



# The Life Cycle of a Frog

7  
A

## Introducing the Read-Aloud

10 minutes

### What Have We Already Learned?

5 minutes

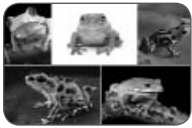
Review with students that a life cycle includes the stages a living thing goes through from birth to adult. Ask students about the life cycles they have learned about so far. Plants and trees begin their life cycles as seeds. Chickens begin their life cycles as eggs.

Have students retell the life cycle of a chicken. You may wish to prompt responses by using Image Cards 10–12. You may also wish to have students sequence Image Cards 10–12 using Cycles Poster 4 (Life Cycle of a Chicken).

### Vocabulary Preview

5 minutes

#### Amphibian



#### ← Show image 7A-1: Frogs

1. In today's read-aloud you will learn that frogs are *amphibians*.
2. Say *amphibian* with me three times.
3. An amphibian is an animal that can live on both land and in water.
4. When amphibians are in water, they breathe through gills. When amphibians are on land, they breathe with lungs. Marleen has both water and land in the tank for her pet frog, which is an amphibian.
5. [Show images and name the different types of amphibians.] Describe this amphibian to your partner. What color is it? Does it look like it has rough skin or smooth skin? Does it have webbed feet?

### ***Burrow***

1. Today we will learn that many frogs *burrow* in the winter.
2. Say *burrow* with me three times.
3. *To burrow* means to dig a hole or pathway underground.
4. Frogs burrow in the ground to keep warm.  
My dog likes to burrow under my blankets.
5. [Show images of frog burrows.] Can you find the frog? Why would the frog burrow underground?

### **Purpose for Listening**

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Tell students that today they are going to hear about the life cycle of a frog. Explain that a frog undergoes a transformation in its life cycle. A transformation is a major change in the way something looks. Tell students to listen and watch carefully to learn all about this transformation during the main topic of today's read-aloud: the life cycle of a frog.



## The Life Cycle of a Frog

### ← Show image 7A-1: Frogs<sup>1</sup>

1 What sound do frogs make? (Frogs make croaking sounds, like *ribbet*.)

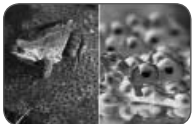
2 [Show students a dime for reference.]

3 [Have students describe the frogs in the image.]

Did you know that there are thousands of different kinds of frogs in the world? Frogs don't all look alike either. Frogs can be all different sizes and colors. The smallest frog in the world was recently discovered in Papua New Guinea. It is smaller than a dime!<sup>2</sup> The largest frog in the world is the Goliath frog from Africa. It can grow up to three feet long and weigh seven pounds.<sup>3</sup>

Frogs live on every continent in the world except Antarctica. Why do you think they don't live in Antarctica? Frogs don't live in Antarctica because it is too cold, although there is a frog that lives just inside the Arctic Circle. Do you know what a group of frogs is called? A group of frogs is called an army. Okay, now that you know some cool facts about frogs, let's find out about their life cycles.

Just like a chicken, a frog's life cycle includes birth, growth, reproduction, and death. The reproduction stage creates new life so that the cycle repeats over and over again.



### ← Show image 7A-2: Frogspawn

4 [Have students describe the image.]

Have you ever stood at the edge of a pond or stream in the spring and spotted a jelly-like substance floating in the water? If so, you have seen the first stage of a frog's life cycle. The first stage of a frog's life cycle is the egg. That jelly-like substance is frogspawn, which is hundreds of soft, jelly-like eggs. In the center of each egg is a tiny black dot. Each black dot is a tiny embryo that will become a tadpole soon.<sup>4</sup> A developing young frog is called an embryo at the early stages and a tadpole at the later stages.

The mother frog lays her eggs in water in spring, when the cold winter months are over and the water is warm enough for her eggs to survive. The mother frog lays hundreds of eggs at one time.

Female frogs lay hundreds of eggs at one time because not all of the eggs survive. Unlike hens, frogs do not usually stay with their eggs, so fish, birds, and water insects are more likely to eat some of the eggs. Some of the eggs will survive and eventually develop into tadpoles.



← **Show image 7A-3: Tadpoles**

Just as a developing chick is nourished by the yolk of an egg as it grows, a developing frog is also nourished by yolk-like material in the egg. Within a few days or weeks of its development, depending on the type of frog, the embryo develops into a tadpole with a head and tail. Soon after that, when its **gills** are formed, it is ready to hatch out of the egg. Gills allow the tadpole to breathe underwater. Fish have gills, too.<sup>5</sup>

Once it hatches, a tadpole lives in water. A tadpole has a long, flat tail which it uses to swim. Its gills allow it to get oxygen from the water. Tadpoles swim about in search of food. Although they still feed from the leftovers of the eggs, they also search for small, green, water plants. Tadpoles grow very quickly, especially in warm water.

