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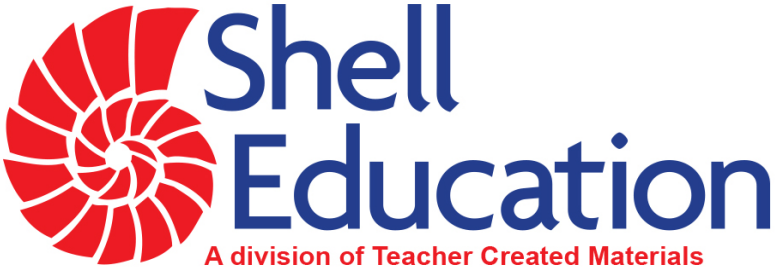

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Shell Education

180 Days of PRACTICE

GRADE 2

HANDS-ON STEAM

Science | Technology | Engineering | Arts | Mathematics

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180 Days of Practice

Physical Science

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Life Cycle of Frogs Teaching Support

Overview of Unit Activities

Students will learn about and explore the life cycle of frogs through the following activities:

- reading about and studying a diagram of the life cycle of frogs
- reading about and studying pictures of where frogs like to live
- making and playing a matching game about the life cycle of frogs
- creating and drawing frog characters
- analyzing a chart with information about different frog eggs
- creating mini frog habitats

Materials Per Group

Week 1

- basic school supplies

STEAM Challenge

- basic school supplies
- cardboard tubes (2–3)
- modeling clay
- natural materials (grass, sticks, sand, dirt)
- plastic container (to hold frog habitat)
- plastic cups (2)
- rocks of various sizes (3+)
- water (1–3 cups, 250–750 mL)

Setup and Instructional Tips

- **STEAM Challenge:** The challenge can be done individually or in groups. If students are working in groups, have students sketch their own designs first. Then, have them share their designs in groups and choose one together.

Discussion Questions

- What is a life cycle?
- How do human and frog life cycles compare?
- What do frogs need to live and grow throughout all the stages of their lives?
- Why might some frog species be losing their natural habitats?
- How can humans help frogs that live nearby?

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Additional Notes

- **Possible Misconception:** Toads are not frogs.
  Truth: This can get complicated, but the short answer is that all toads are frogs. They are part of the same order—Anura. This is similar to how all dolphins are whales, but not all whales are dolphins.
- **Possible Design Solutions:** Students may use cardboard rolls as places for frogs to hide. They should have some water and some areas for frogs to be out of the water, such as on rocks.

Scaffolding and Extension Suggestions

- Have students research frogs that live nearby. Have students design habitats specifically for those species of frogs.

Answer Key

Week 1 Day 1

1. C
2. B
3. A

Week 1 Day 2

1. D
2. There are no frogs in Antarctica because it is so cold, and the only fresh water is ice.

Week 1 Day 5

1. B
2. B
3. All the frogs in the chart lay their eggs in or on fresh water.

Weeks 2 & 3

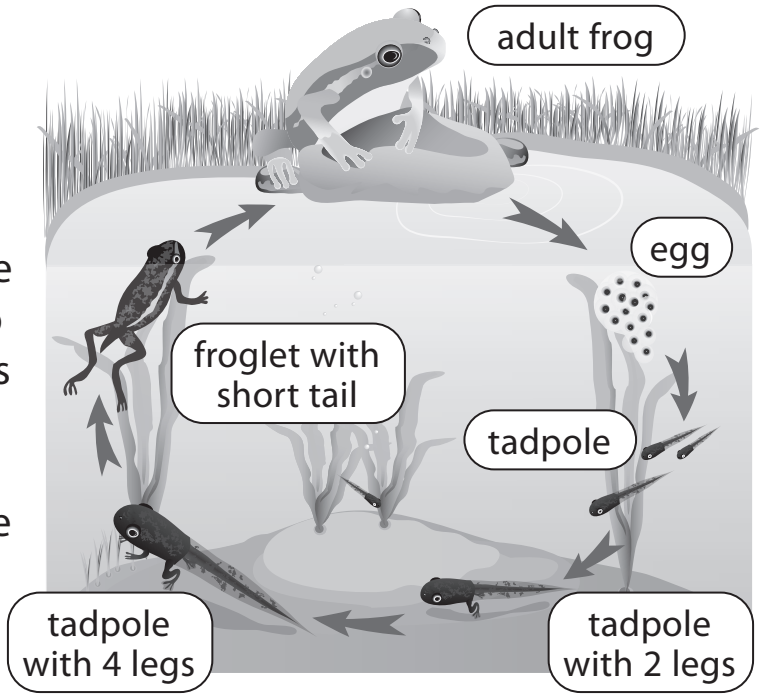
See STEAM Challenge Rubric on page 221.

