

# Spring into STEM: Freaky Friday Frogs!

**Intended Audience:**

- Grades 1-3

**Ohio Standards**

K.LS.1

1. LS.2

3.LS.3

N.G.S.S.

3-LS1-1

**Lesson Objectives:**

Participants will:

- Be introduced to the life cycle and metamorphosis of frogs.

**Time of year:** Early Spring

**Time:** Finding and collecting eggs-time varies; (Frog egg kits are also available for purchase from companies like Carolina.com or other natural science education suppliers.) Hatching and development can take up to three months, depending on the frog species.

**Equipment and Supplies:**

- Aquatic net and a collection container with a lid for transporting frog eggs.
- Prepared amphibian habitat – an aquarium with a cover works best but you can also use a large fishbowl or large clear container. Distilled water or tap water that has been allowed to sit for 2-3 days to allow chlorine to break down. This can also be accomplished by using a de-chlorination liquid.

**Do Ahead:**

- Review lesson.
- Gather supplies.
- Set up frog habitat.
- Locate egg collection site.

**BACKGROUND**

Have you every wished you could transform into something else? The 2018 remake of the film “Freaky Friday” was based on the idea that it would be amazing to transform into someone else. In this lesson participants will experience the “magic” of observing a complete metamorphosis, as they watch a tadpole turn into a frog. In completing this experience, the goal is for the learner to develop a connection and compassion for amphibians and the role they play in our environment.

**WHAT TO DO**

Early spring (late March – early April) is a great time to explore Amphibians. Frogs and salamanders become active as early as late February or first of March depending on where you live in Ohio.

1. Before collecting your frog eggs, you will need to prepare their new habitat. For this you will need an aquarium, enough de-chlorinated water to fill the aquarium 4-6 inches deep and some flat rocks. Place the rocks on one side of the aquarium’s bottom, slightly overlapping until they almost reach the surface of the water, no more than four inches high. On the other side of the aquarium there should be just water.
2. Place the aquarium in a warm spot in the house with sunlight but not in direct sun and allow it to settle for a day.
3. Visit a pond, wetland, or other location that you have observed or heard frogs calling. This link from THEWILDSIDE@OSU will help you identify common frogs in Ohio.  
<https://mediasite.osu.edu/Mediasite/Play/5a2788adab6d4f48aa870fcfa037f8211d>
4. Frog eggs are laid in large jelly like masses, that float near the surface of the water. Be careful not to collect eggs that are white or fuzzy, these eggs are infected with fungi and will spread to other eggs, killing them. Using your aquatic net, collect a small sample of frog eggs along with some of the pond water and place them in your collection container. Be sure to carefully collect only a few eggs leaving the rest undisturbed.
5. At home gently pour eggs and pond water into the aquarium on the water only side of the aquarium. The eggs should float on or near the surface of the water. Record the date of collection and the exact location of where you found the eggs.
6. It can take up to 25 days for the eggs to hatch into fish-like tadpoles. Using the observation handout with this lesson, observe eggs daily to note the hatch date.
7. Once all eggs have hatched, it is time to feed your tadpoles. Start out feeding them small amounts of

### Supplemental Resources:

- Frogwatch USA  
<https://www.aza.org/frogwatch?ocale=en>
- Ohio Department of Natural Resources Amphibians of Ohio Field guide  
<https://ohiodnr.gov/static/documents/wildlife/backyard-wildlife/Amphibians%20of%20Ohio%20Field%20Guide%20pub348.pdf>
- Save the Frogs!  
<https://savethefrogs.com/cool-frog-facts/>
- THEWILDSIDE@OSU  
<https://u.osu.edu/wildside/2020/06/18/whos-croaking-identifying-ohios-frog-toad-calls/>
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### Optional craft and snack:

Frog Egg stress ball: Take a 12" rubber balloon (dark green or black) using a funnel fill it with 1 cup of flour and tie. Other options fill with rice, water beads or playdough.

Frog egg pudding: make tapioca pudding according to recipe and add green food coloring.

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- chopped up lettuce. Do this for about 2 weeks.
8. At two weeks start adding small amounts of mashed up meat or fish food with the lettuce. Tadpoles start life as herbivores and then become carnivores as they grow.
  9. After you start feeding your tadpoles you will need to change the water once a week or as needed. Always use dechlorinated water. You may also add some aquatic plants to the water side of your habitat for the tadpoles to hide under, and a small piece of wood or larger rock to the rocky side for the frogs to climb on.
  10. Be sure to observe your frog habitat every day, making notes or sketches of the changes you see, along with recording the date of the changes. Use your observation sheet to record these changes. Soon your tadpoles will begin to grow legs, their tail will shrink, and they will develop lungs. As the lungs develop, they will use the rocks to crawl up out of the water to breath air. When this happens, be sure to cover the aquarium so your frogs do not escape. Once your tadpoles have completed their metamorphosis into small frogs, it is best to return them to the location that you collected the eggs so they can hunt and feed on their own.

### TALK IT OVER

#### Reflect:

- What was the hardest part about finding your amphibian eggs?
- How long did it take your eggs to hatch?
- Did you notice any changes in the eggs as the tadpoles developed?
- What did the tadpoles look like when they first hatched?
- What was the first sign you saw of your tadpole becoming a frog?
- Were you able to identify what species of frog you raised?

#### Apply:

- Share the journey of your Freaky Frog from egg to frog through pictures with your 4-H club, friend or on social media. Research and share facts about the species of frog you raised.

### EARTH TAKE ACTION TIP

Did you know that amphibian species are disappearing all over the planet? Scientists believe this decline is due to a combination of pollution, habitat loss and climate changes. What can you do to help?

### CITIZEN SCIENCE CHALLENGE: Check out

**Frogwatch USA** – this citizen science Program provides opportunities to learn about and gather information on the health of wetlands in your community by reporting frog species present by identifying their calls.