



# Frogs, Amphibians and their Threatened Environment

Discovery  
and Expression  
Through Art K-3





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# Introduction

Each year, Frogs Are Green engages children around the world to express themselves freely through art. It thrills me when hundreds of children answer that call.

Most of these children are enrolled in after school art programs. Their parents realize how important it is to enrich their child's education and encourage them with cultural activities.

I grew up in Queens, New York, and my parents enrolled me in ballet and piano lessons, and my father, an accountant by day and an artist by night, would sit with me and teach me how to draw a house or a tree. He was so excited when I chose art as my career and began my higher education at the School of Visual Arts in New York.

My brother and sister and I were introduced to a thriving cultural world. We would get dressed up and head into Manhattan for the circus, Ice Capades, ballet, museums, Broadway theater and opera. This gave me a rounded appreciation for the arts that is still a part of who I am.

## Is this culture missing in children's lives today?

I will tell you that the submissions to the most recent contest yielded 450 entries, but only a few came from the U.S.A. My only conclusion is that children in this country are not being taught art appreciation the way I was just a few decades ago. Is this due to the games and apps of the digital age, or the economy and arts classes/programs being cut from public schools? When children spend their days watching TV and playing games that others have created, and they are not learning how to express themselves, this will hold them back later in life. I'm sure of it.

When I see the artwork that comes in from children between 3 and 12 from Estonia, Australia, the Philippines, Bangladesh, South Africa, Macedonia, Serbia, India, China and so many other countries it's clear from their skills that they are not learning just about art but conveying their own personal messages about the state of the environment and how they feel about frogs. The U.S.A. is just not seeing how important this ability to self-express is, and so this must change for the next generation.

In learning from this curriculum of Amphibian Education and Artistic Expression, students will gain science knowledge, learn why conservation is so important and, more importantly, retain what they have learned when they put pen or brush to paper and express their own thoughts and feelings about the natural world.

— Susan E. Newman

Dedicated to frog lovers everywhere...



# One

## Introduction to Frogs and Amphibians

Create original artworks of frogs/amphibians based on the variety of species shown and their history.

1.5+ Hours (30-45 minutes instruction/presentation; 30-45 minutes art execution; 10-15 minute commentary/discussion)

### Science / Art

#### Overview:

In this lesson, students will create an original artwork based on their understanding of what frogs and amphibians are. They will view a slide presentation and hear about the variety of species: colors, shapes, sizes, sounds and environments.

# Learning Objectives

## Students will:

- Learn about frogs and amphibians: including toads, salamanders, newts and caecilians.
- Learn about where frogs and amphibians live in the wild
- View projected images as well as examine the images up close for reference
- View and see/hear video clips of frogs leaping, jumping and calling
- Create an original artwork from the images provided
- Learn self-expression through creativity
- Learn about art materials, colors, shapes, and composition

## Teaching Approach:

Arts Integrated with Science Discovery

## Teaching Methods:

- Multimedia Instruction
- Brainstorming
- Cooperative Learning

## Assessment Type:

- Informal Assessment

## Key Staff:

Classroom Teacher (can be combined, Science and Project Art Teacher)

## Key Skills:

Discovery and Creating Art: Comprehension, Experimenting, Planning, Executing.

## Lesson Setup

### Teacher Background

An understanding of age-appropriate basic skills and vocabulary; basic knowledge of frogs, amphibians, the environment and the arts.

### Reference Information

Frogs and amphibians come in a variety of sizes, shapes and colors and are the delight of artists and photographers worldwide. They have a friendly look, which easily engages children to mimic the way they hop and sound. By introducing children to learning more about them through discovery and creativity, they are more likely to retain the concepts and share those concepts with others.

Amphibians (approximately 7,205 species) are the oldest class of land-living vertebrates. (They were on the Earth before the dinosaurs!)

### They have three classifications:

- Caecilians (Apoda). There are around 199 living species.
- Newts and salamanders (Urodela). There are about 658 species.
- Frogs and toads (Anura). There are around 6,348 different species.

