

The Lifecycle of Frogs

Age Group: grades K-2

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Sources:

1. Angela's Webpage, June 8, 2002.
<http://www.catawba.k12.nc.us/pages/techtrac/techtrac12/angela/frogpage.html>
2. Lingelbach, Jenepher. Hands-On-Nature. Vermont Institute of Science. Woodstock, VT. 1986, 2000. p. 58-63.

Objectives:

Students will be able to:

1. Identify several characteristics of frogs:
 - Types (names of different frogs: spring peeper, green frog, wood frog, etc.)
 - Where they live (in water and on land)
 - What they sound like (varies by type or species)
2. Explain the lifecycle of a frog:
 - Put pictures of frog life cycle in order
 - What each stage is: egg, tadpole, froglet, adult
 - Act out the different stages in the lifecycle of a frog
 - Define the word **metamorphosis** (changing form)
3. Give an example of an animal that eats frogs (snake, heron, fish, other frogs) and an example of something frogs eat (flies, mosquitoes, dragonflies, etc.).

Michigan Elementary Benchmark:

Describe life cycles of familiar organisms. *Key concepts:* Life cycle stages—egg, young, adult; seed, plant, flower, fruit; larva, pupa. *Real-world contexts:* Common plants and animals such as bean plants, apple trees, butterflies, grasshoppers, frogs and birds. (SCI.III.2.E.3)

Materials:

- Poster of frogs in Michigan: (1)
- Photographs of the stages in the lifecycle of frogs (laminated): (1 per stage)
- Board to write Frog list on: (1)
- Poem *Changes* by Jill Brasell: (1)
- Measuring Tape: (4-5)
- Masking Tape: (1 roll)
- Rocks: (2)
- Balloon: (2)
- Glass jar: (1)
- Straw: (1)
- Rubber band: (1)
- Tape of Michigan Frog Sounds: (1)
- CD/Tape Player: (1)
- Stickers of frogs: (1 per student)
- Frog Lifecycle worksheet: (1 per student)
- Michigan Frog Songs worksheet: (1 per student)
- Jingle bells: (15-20)

Room Arrangement: Have the desks as close to the wall as possible so there is room to jump, run and sit on the floor. On the board, hang the poster of Michigan frogs.

Opener: Play the tape on frogs as the students are coming in. Ask them if they know what they are listening to.

Introduction: (5 min.)

- Have the answer the questions (have them act out the necessary ones):
 - Let's describe a frog:
 - What do frogs look like? (*long hind legs, rubbery skin*)
 - Where do frogs live? (*on water to mate, lay eggs, change form, then as an adult they live on land*)
 - Do all frogs sound the same? (*No*)
 - How do frogs move? (*jump/leap*)
 - Show pictures of different frogs and describe where they are located.
 - Explain how frogs make different sounds. Demonstrate a few.
 - Green Frog: push down on the straw
 - After cutting the balloon, attach it around the top of the glass jar. Then attach the rubber band around the glass jar long ways to form a "banjo." Finally, put the straw underneath the rubber band and having it touch the balloon.
 - Northern Leopard Frog: rub thumb against a balloon
 - Mink Frog: bang 2 rocks against each other
 - Spring Peeper: shake a bag of jingle bells.
 - Most common frog in Michigan
 - Post pictures of the stages of the lifecycle of frogs. Ask students to put in order the stages. Also, define the word **metamorphosis** (changing form). Write the word on the board.
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Activity 1: Merry Metamorphosis (5 min)

Procedure:

1. Students huddle together as an egg mass.
2. Group begins to separate as eggs hatch.
3. Each student moves about alone with feet together and hands at their sides.
4. Legs start to grow – students now shake both legs and begin moving with legs apart, hands still at their sides.
5. Front legs appear – students wiggle arms from elbows down, upper arms still touching sides.
6. With big eyes bulging out and now breathing with lungs, students gather at the edge of the pond.
7. Metamorphosis is complete! The little froglets hop out of the pond.

Activity 2: How far can a Frog Jump?

(5 min.)

Ask: *Can you jump as far as a frog?* Frogs can jump 10 times their body length. (Measure the size of a frog. Multiply that number by 10 and measure it out. That way the students can see how far a frog can jump due to its length.)

Procedure:

1. Split the class into groups having at least one adult per group.
2. Measure an average student's height and multiply by 10. Measure this length. This length is how far a frog would jump if it were that tall.
3. Have each student in each group stand at the "start" line and jump, trying to jump as far as a frog.
4. Measure how far each student can jump (have at most 2 jumps per student).

**Explain that frogs can jump 10 times their body length.*

Clean-up: Pick up the measuring tape and return to the tubs.

Activity 3: Frog Mating Game – by Sound

(10 min)

Procedure:

1. Using film canisters (each pair of film canisters is filled with a variety of materials, such as paper clips, sand, pebbles, beans, etc.), students must find their partner who has a canister with the same sound.
2. Have the students open up their canisters to see if they found their match.
3. Questions: Do all frog species sound the same? *No!* How do breeding frogs find a mate? *By sound*

Clean-up: Place all of the film canisters back into the plastic bag.

Activity 4: Don't Get Eaten (play like, "What time is it Mr. Fox?")

(10 min)

**Explain that owls eat frogs and frogs eat flies.*

Procedure:

1. Line up the students and parents (frogs) to one end of the room while the teacher or student (predator) is at the other end with his back to them.
2. Have the "frogs" face their "predator."
3. The "frogs" ask, "What time is it Mr. Owl?" He will answer with a certain time. The "frogs" then jump that many times (an example is below):
 - Frogs: "What time is it Mr. Owl?"
 - Predator: "5 o'clock."
 - The frogs jump 5 times then ask again, "What time is it Mr. Owl?"
4. The frogs keep asking and moving until the "predator" responds to their question with, "Lunch Time!" Once this is said, the "predator" chases after the frogs to tag

(eat) one. The frogs can be safe if they jump all the way back to their starting spot (the pond). If a frog is eaten, they are the new Mr. Owl.

Clean-up: None.

Filler: Read the poem *Changes* aloud to review the Lifecycle of Frogs (5 min)

Procedure:

Teacher reads the poem *Changes* aloud to the students (teacher reads first two lines aloud, the students repeat, teacher reads next two lines aloud, students repeat, and so on until the poem is finished). Ask at the end:

- Where did the frog come from or start out as? (*egg*)
 - What was the frog before he turned into a frog? (*tadpole*)
 - What was the first thing the tadpole grew? (*legs*) Second? (*arms*)
 - What happened to the tadpole's tail? (*it disappeared*)
 - Why is the poem called *Changes*? (*the tadpole changed into a frog*)
 - What does **metamorphosis** mean? (*changing shape*)
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Take Home: Give the students the Frog Lifecycle worksheet, the Michigan Frog Songs worksheet and a copy of the poem *Changes*. Also, give each student a frog sticker to take home.

Safety Considerations: Watch out when the students are running and jumping. Make sure they understand that they cannot jump over each other.

Summary:

1. What is the order of the stages in the lifecycle of a frog? (*eggs, tadpole, tadpole with legs, froglet and adult frog*)
 2. What does the word **metamorphosis** mean? (*changing shape*)
 3. Do all frogs sound the same? (*no*) What do some sound like? (*banging of 2 rocks, bag of jingle bells, rubbing your thumb against a balloon and a banjo.*)
 4. Why don't they sound the same? (*to find their mate*)
 5. How far, compared to their length, can a frog jump? (*10 times its length*)
 6. What do frogs eat? (*bugs, mosquitoes, flies, etc.*) What eats a frog? (*snakes, birds, fish, etc.*)
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