nictitating membrane?

  To protect the eye and to see under water

- What is the function of the tympanic membrane?

  eardrum

- Define amplexus.

  The firm embrace that frogs engage in while laying eggs and depositing sperm.

- Frogs have mating calls: true or false.

  True: the males call to the females and the females respond to males on of her same species.

- Define metamorphosis

  The dramatic change that occurs when larva develop into adults.

- Early amphibians split into two evolutionary lineages they are: reptiles and amphibians.

- The 5 characteristics of amphibians are:
- 1. Most have drastic change from larva to adult stage.
- 2. They have moist, thin skin and no scales.
- 3. Their feet (if present) are webbed and do not have claws.
- 4. Most use gills, skin, or lungs for respiration.
- 5. Their eggs do not have a shell or multi-cellular membrane.

They are also ectothermic, chordates, have a three chambered heart but the above five are what makes an amphibian an amphibian.

- Fill in the blanks about FROGS!
- Kingdom Animalia
- Phylum Chordata
- Subphylum Vertebrata
- Class Amphibia
- Order Anura

- Fill in the blanks according to Salamanders!!!
- Kingdom Animalia
- Phylum Chordata
- Subphylum Vertebrata
- Class Amphibia
- Order Urodela

- Fill in the following according to Caecilians!!!
- Kingdom Animalia
- Phylum Chordata
- Subphylum Vertebrata
- Class Amphibia
- Order Apoda

- What is the difference between a frog and a toad?

A frog has smooth, moist skin. A toad has rough, bumpy skin. (Also, frogs lays eggs in a clump and toads lay eggs in a string.)

- What is the difference between a frog and a salamander?

A frog has 4 legs and no tail and a salamander has 4 legs and a tail.

- Name 3 differences between a tadpole and a frog.

FrogsTadpoles

Have 4 legs, no tailhave a tail and no legs (or beginning of legs)

Excrete urea via kidneysexcrete ammonia via gills & kidneys

Breathe through skin/lungs breathe through skin and gills

eats meat (carnivorous) Eats plants and algae

3 chambered heart2 chambered heart

No Lateral lineLateral line