5 People cannot breathe underwater because people do not have gills. Instead, we hold our breath when we go underwater.



← **Show image 7A-4: Tadpole metamorphosis**

After some time, the tadpole begins its transformation into a frog. When a living thing undergoes a huge change in shape, this process is called **metamorphosis** (met-uh-MOR-fuh-sis).<sup>6</sup> Tadpoles change quite dramatically from fish-like creatures with gills, into four-legged land creatures with **lungs**.<sup>7</sup> Let's find out more about this remarkable transformation.

After the appearance of the head and the tail, the tadpole grows its back legs. Gradually, lungs develop inside its body, and its gills begin to disappear inside its body. Because it has lungs, the tadpole can now breathe air. Next, front legs begin to grow. As a tadpole's legs grow, its tail gets smaller. The tadpole uses its tail and its legs to swim through the water. It also begins to use its legs to climb onto plants in the water.

6 You will hear a great deal about this word in the next lesson, "The Life Cycle of a Butterfly."

7 Frogs can breathe air because they have lungs, just like people. Lungs are the body parts that we use to breathe air.

8 That's roughly the size of your thumb.

Gradually, the tadpole's legs grow longer, and its tail disappears completely. At this stage, the tadpole is a young frog that can leave its watery home and use its lungs to breathe. For many types of frogs, all of this has happened in about twelve weeks. At this stage of its development, the young frog is about an inch long.<sup>8</sup> Very young frogs are often called froglets.

Young frogs leave the pond to find other tasty treats to eat on land. They do not go too far away from their watery home, though. On land they search for small insects, worms, and slugs. They catch their food with their long, sticky tongues. They have to be very careful though, as lots of animals, such as snakes, lizards, and birds, eat young frogs.



← **Show image 7A-5: Frog skin**

Do you know what you call an animal that can live in water and on land? An animal that can live in water and on land is called an **amphibian**. Frogs are amphibians.

Although frogs spend a lot of time on land, they stay fairly close to water. Frogs need to keep their skin damp.<sup>9</sup> Instead of drinking water, they absorb it through their skin. Frogs breathe through their skin when they are in water, but they breathe through their lungs when they are on land. They also seek out water when they want to cool down. If water is not nearby, they sit in the shade. They sit in the sun when they want to warm up.<sup>10</sup> In the winter, many frogs hibernate. Often they **burrow**, or dig a hole in mud at the bottom of ponds. If they can't find a pond, they seek out a damp place, such as a pile of logs, in which to spend the winter.

9 or somewhat wet

10 How do you heat up and cool down?



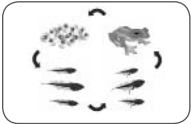
← **Show image 7A-6: Frog camouflage**

The young frog has to survive until it is two or three years old to become a parent. Frogs have various characteristics that help them survive.<sup>11</sup> Their skin is often the color of their natural habitat. This helps them to blend into the background and avoid hungry predators. This is a form of camouflage. Frogs can hop quickly out of reach. They are also excellent swimmers. They can jump

11 A technique is a way of doing something using special knowledge or skill.

into the nearest pond or river to avoid danger. Some frogs have poisonous skin to protect them from predators. All frogs have large, bulging eyes. This helps them to more easily find their own food and avoid becoming dinner for some other creature.

When a frog is between two and three years old, it will return to the pond where it was born. At this stage, the frog is now considered an adult. In spring, male frogs croak loudly to let the females know that they are ready to mate. As with chickens, the eggs must be fertilized by a male frog or else they will not develop into baby frogs.



← **Show image 7A-7: Frog Life Cycle**

And so the life cycle begins all over again. Each spring, a jelly-like substance appears in ponds and rivers. It is frogspawn, or hundreds of small eggs containing tiny embryos. In time, many will hatch into tadpoles. And a little while later, these tadpoles will turn into frogs that will live for seven years or more. It is amazing that frogs change their appearance so dramatically throughout their life cycle, from egg to tadpole to adult. Next, we will learn about the incredible transformation in another creature's life cycle. Stay tuned!

## ***Discussing the Read-Aloud***

**15** minutes

### **Comprehension Questions**

**10** minutes

1. *Literal* What is the main topic of the read-aloud? (The main topic of the read-aloud is the life cycle of a frog.)
2. *Literal* What is the first stage of a frog's life cycle? (The first stage of a frog's life cycle is the egg.)
3. *Literal* What hatches from the egg? (A tadpole hatches from the egg.)
4. *Inferential* How do tadpoles breathe underwater? (Tadpoles, like fish, have gills so that they can breathe underwater.)
5. *Inferential* How do tadpoles prepare for the cold of winter? (Tadpoles burrow under the mud at the bottom of the pond and hibernate.)

6. *Literal* When is a tadpole finally a young frog? (A tadpole is a young frog when its tail disappears completely and it breathes on land with lungs.)
7. *Literal* What is it called when a living thing undergoes a huge change in shape and appearance, like the frog does from tadpole to adult frog—germination or metamorphosis? (It is called metamorphosis.)
8. *Literal* In which season do adult female frogs lay their eggs so that the life cycle can begin again? (Adult female frogs lay their eggs in the spring.)
9. *Literal* What are the stages of the frog’s life cycle? (The three stages of the frog’s life cycle are egg, tadpole, froglet, and adult frog.)

