



NYSDEC Environmental Education

Reptiles

For Students in Grades 1 through 4

A 45-minute program designed to introduce students to some of the wild animals that live with us on the planet. Discuss what makes a reptile different from other animals, especially amphibians. Students will learn about and may meet some of the reptiles that live on Long Island.

Goal: Students will meet a series of reptiles, representing the four major reptile families: crocodylians, turtles, lizards and snakes. Students will be able to identify some of the characteristics that make reptiles different from other animals. Students will be able to identify several species of reptiles native to their neighborhood and State.

Do not bring any dangerous animals into the classroom. Handle the animals professionally, and ensure the safety of the students. Explain to students the touching rules before the animals are brought out.

NYS Elementary Science Core Curriculum

Standard 1: *Scientific Inquiry*

Key Idea 1: The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.

Potential Classroom Visitors:

Living: Snake, turtle, lizard, an amphibian

Preserved: sea turtle shell, box turtle shell, snake skin, snake shed, alligator skull, alligator mount, toad skeleton

Key Vocabulary

Amphibian
Cold-blooded
Eggs
Habitat

Hibernation
Larva
Life Cycle
Metamorphosis

Reptile
Scales
Wildlife

What is a Reptile?

Ask the students to identify which animals are reptiles. Often, this discussion includes a little on dinosaurs, but this is not the focus, and could be a program all by itself. Steer the discussion to explore the following topics:

- reptiles are cold-blooded
- reptiles lay eggs on land
- reptiles are covered with scales
- there are four (major) groups of reptiles
- some reptiles eat plants, some eat animals, some eat both

Reptiles include crocodilians, turtles, snakes, lizards and the tuatara (a little-known lizard-like reptile that is still around from the Cretaceous Era).

What is an Amphibian?

Compare reptiles with amphibians, and briefly discuss some of the differences. Many people confuse amphibians with reptiles. Amphibious means 'belonging to both land and water' - but not all amphibious creatures are amphibians. Amphibians go through a metamorphosis; starting from an egg into the larvae stage being typically aquatic, breathing by gills, and finally the adults being typically semi-terrestrial, breathing by lungs and through the moist skin. Crocodiles, pond turtles, marine iguanas and sea snakes are all amphibious but they are all reptiles, skipping the larvae stage of amphibians.

- Amphibians are cold-blooded
- Amphibians lay eggs in water (mostly)
- Amphibians are covered in smooth or bumpy skin
- Amphibians almost always eat small animals like insects

Amphibians include frogs, toads, newts, salamanders, and caecilians- a little known amphibian that lives underground, and looks a bit like an eel or a very fat worm.

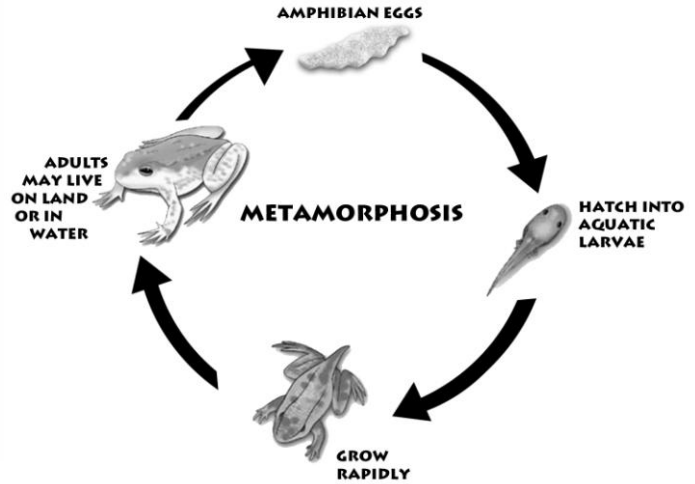
What's the Difference Between Amphibians and Reptiles?

One of the major differences that you can see is that nearly all reptiles have scales covering their skin, and amphibians have no scales, although they may be smooth or bumpy.

Both amphibians and reptiles come from eggs, but amphibian eggs need to stay moist or wet as they develop. Most amphibian eggs are laid in water. Reptile eggs need to stay dry, and all reptiles lay eggs on land, often burying them. Except for alligators and crocodiles, nearly all reptiles abandon their eggs, and offer no care to their young. There are many examples of frogs that care for their eggs or tadpoles, but most amphibians abandon their eggs in a water body, and offer no care.

Metamorphosis:

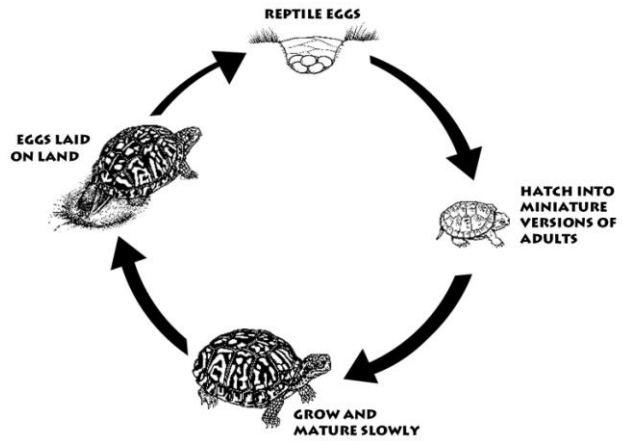
When amphibian eggs hatch, they don't look like their parents. They begin as a larva, and then undergo **metamorphosis**, transforming into the adult form. For some, like toads, this process takes a matter of a few weeks. For others, tadpoles may spend the winter in ponds. Bullfrogs take two years to go from egg to frog.



Amphibian Life Cycle

When reptiles hatch out of their eggs, they look like miniature adults (although many baby reptiles have different colors than the mature adults).

Upon hatching, reptiles are independent, and can care for themselves.



Reptile Life Cycle

Hands-on Demonstration – Meet the Creatures

None of the animals you bring should be dangerous, and explain this to the students (and the adults) before any animals are brought out.

One by one, take the animals out and introduce them to the students. Lay out rules for each animal. For example, encourage the students to touch a snake, but just ask them to look at a snapping turtle.

Tell the story of each animal: where it lives in the world, what it eats, where it hides. Describe what it does in its **habitat**, and in some cases, how that may be a good thing for people. *For example, some snakes eat mice, which sometimes eat our food crops, or invade our homes.* Discuss what places are good for the animal to live in and what places might be bad. Ask students if reptiles or amphibians make good pets, and what the difference is between a pet and a wild animal.

In each case, try to engender an understanding of the true story of the animals. Do not encourage children to grab snakes or turtles that they find in the wild- any wild animal is worthy of respect, and be safety conscious when it comes to kids and wildlife.

There is one reptile that you can focus on particularly during this lesson, and that is the box turtle. Box turtles are land turtles that live throughout Long Island woodlands. They can be found in backyards; and in most areas, the population is declining. Discuss with the students some of the reasons this is happening (loss of habitat, cars and roads), and what they should do if they find one in the woods or in their backyard. Also, mention what to do if they ever see a turtle crossing the road.