### Physical Space: Classroom

Teacher should have a room for digital presentation as well as tables for creative projects.

### Grouping:

- Large Group Instruction
- Small Group Instruction
- Individualized Instruction



# What You'll Need

## Materials / Resources

### Images

- Variety of frog and amphibian images (15 included)

### Printable

- 1 printed copy of each of the included images

### Slideshow

- Slideshow using above images (15 included)

### Video

- Frog leaping, climbing, or catching food with tongue (1 video link - included)
- Frogs calling (1 videos link – included)

### Required Technology

- 1 Computer per Classroom
- Projector

### Technology Notes

Videos should be ready for display on computer, either from computer's hard drive or through an Internet connection.

PowerPoint or an Acrobat pdf are fine for displaying images.

### Art Materials / Suggested

- Blackboard or Large Pad with markers and/or chalk (teacher)

## Art Materials for Students:

White paper: 11" x 17", 14" x 17" or 18" x 24"

Crayons, colored pencils, markers or pastels (Be sure there is enough variety for all.)

## Instruction

### Engage

1. Project the image of the first frog in presentation and then present the images that match the list below.
2. Discussion of frogs and amphibians
  - a. The first frogs appeared before the dinosaurs (approximately 250 million years ago).
  - b. Frogs are amphibians, which means that most live both in the water and on land.
  - c. 2,000 species of amphibians are threatened with extinction
  - d. Frogs can see nearly all the way around – (360 degrees) without the ability to turn their heads.
  - e. Toads are frogs, even though there are differences between the two.
  - f. There are approximately 7,205 recorded species.
  - g. Male frogs call to attract female frogs.
  - h. A frog's diet consists mainly of insects, small animals like earthworms, minnows and spiders. Most frogs have a sticky tongue. To catch an insect, some frogs flip out their tongue rapidly, and get an insect. Some frogs have a tongue that is attached at the front, not at the back like ours. They can roll that tongue out and catch an insect in a fraction of a second.
  - i. Frogs can be found on all continents of the world except Antarctica. Their diversity allows them to live in a wide range of environments, from the coldest of climates to the hottest.
3. For some of the above statements, show the video clip that is appropriate, such as a frog's sticky tongue catching an insect or a male frog calling.

4. Review briefly how a frog develops from an egg to tadpole to froglet to frog.
5. Ask students to imagine themselves as a frog and ask what they see, smell, hear, taste and feel.
6. Invite students to share comments, questions and observations about what they've learned and seen.

## Build on that Knowledge and Introduce Art

1. On the blackboard or large paper pad, write down the word observations the students have discovered.
2. Tell students that both scientists and artists use their skills of observation, discovery, analysis and realization. Artists will view their surroundings for structure, shapes, lighting, color and do their best to capture not only what they see but how they see it. Each individual will see and focus on something different. We could each take a photograph of something and every single one would be different.
3. Tell the students they are going to create an original artwork based on what they learned today about frogs and amphibians.
4. Describe the art materials they will be using, and how long they have to create their artwork (30-45 minutes).

## Application/Creation:

1. Place materials on tables and ask students to begin. Assist students during the next 30-45 minutes.
2. If students are sharing materials, break into small groups and be sure there is a variety available.
3. Describe the materials so they understand best usage.
4. Put the printed reference images on the wall or on their tables so they can study while they work.
5. Explain how before they start a picture they should have an idea of what they want it to be of. Will it be a portrait, an action picture with the focus on a particular part of a frog, like the tongue? Will the frog be alone, with other frogs or in an environment?

6. Encourage students to experiment with ideas, designs, layout, color palette, and materials.

## Reflect/Display/Commentary:

1. Once finished, collect all the pictures and display them for all to see.
2. Ask students what they see and think of the pictures. Note that it's important for all to continue the discovery based on what each child created.
3. Discuss the children's pictures for layout, subject matter, color palette and feeling.

