

## Unit Plan

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### FROGS Kindergarten-Grade 2

This unit is designed to help students gain a better understanding of God's creation and in particular frogs and toads. The students will discuss their thoughts and feelings about frogs. They will listen to stories and watch a video about frogs. They will go on a field trip to a local pond to observe and record frogs and their calls. They will collect a small sample of frog eggs to study and raise in the classroom; later to be returned to the pond of origin. They will work in small groups to compose a class big book about their favorite frog.

**FAITH INTEGRATION:** The students will understand that God created many different animals for our enjoyment and that he put 'man' in charge of taking care of them. They will learn that there is a balance in nature and that each of God's creatures has a special purpose.

#### **CURRICULUM BENCHMARKS:**

The student will define what a frog is and compare them to other animals. Where they fit into the 'food chain.

The student will find out the differences between frogs and toads.

The student will study how a frog is born and how they develop.

The student will find out how and where frogs live, what they eat, and how they protect themselves.

The students will study and compare frogs found in Canada, and more specifically our local frog species.

The students will use a tape recorder to record local frog sounds and see if they can identify the frog by its call.

The students will study frogs from around the world and locate on a map where specific frogs can be found.

The students will use a computer to locate information about frogs, and play a variety of frog related games from this web site.

The students will listen to a variety of poems about frogs

The students will put a frog poem in the correct order by comparing it to the original poem.

The students will collect a small sample of frog eggs, pond water, and some water plants to study the frog life cycle.

The students will use a digital camera to record area of pond where frog eggs are collected.

The student will measure pond water into two aquariums to make sure there is enough water for their growth.

The students will add water as needed to keep the correct amount of water in the tank.

The students will read a thermometer and record its daily temperature

The student will record temperatures of tank water and compare the growth of frogs.

The student will make changes to the tank as needed to ensure the temperature stays within 60-70oF.

The students will understand that sometimes water is polluted with high amounts of bacteria (an organism that can cause sickness), that cause Red-leg disease in frogs. The students will test the pond water for bacteria.

The students will use a digital camera to record the changes in the development of the eggs and make a class book.

The Kindergarten students will use copies of the digital pictures to put in order the stages of growth of frogs.

The students will work cooperatively to make a frog journal

The students will work cooperatively on a class big book about frogs.

## **MATERIALS :**

### **BOOKS:**

#### **“Those Fabulous Frogs”**

By Gilda Berger

Illustrated by Shelley Dieterichs

Ranger Rick Science Spectacular

1994 Newbridge Communications, Inc., a K-III Education Co., New York

#### **“Leaping Frogs”**

By Lisa Trumbauer

Illustrated by Rebecca Thornburgh

Newbridge Early Science Program

1995 Newbridge Communications, Inc., a K-III Education Co., New York

**Frog and Toad** by Arnold Lobel

### **WEB SITE**

[www.ecokidsonline.com](http://www.ecokidsonline.com)

**VIDEO See How They Grow POND ANIMALS** 1994 Sony Wonder, 550 Madison Ave., New York, New York 10022-3211

### **MISCELLANEOUS:**

**Vocabulary cards:** amphibians, two lives, frog, toad, camouflage, toxic, poisonous, predators, extract, disk-shaped ear, red-webbed tree frog, green frog, webbed, flippers, barred leaf frog, protective, jelly, gland, suckers, algae, oxygen, toad-head, polliwog, head-wiggle, lungs, froglets, metamorphosis, newts, salamanders, caecilians, absorbed, common frog, and transformation.

Computer with Internet access

**Digital camera**

**Tape recorder**

**2 small Tank**

**2 Thermometer**

**Underwater viewer** – large plastic pop bottle 1 per child.

Clear plastic wrap

Rubber band 1 per child

**Pail** large enough to carry frog eggs

**Extra pails** for pond water,

**Pond plants**

**Dip net**

Bacteria check – need: **boiled potato**

**Clean, dry jar with a tight fitting lid**

**Pond water**

**Testing the Water** Student Page – **Small clean glass jars with lids 1 per group**

**Water samples from pond, tap, fish tank**

**Worksheet** Testing the Water pg. 8 from “Those Fabulous Frogs”

**Water flippers**

**Sponge**

**Globe**

**Poster board – 1 per group**

**A variety of drawing and coloring tools**

**Scissors**

**Glue**

**Chart paper with the following poems written on them:** Red Bug, Yellow Bug, Little Blue Snake by Jack Prelutsky.

The Frog by Hilaire Belloc.

