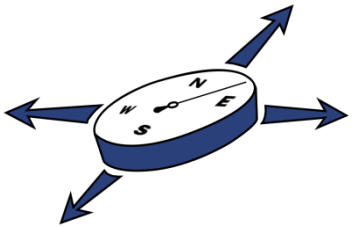

This resource concept was originally developed by the College View "Trailblazers"

Instructor: Help us improve this resource by sending your feed back to:

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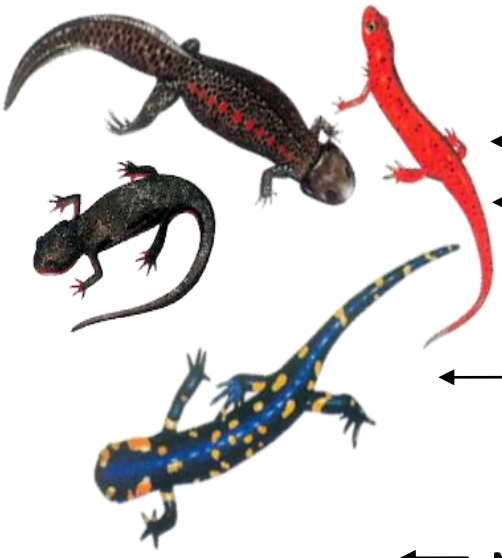
Amphibians Honor

INSTRUCTOR BOOK

1. Listen to your instructor. Fill in the blanks for each order and draw lines from each trait in the list to the appropriate Order.

Read Next Page



Short Body →
← Short Legs
← Long Tails
No Tail →
Webbed Toes →
← Slender Bodies
Protruding Eyes →
Long Hind Legs →
← Non Webbed Toes

Order: ___ **Caudata**_

Order: __ **Gymnophiona** _

Not Pictured in this workbook

Order: __ **Anura** _____

Instructor:

How can this booklet be improved? Are there any activities you employed that were not included in this booklet?

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1. The ~~two~~ **Three** main orders of amphibia and the different traits of each:

Order **Anura** are frogs and toads. Adult frogs and toads are characterized by long hind legs, a short body, webbed digits, protruding eyes and the absence of a tail. Most have a semi-aquatic lifestyle, but move easily on land by jumping or climbing. They typically lay their eggs in puddles, ponds or lakes; and their larvae, called tadpoles, have gills and develop in water.

Order **Caudata** are newts and salamanders. Cuadata have slender bodies, short legs, and long tails. The moist skin of the amphibians fits them to habitats either near water or under some protection on moist ground, usually in a forest. Some species are aquatic throughout life, some take to the water intermittently, and some are entirely terrestrial as adults. Salamanders superficially resemble lizards, but are easily distinguished by their lack of scales. They are capable of regenerating lost limbs.

Not Pictured in the workbooks

Order **Gymnophiona** comprises the caecilians. Caecilians are long, cylindrical, limbless animals with a snake- or worm-like form. The adults vary in length from 3 to 30 inches with one exception of Thomson's, which can reach 4.9 feet. A caecilian's skin has a large number of transverse folds and in some species contains tiny embedded dermal scales. It has rudimentary eyes covered in skin, which are probably limited to discerning differences in light intensity. It also has a pair of short tentacles near the eye that can be extended and which have tactile and olfactory functions. Most caecilians live underground in burrows in damp soil, in rotten wood and under plant debris, but some are aquatic.[47] Most species lay their eggs underground and when the larvae hatch, they make their way to adjacent bodies of water. Others brood their eggs and the larvae undergo metamorphosis before the eggs hatch. A few species give birth to live young, nourishing them with glandular secretions while they are in the oviduct. Caecilians have a mostly Gondwanan distribution, being found in tropical regions of Africa, Asia and Central and South America.[49]

Not Pictured in the workbooks

2. What are the characteristics of amphibians?

Amphibians live half of their lives in water and half on land. They are cold-blooded vertebrates. Amphibians are able to breathe through their skin, making them very sensitive to anything they come in contact with, including human hands. When observing amphibians, one should never touch them. Amphibians have toes rather than claws.