## Standards

### Visual Arts

**Content Standard** – K-4 Visual Arts Standard 1-3

Understanding and Applying Media, Techniques and Processes

### Achievement Standard

- Students know the differences between materials, techniques and processes
- Students describe how different materials, techniques and processes cause different responses
- Students use different media, techniques and processes to communicate ideas, experiences and stories
- Students use art materials and tools in a safe and responsible manner
- Students know the differences among visual characteristics and purposes of art in order to convey ideas
- Students explore and understand prospective content for works of art
- Students select and use subject matter, symbols, and ideas to communicate meaning

### Science

**Standard 6**

Understands relationships among organisms and their physical environment.

**Content Standard:** Life Science: The characteristics of organisms

- Organisms have basic needs; the behavior of individual organisms is influenced by internal cues and external cues.

**Content Standard:** Life Science: The lifecycles of organisms

- Plants and animals have life cycles that include being born, developing into adults, reproducing and eventually dying. Many characteristics of an organism are inherited from the parents of the organism, but other characteristics result from the individual's interaction with the environment.

# Introduction to Frogs and Amphibians

## Photo Selections



Aquatic Caecilian (*Typhlonectes natans*)

Date: November 8, 2008, 12:29:28

Source: originally posted to Flickr as Aquatic Caecilian (*Typhlonectes natans*)

Author: Cliff

Credit: Wikipedia Commons





*Anaxyrus canorus*

Yosemite Toad

Credit: Courtesy of Devin Edmonds, 2008.





*Gastrotheca cornuta*

Marsupial Frogs

Credit: Courtesy of Devin Edmonds, 2008.



*Agalychnis lemur*

Costa Rican - Lemur Leaf Frog

Credit: Courtesy of Devin Edmonds, 2008.





*Phylllobates terribilis*

Golden Poison Frog

Credit: Courtesy of Devin Edmonds, 2008.



*Dendrobates leucomelas*  
Yellow-headed Poison Frog  
Credit: Courtesy of Devin Edmonds, 2008.



*Rhacophorus rhodopus*

Red-webbed Treefrog

Credit: Courtesy of Devin Edmonds, 2009.





*Platypelis barbouri*

Barbour's Giant Treefrog

Credit: Courtesy of Devin Edmonds, 2014.



*Boophis sandrae*

Madagascar frog

Credit: Courtesy of Devin Edmonds, 2014.





*Dyscophus guineti*

The False Tomato Frog

Credit: Courtesy of Devin Edmonds, 2014.



*Ambystoma macrodactylum*

Long-toed Salamander

Credit: Courtesy of Devin Edmonds, 2008.





*Bolitoglossa colonnea*

Ridge-headed Salamander

Credit: Courtesy of Devin Edmonds, 2013.