[Please continue to model the *Question? Pair Share* process for students, as necessary, and scaffold students in their use of the process.]

10. *Evaluative What? Pair Share:* Asking questions after a read-aloud is one way to see how much everyone has learned. Think of a question you can ask your neighbor about the read-aloud that starts with the word *what*. For example, you could ask, “What did you learn about in today’s read-aloud?” Turn to your neighbor and ask your *what* question. Listen to your neighbor’s response. Then your neighbor will ask a new *what* question, and you will get a chance to respond. I will call on several of you to share your questions with the class.
11. After hearing today’s read-aloud and questions and answers, do you have any remaining questions? [If time permits, you may wish to allow for individual, group, or class research of the text and/or other resources to answer these questions.]

## Word Work: Transformation

5 minutes

1. In the read-aloud you heard, “After some time, the tadpole begins its *transformation* into a frog.”
2. Say the word *transformation* with me.
3. A transformation is a complete and total change into something different.
4. The children were amazed to see the transformation of a tadpole into a frog.
5. What other animals do you think go through a transformation in their life cycle? Use the word *transformation* when you tell about the change. [Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “A \_\_\_\_\_ goes through a transformation.”]
6. What’s the word we’ve been talking about?

Use a *Word to World* activity for follow-up. Directions: [Show short video clips of amphibian metamorphosis.] Tell your partner about the transformation that took place. What happened? What changed?



**Complete Remainder of the Lesson Later in the Day**





# The Life Cycle of a Frog

7<sub>B</sub>

**Note:** Extensions may have activity options that exceed the time allocated for this part of the lesson. To remain within the time periods allocated for this portion of the lesson, you will need to make conscious choices about which activities to include based on the needs of your students.

## Extensions

20 minutes

### 10 Sequencing the Life Cycle of a Frog (Instructional Masters 7B-1 and 7B-2)

15 minutes

- Show students Image Cards 13–16, and have them explain and sequence the frog’s life cycle. You may wish to show students Cycles Poster 5 (Life Cycle of a Frog) and have them once again identify the four stages of the frog’s life cycle. (egg, tadpole, young frog, adult frog)
- Give students Instructional Masters 7B-1 and 7B-2. Tell them that they will create Response Card 6; it will show the life cycle of a frog. [**Note:** This Response Card should be held and viewed using landscape orientation.]
  - First, have students cut out the images of the stages of the life cycle of a frog on Instructional Master 7B-1.
  - Next, have them put the images in the correct order of the life cycle of a frog.
  - Then, students should glue or tape the images in the correct blanks on Instructional Master 7B-2.
  - Finally, have students describe the life cycle of a frog to their partner or home-language peers.

## Writing an Explanatory/Informational Paragraph: Life Cycle of a Frog (Instructional Master 7B-3)

20+ minutes

- Show students Cycles Poster 5 (Life Cycle of a Frog), and have them identify each stage of the life cycle of the frog.
- Tell students that they are going to write a paragraph to explain the stages of the life cycle of a frog. Emphasize that the life cycle of a frog goes from “egg to egg.”
- Tell students that they are going to write a paragraph explaining what they learned about the life cycle of a frog. This type of paragraph is called an *informational paragraph*. Ask students why this kind of paragraph is called an *informational paragraph*.
- Refer to the paragraph planning chart you have created. Point out each part of the planning chart. Model this planning step of the writing process on the planning chart. [You may also wish to write sentence starters or complete sentences that students have suggested on the chart for students.]
  - **Introduction**—This sentence tells the reader what the paragraph is about.  
Suggestions: *There are four stages in the life cycle of a frog.*  
*The life cycle of a frog is from egg to egg.*  
*Today I learned about the life cycle of a frog.*
  - **First**—Tell about the first stage in the life cycle.  
Suggestions: *First, eggs are laid in spring.*  
*First, adult frogs lay eggs in the pond.*
  - **Next**—Tell about the second stage in the life cycle.  
Suggestions: *Next, tadpoles hatch.*  
*Next, tadpoles with long tails hatch in the spring.*
  - **Then**—Tell about the third stage in the life cycle.  
Suggestions: *Then, tadpoles grow legs and lungs.*  
*Then, tadpoles go through a big change and become a young frog.*
  - **Finally**—Tell about the fourth stage in the life cycle.  
Suggestions: *Finally, young frogs become adult frogs.*
  - **Conclusion**—This sentence finishes and wraps up the paragraph.

Suggestions: *The adult frogs lay eggs and the cycle starts over again.*

*These are the four stages of the life cycle of a frog.*

- After modeling the planning step, have students write their sentences on Instructional Master 7B-3. Remind students to use capital letters at the beginning of their sentences and the correct punctuation at the end.
- Allow students to share their paragraphs with their partner or with home-language peers.
- If time allows, you may wish to have students complete the editing step of the writing process.