



# Frisch's Outreach: Reptiles and Amphibians (Gr.1-3) Extensions

## At a glance

This program will allow students to explore Reptiles and Amphibians and their unique adaptations.

### Goal

This class is designed to familiarize students with the many different adaptations Reptiles and Amphibians possess and how they survive in our world.

### Objectives

- 1.) Students will be able to name three characteristics of Reptiles.
- 2.) Students will be able to name three characteristics of Amphibians.
- 3) Students will be able to name three specific adaptations that allow Reptiles and Amphibians to survive.

- 4) Students will be able to name two ways Reptiles and Amphibians are beneficial to our world.

### Theme

Reptiles and Amphibians share common characteristics but also are very different from one another.

### Sub-themes

- 1.Reptiles and Amphibians possess many adaptations that allow them to survive in very unique habitats.
- 2.Reptiles and Amphibians have special roles to play in keeping the natural balance of our world.

## Academic standards

Ohio Academic Content Standards-Science	Life Sciences -Characteristics and Structure of Life (1:2,1:3,2,2) -Diversity and Interdependence of Life (1:4, 2:5,2:6,3:2,3:3)
Kentucky Core Content-Science	Life Science K-4 -The Characteristics of Organisms (SC-E-3.1.1, SC-E-3.1.3) Life Cycles (S-E-3.2.1)  Organisms and Their Environment(SC-E-3.3.1, SC-E-3.3.2)
Indiana Science Standards	Science-Standard 4 -Diversity of Life (1.4.2,2.4.1,3.4.1,3.4.2) -Interdependence of Life (1:4:3,2.4.3)

## Background

Reptiles are very unique animals. As a group they are ectothermic animals that share the common characteristics of possessing a backbone, scaly skin, lungs, and claws (when appendages are present). Most are egg bearers (either inside or outside the body). Most do not show parental care (alligators and crocodiles are the exceptions). Some snakes do incubate their eggs. Young reptiles resemble adults (mini-adults) and do not go through a metamorphosis to reach adulthood.

There are four orders of Reptiles- Crocodylians (alligators and crocodiles), turtles and tortoises, lizards and snakes, and tuataras (a lizard like reptile). Because of their unique adaptations Reptiles can be found in many different habitats from suburbs to deserts and oceans. They are absent only from the Polar regions and mountain peaks.

Amphibians are also a diverse group of animals but share some common characteristics. All amphibians live a “double –life”. They must spend part of their life in water (as larvae) and part on land (as adults). Some Amphibians spend their whole lives in water. Others return to water as adults for a time.

Amphibians are all ectothermic, possess a backbone, moist, permeable skin, and lungs (at least as an adult). They lay eggs in a jelly-like substance, go through metamorphosis to reach adulthood, and offer no parental care (some frogs brood their young in their mouths or on their backs ). There are about 4,950 species of Amphibians. Frogs and Toads, Salamanders and Newts, and wormlike Caecilians can all be called Amphibians.

Both Reptiles and Amphibians make important contributions to the natural

balance in our world. Because of their unique adaptations Reptiles can keep insect and rodent populations in check in many varied habitats on our planet. Amphibians also contribute to the maintaining the correct balance of insects and smaller animals. Their distinctive permeable skin allows them to be indicators of the health of the waterways they inhabit.

### **Vocabulary**

*Amphibian*- an ectothermic vertebrate that spends some time on land but must breed and develop into an adult in water

*Carapace*- the upper, convex portions of a turtle's shell

*Ectothermic*- having a body temperature which varies with the surrounding environment

*Herpetology*-(n) a branch of Zoology dealing with reptiles and amphibians

*Herpetologist*-(n) one who studies herpetology

*Jacobson's Organ*-a small cavity in roof of the mouth lined with sense detectors that recognizes chemical changes and enable some reptiles to smell with their tongues

*Metamorphosis*-a complete or marked change of physical form, structure, or substance

*Permeable*- capable of allowing liquid and gas to pass through

*Plastron*- the lower portion of a turtle's shell

*Reptile*-an air breathing, ectothermic, vertebrate with an outer covering of scales

*Scale*-a thin flattened plate-like structure forming part of the surface covering various animals

*Scute*-a thin, flat, bony, or horny plate of a scale

*Vertebrate*-animal having an internal backbone

### **Extensions**

Play "Reptile Switcheroo!"

Construct cards with pictures of different species of Reptiles and Amphibians.(be sure to put in some salamanders, etc.) Gather the students into a circle in chairs or sitting on the floor. Each player gets a card and must decide if it is a Reptile or an Amphibian. When "Reptile" is called those who have a "Reptile" card must get up and safely choose another spot. When "Amphibian" is called do the same. As the game progresses cards can always be switched for different chances to classify!

Be a Herpetologist! Can you design a habitat for a Herpe? What would it need? Can you tell others about your choices?

Spot That Reptile! Spot That Amphibian! Place picture cards of Reptiles and Amphibians face down ( 2 pictures of each). Lift and Match. If the pictures match keep them face up. If they do not match they are placed face down again. How long does it take to uncover all of the pairs?

Live like a Reptile or an Amphibian! What would it be like to be a snake, a lizard, a tuatara, a frog? Write a story or draw a picture to tell your friends what you could do or what you could not do!

Postcard from a Herpe!

Write a postcard from a snake in Africa, a Poison Arrow Frog in S. America, or a Komodo Dragon on the Island of Komodo! Tell what you have been doing in your habitat!

## **Resources**

### *Books*

Gunzi, Christiane. Amphibians & Reptiles. Thunder bay Press. 1995.

Morris, John. A Look Inside Reptiles. Readers Digest Young Families. 1995.

### *Websites:*

ALA's Great Websites for Kids:

Animals

<http://www.ala.org/gwstemplate.cfm?section=greatwebsites&template=/cfapps/gws/displaysection.cfm&sec=1>

Awesome Library – Kids

<http://www.awesomelibrary.org/Classroom/Science/Animals/Animals.html>

Awesome Library – Teachers

<http://www.awesomelibrary.org/Classroom/Science/Animals/Animals.html>

Cincinnati Zoo & Botanical Garden

[www.cincinnati-zoo.org](http://www.cincinnati-zoo.org)

