

# Amphibians Vs. Reptiles

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Amphibians and reptiles are collectively known as “**herpetofauna**” and are often lumped together. However, these two groups of animals are quite distinct! Amphibians were the first group to evolve out of the two while reptiles evolved later.

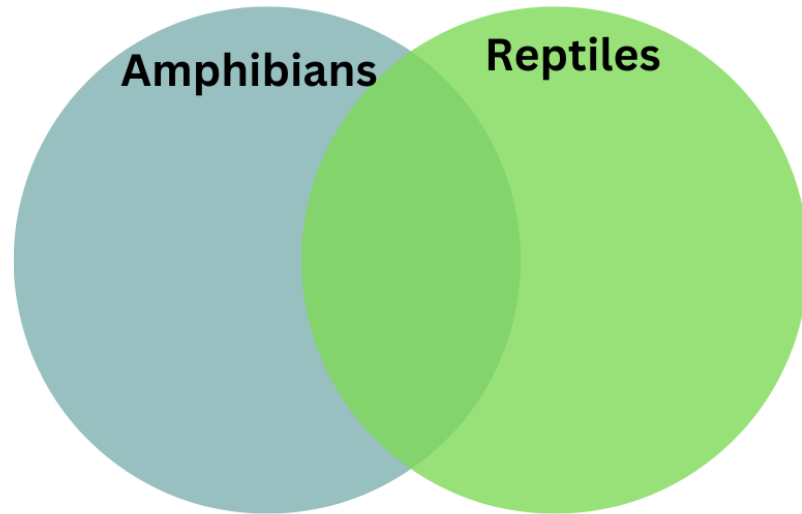
Both amphibians and reptiles are vertebrates and are **ectothermic** (aka they rely on the environment to maintain body temperature). Ectothermic organisms are often referred to as ‘cold-blooded’ though their blood isn’t necessarily cold. Amphibians consist of frogs, toads, salamanders, newts, and caecilians (wormlike animals with poorly developed eyes). Typically, amphibians need to be in moist environments, and they undergo a significant change between their juvenile (baby) stage and their adult stage. This change is known as **metamorphosis**. In contrast, reptiles include alligators, crocodiles, lizards, snakes, and turtles. They often have scaly skin and have the ability to live in dry environments. Reptiles also do not go through metamorphosis.

In this simple activity, students will get to explore some of the basic differences between reptiles and amphibians while also learning about adaptations.

## Directions:

1. Ask students what comes to mind when they hear the word amphibian? What about reptile? See if they can provide examples of animals that are either amphibians or reptiles.
2. Explain to students that today they will be comparing reptiles and amphibians using a tool known as a Venn diagram. Venn diagrams are two or more circles that overlap. These diagrams are used to show how some objects or items are both similar and different from one another. The area that overlaps with the circles should include how the objects or items are similar (aka shared characteristics). The areas that do not overlap include how the objects or items are not similar.
3. Print out Venn diagram sheets, have students draw their own, or have them use pieces of yard to construct their own diagrams. Have students label one circle with Amphibian and the other with Reptile. Make sure they have two circles in their diagram that overlap in the middle. This activity is best conducted in groups of 2-3 students. For younger students, it is helpful to print out pictures of amphibians and reptiles for students to reference as they do their sorting.

4. Hand out the cards with different reptile and amphibian characters on them. Instruct the students to read each card and, then, in their group, they should determine if that character is one that describes an amphibian, a reptile, or both amphibians and reptiles.



5. Once the groups have placed all of their cards on their Venn diagram, go over each card and talk about where it should be placed. For example, amphibians undergo metamorphosis, so that should be placed on the amphibian circle. Encourage students to explain their reasoning and ask guiding questions to help them correct any mistakes. For example, ask them to think about what frog babies (aka tadpoles) look like. Are tadpoles similar looking to adult frogs? Or do the frogs go through a significant change as they get older?
6. After you have gone through all of the cards and had the students correct their diagrams, ask students if there were any things that surprised them about the differences between amphibians and reptiles.
7. Consider wrapping the activity up by reading a book or two about amphibians versus reptiles or having students sort pictures of amphibians and reptiles.

### **Extensions:**

1. Have students research a local amphibian or reptile species. Check your state's wildlife agency website for a list of species found in your area. Have them write a report about their animal, providing its name, where it lives, what it eats, and how it grows.

## Venn Diagram Cards

Print out a set of cards for each student or for each group of students. Mix the cards up to have them sort on their Venn diagrams

<b>Amphibian</b>	<b>Reptile</b>
<b>Begins life in wet environments</b>	<b>Begins life on land</b>
<b>Often has smooth, wet skin</b>	<b>Often has dry, scaly skin</b>
<b>Breathes using lungs or through skin</b>	<b>Breathes using lungs</b>
<b>Undergoes metamorphosis</b>	<b>Does not undergo metamorphosis</b>
<b>Includes frogs, salamanders, and toads</b>	<b>Includes snakes, turtles, and lizards</b>

## **Both Amphibians & Reptiles**

**Ectothermic  
(Cold-blooded)**

**Vertebrate**

**Lacks external ears**

**Lays eggs**

# Reptile

Snapping Turtle by Sam Stukel/ USFWS



# Amphibian

Wood Frog by Brian Gratwicke CC by 2.0