Frog's eye - close-up  
Credit: Wikipedia Commons

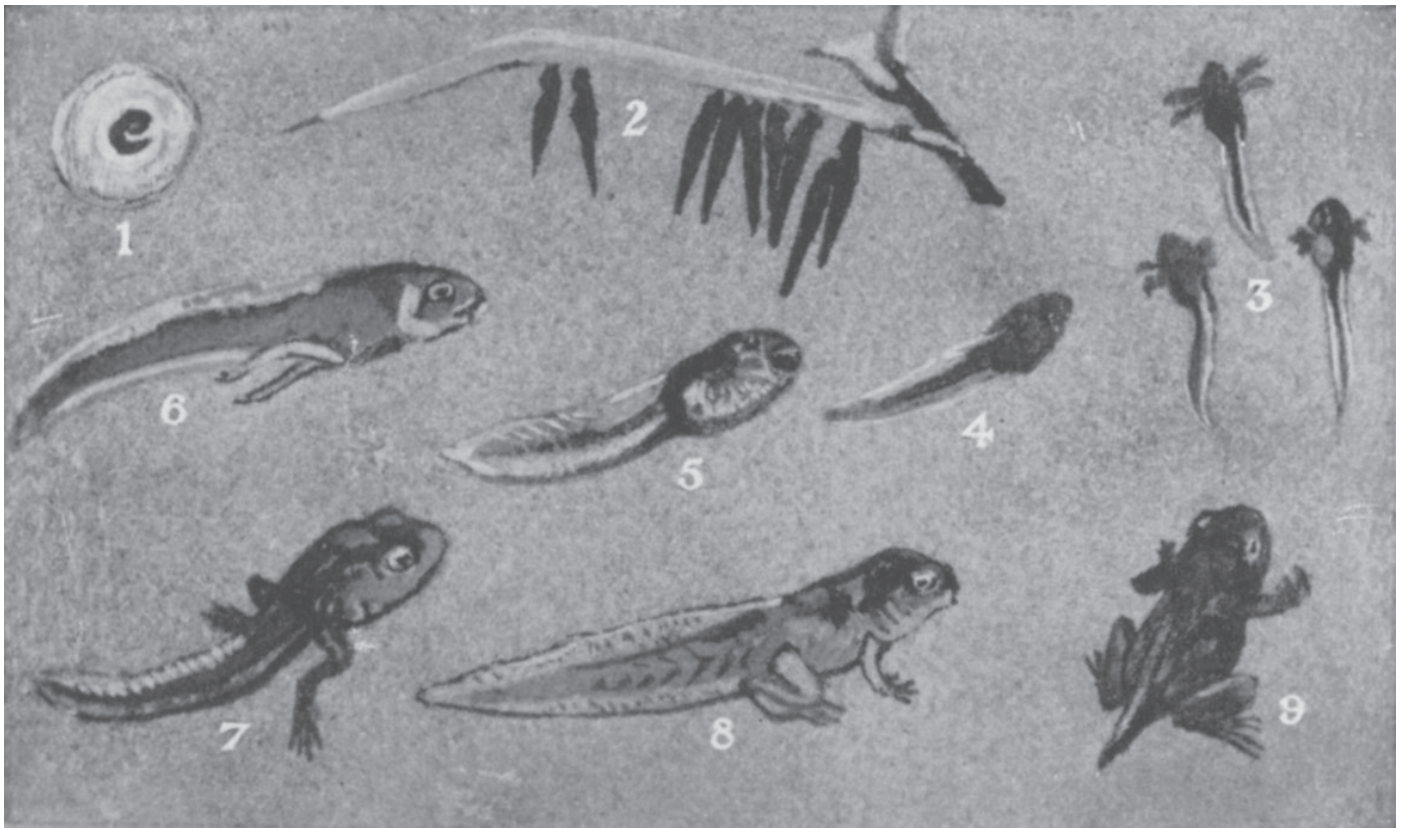




Frog calling

Credit: Wikipedia Commons





Drawing of transformation, from egg to frog.  
Credit: Wikipedia Commons

## Suggested link to video on YouTube

[https://www.youtube.com/watch?v=jA\\_eHVxprdl](https://www.youtube.com/watch?v=jA_eHVxprdl)

### Herping with Dylan – frog calls

Notes on the frogs by “Herping with Dylan”

*“The Leopard Frogs I filmed I labeled as just the leopard frog instead of putting Southern or Plains because both species (Southern and Plains) breed in that area and often hybridize, so it is difficult to say for certain if it is one or that other... or both.*

*The Bullfrogs actually had to end up being filmed at a different location than the rest of the frogs. There were plenty of bullfrogs there but they were so deep in the swamp and were so difficult to find and film due to how deep the water was, that I just filmed them at a pond.*

*Common species that are absent in the video, like the Green Frog and the Green Treefrog were not included because they either do not breed at the location I was filming at (Green Treefrog) or because the population was not very strong there making it very difficult to find them calling (Green Frog). I would still like to add them in a separate video though.*

*The eastern narrow-mouthed toad, being a threatened species in IL, are very susceptible to habitat loss. So we took a lot of caution when filming them so that they were not disturbed.”*

Bill Nye, the Science Guy on Amphibians

<https://www.youtube.com/watch?v=Dqzv7Q-rv4Y>