A copy of the poems for each pair of student cut apart in stripes and put into small envelopes.

**Frog Olympics material** – notebook to record each child's jump

**Wall chart to measure each child's height**

**Meter stick**

## **WORKSHEETS:**

? **The Frog on the Log**

Poem by Ilo Orleans

? **Frog Life Cycle** Pg. 13

? **Common Frogs and Toads** Chart – What is an Amphibian? From Frank Schaffer Publications, Inc.

? **Testing the Water** Pg. 8

? **How Hot?** Pg. 10

? **Frogs: Fact or Fiction?** Pg. 12

? **Puzzle Page** Pg. 16

? **Frog headband** worksheet from More Fun With Books, Evan-Moore Corp. 1987

## **Teacher Preparation:**

Make student copies of all worksheets.

Bookmark webs site and add to student folder

Prepare vocabulary cards

Write poems on chart paper

Gather all material except the pond water, pond plants, various water samples, and potato. These will be brought in later.

Have chart paper/felt pen ready for discussion of Big Books.(Those Fabulous Frogs and Leaping Frogs).

The teacher must be able to download digital pictures to classroom computer and make printed copies.

## **Student Preparation:**

Students will need to be able to

? follow directions given orally, as well as some written

? know how to use a digital camera

? turn on a computer

? use a mouse

? access student folders to find bookmarked web sites

? use a tape recorder to record sounds

? read a thermometer

? measure liquids

? know what a globe is

? be familiar with graphs and how to read them

## **ACTIVITIES AND PROCEDURES**

### **First Week**

If the class hasn't mentioned that frogs are amphibians mention it at this time. Display vocabulary card – amphibian.

Show poster “What Are Amphibians?” Discuss poster. Write on chart paper a definition of an amphibian. Show the Big Book – “Leaping Frogs” and discuss the picture.

Ask the class what their thoughts are about frogs. Brainstorm what they already know about frogs. Chart ideas.

Read “Leaping Frogs” to the class. Display vocabulary cards as presented in the book. Allow for questions and comments..

When discussing the anatomy, use a sponge to demonstrate how frogs absorb water through their skin. Explain that the frogs also receive oxygen through their skin. Remind the students that there is oxygen in the water and this is another reason why frogs need to keep their skin wet.

Show a pair of water flippers and ask if the children have ever used flippers before. Allow time to share. Explain that frogs have webfeet that work like the flippers to help them swim.

After the reading ask if they learned anything new. Did anything surprise them?

Discuss how frogs eat. The frog uses its eyes to help push the food down by pushing its eyes inward. Share poem: Red Bug, Yellow Bug, Little Blue Snake by Jack Prelutsky. After reading poem several times together, have children buddy up and put together their copy of the poem.

Review the frog's life cycle – from egg to tadpole to frog. Illustrate on chart paper and label. Review what an amphibian is.

Have students complete worksheets: “Frog Life Cycle” pg. 13.  
“Common Frogs and Toads” From What is an Amphibian?

### **WEEK TWO-FIVE**

Show Big Book – **Those Fabulous Frogs**. Discuss picture on cover. Read through and discuss how frogs fit into the food chain and how the environment affects frogs.

Have students complete the following worksheets: How Hot? Pg. 10

Puzzle Page. Pg. 16

While the Grades One and Two are completing the above worksheets have the kindergarten make the frog headband to wear while we read together “Frog and Toad”

Read Frog and Toad to whole class.

Prepare the students for the field trip by sharing the poem: The Frog by Hilaire Belloc. After reading it together several times divide the class into buddies and have them put together a copy of the poem.

Show video Pond Animals. Choose a student to help set up the video. Choose another student to help put the video equipment away.

Before the pond visit brainstorm what they think the frogs' habitat will be like. Remind them of what they saw in the video. Write their answers on a chart. Display chart so the children will have access as they begin their frog journals.

Divide the class into small groups and have them prepare a frog journal.  
For the cover have them draw what they imagine they will see at the pond.  
Page one- make a list of what they might see at the pond.

Make Pond Viewers: Carefully cut off the top and bottom of a large plastic pop bottle. 1. Cover the edges with masking tape. 2. Cover one end with clear plastic wrap. 3. Fasten it tightly with a rubber band.

One the day of the visit remind the students that they are not to touch the frogs, only observe. Remind them that we are to take care of God's creatures. When we get to the pond we need to be very quiet so as not to disturb the frogs, or we may not be able to record their sounds.

Assign group one to record frog sounds

Assign group two to take pictures of pond life.