4. What is the difference between Frogs & Toads.

The use of the common names "frog" and "toad" has no taxonomic justification. From a taxonomic perspective, all members of the order Anura are frogs, but only members of the family Bufonidae are considered "true toads". The use of the term "frog" in common names usually refers to species that are aquatic or semi-aquatic with smooth or moist skins, and the term "toad" generally refers to species that tend to be terrestrial with dry, warty skin. An exception is the Fire-bellied toad (Bombina bombina): while its skin is slightly warty, it prefers a watery habitat.

5. How do amphibians protect themselves?

The first line of defense for amphibians is coloration for blending into the environment as camouflage or to stand out as a warning of frogs that are poisonous.

Many frogs contain mild toxins that make them distasteful to potential predators. Some frogs, such as some poison dart frogs, are especially toxic.

11. Write the names of as many amphibians as you can find.

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6. As a group, make a list of amphibians that should be found in your locality.

SEE WORKBOOK

7. Where do toads spend the winter or dry season? Toads burrow below the frost line and hibernate for the winter. Plant matter actually generates a bit of heat as it decays, so toads prefer areas with plenty of leaf litter and fallen logs.

8. Identify two species of frogs by their sound or imitate the sounds of two different species of frogs.

9. How do frogs and toads sing? What makes the noise so loud?

Frogs call by passing air through the larynx in the throat. In most calling frogs, the sound is amplified by one or more vocal sacs, membranes of skin under the throat or on the corner of the mouth that bulge out during the amplification of the call.

Some frogs lack vocal sacs, but these species can still produce a loud call. Their mouths are enlarged and dome-shaped, acting as a resonance chamber that amplifies their call. The body of a guitar does much the same thing.

All toads are frogs but not all frogs are toads. Toads belong to the same orderas frogs (Anura), and are actually a subset of frogs.

10. Label each stage of a Frogs life cycle.

Frogspawn (eggs)

10 days: Tadpoles

8–12 weeks: Froglet

12–16 weeks: Adult

The life cycle of frogs, like that of other amphibians, consists of four main stages: egg, tadpole, metamorphosis and adult. The reliance of frogs on an aquatic environment for the egg and tadpole stages gives rise to a variety of breeding behaviours that include the well-known mating calls used by the males of most species to attract females to the bodies of water that they have chosen for breeding. Some frogs also look after their eggs—and in some cases even the tadpoles—for some time after laying.

The life cycle of a frog starts with an egg. Eggs are generally laid in water, and an individual female may lay egg masses containing thousands of eggs. While the length of the egg stage depends on the species and environmental conditions, aquatic eggs generally hatch within one week.

Eggs hatch and continue life as tadpoles (occasionally known as polliwogs). Tadpoles are aquatic, lack front and hind legs, and have gills for brething and tails with fins for swimming. Tadpoles are typically herbivorous, feeding mostly on algae, including diatoms that are filtered from the water through the gills. Some species are carnivorous at the tadpole stage, eating insects, smaller tadpoles and fish. The tadpole stage may be as short as a week, or tadpoles may overwinter and metamorphosis the following year.

At the end of the tadpole stage, frogs undergo metamorphosis, in which they transition into adult form. Metamorphosis involves a dramatic transformation of body shape and function, as tadpoles develop hind legs and then front legs, lose their gills and develop lungs. Their intestines shorten as they shift from an herbivorous to a carnivorous diet. The final stage of development from froglet to adult frog involves the loss of the tail.

11. Explain the economic value of amphibians.

Amphibians are insect eaters, so they are very valuable for controlling mosquito populations. They are also the preferred dinner for several mammal, bird, fish, and reptile species.

Amphibians are valuable for medical research. They are raised and sold to research institutions.

The larvae of newts and salamanders are sold as fish bait.

Amphibians are closely monitored by ecologists, because they are among the first animals affected by environmental problems such as pollution and the destruction of the ozone layer.

Toxins found in toads have been successfully turned into painkillers and other drugs, including a pregnancy indicator.