Assign group three to collect pond water.

Assign group four to collect pond plants.

The teacher will collect frog eggs.

Divide the students into their assigned groups and make sure each group has all the necessary equipment.

Each child should have a pair of rubber boots or old running shoes.

At the pond remind the children to be very quiet. Have Group One record sounds as soon as everyone settles down and frogs begin to sing again.

As soon as Group One is satisfied with the amount of recordings they get, have group two begin to take photos of surroundings.

Allow children to use their pond viewers to search for frog eggs. Remind them to be very careful. Once frog eggs have been spotted and each child has had a chance to view them in the pond, have Group Two take a pictures as the teacher removes a sample of eggs.

Have Group Three collect pond water and Group Four collect some pond plants.

On returning to the classroom set up two tanks.

Have children work together to see if they can figure out how to measure one-third of a tank.

Once they come up with a workable plan, fill each tank about a third of the way full with pond water.

Place a thermometer in each tank and invite the children to help you read it. Make sure each child has a chance to read the thermometer. Explain that the water temperature should remain between 60-70o F.

Place a heater in one tank to ensure a constant temperature of 70oF.

Carefully add the frog eggs to the tank.

In their journals have children put a check mark beside each of the items they observed at the pond.

Prepare a copy of digital photos taken and distribute to each group. Have them add these pictures to their journals. Have them write one or two sentences per photo.

Have the students take turns taking digital pictures of the development of the frogs. Use these photos to add to their journals. Each photo must have a date and a sentence to accompany it. (The teacher will download pictures for the students).

#### TEACHER LED EXPERIMENT

- ? Demonstrate for the class how to test water for bacteria. Explain that sometimes our water gets polluted with high levels of bacteria (small organisms that can make us sick). Frogs can get sick too if there are a lot of bacteria in the water. Boil a potato, while it is still warm, cut it into slices. Place one slice in a clean, dry jar and add the water sample. Don't cover the potato, just add enough to cover the

bottom of the jar. Screw the lid on the jar and put it in a warm dark place. Check the jar after two or three days, with the lid on. If the potato has a thick, fuzzy growth then the water has lots of bacteria. Just a little bit of fuzz, then there are fewer bacteria. No fuzz? Then the water is relatively free of bacteria.

#### STUDENT EXPERIMENT

? Have each group complete "Testing the Water" pg. 8 add to journals. Use some of the collected pond water as a sample.

Show the students how to access the frog web site. Find the section about frog calls. See if you can find a frog call that sounds similar to the one the students' recorded. Also, view the photo of frog (if they were able to get one) to help in their frog identification.

#### CLASS FROG BIG BOOK

Working in the same small groups have children choose a frog to illustrate and write one or two interesting facts about it. They may use the frog web site listed to get information

#### FOLLOW UP ACTIVITIES:

Have the children explore the frog web site and play the various games. Time can be scheduled for each group to have a turn during the making of the class frog big book.

When the tadpoles have developed into frogs have another field trip to return them.

#### EVALUATION:

Teacher Observation, completion of worksheets, rubrics will be used to grade their cooperative and completed work: frog journals ,and the big book.

## Making A Brochure: **Frog Journal**

Teacher name: Mrs. Bogan

Student Name \_\_\_\_\_

CATEGORY	Excellent	Good	Satisfactory	Needs Improvement
<b>Graphics/Pictures</b>	Graphics go well with the text and there is a good mix of text and graphics.	Graphics go well with the text, but there are so many that they distract from the text.	Graphics go well with the text, but there are too few and the brochure seems "text-heavy".	Graphics do not go with the accompanying text or appear to be randomly chosen.
<b>Attractiveness &amp; Organization</b>	The brochure has exceptionally attractive formatting and well-organized information.	The brochure has attractive formatting and well-organized information.	The brochure has well-organized information.	The brochure's formatting and organization of material are confusing to the reader.
<b>Writing - Mechanics</b>	Capitalization and punctuation are correct throughout the brochure.	Capitalization and punctuation are correct throughout the brochure after feedback from an adult.	There are 1-2 capitalization and/or punctuation errors in the brochure even after feedback from an adult.	There are several capitalization or punctuation errors in the brochure even after feedback from an adult.
<b>Spelling &amp; Proofreading</b>	No spelling errors remain after one person other than the typist reads and corrects the brochure.	No more than 1 spelling error remains after one person other than the typist reads and corrects the brochure.	No more than 3 spelling errors remain after one person other than the typist reads and corrects the brochure.	Several spelling errors in the brochure.

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