Name: _____ Date: _____

Directions: Read the text. Study the diagram. Choose the best answer for each question.

Life Cycle of a Frog

Frogs are amphibians. They live some of their lives in the water and some on land. When they are young, they have gills and tails. These help them live in the water. As they grow, their bodies change. An adult frog has lungs and legs. These help them live on land.



1. Where do frogs live?

- (A) only in water
- (B) only on land
- (C) in water and on land

2. What stage comes just before the froglet stage?

- (A) tadpole with two legs and a long tail
- (B) tadpole with four legs and a long tail
- (C) tadpole with four legs and no tail
- (D) tadpole with two legs and a short tail

3. Which body parts help frogs live on land?

- (A) lungs and legs
- (B) a tail and legs
- (C) gills and a tail
- (D) gills and lungs

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Name: _____ Date: _____

Directions: Read the text. Study the pictures. Then, answer the questions.

Frogs live all over the world. Antarctica is the only continent where frogs do not live.

Adult frogs use their lungs to breathe. They also breathe through their skin. Frogs drink water through their skin, too. Most frogs need their skin to stay moist. So, they make their homes near fresh water. They like ponds, lakes, and streams.

Some frogs live in trees. They get water from the air. In dry places, frogs can dig holes in the ground to find water. If it gets too cold or too hot, frogs will hide in holes or under leaves. Good hiding places also keep frogs safe from predators.

A frog hides in a pipe.

A frog sits in a hole.

1. Frogs use their skin to _____.

(A) drink and eat

(B) breathe and smell

(C) eat and dig

(D) drink and breathe

2. Why do you think there are no frogs in Antarctica?

_____

_____

Name: _____ **Date:** _____

Directions: Draw each stage of the frog life cycle. Explain to a friend how a frog changes.

egg	tadpole
tadpole with 2 legs	tadpole with 4 legs
froglet with short tail	adult frog

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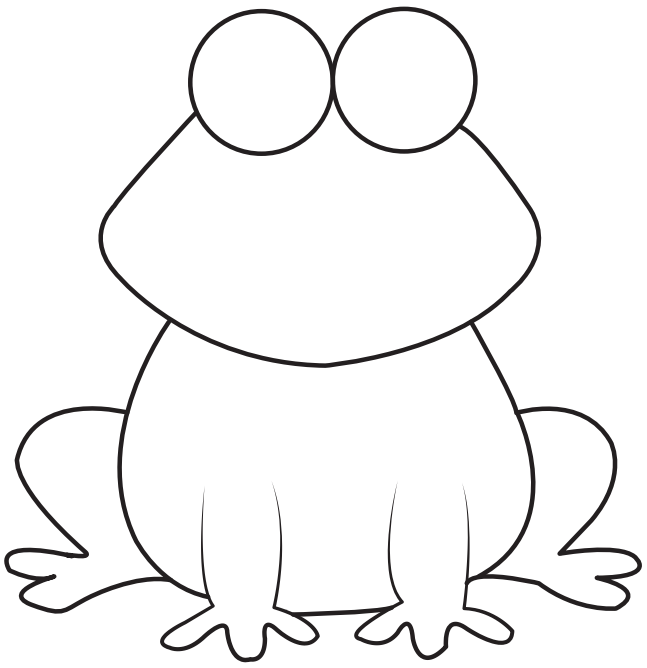
Name: _____ **Date:** _____

Directions: Read the text. Complete the task.

There is just something special about frogs. They are used in many types of art. There are famous frog characters in books, fairy tales, movies, and shows. Can you name any?

Task: Make your own frog character! Write details about your frog character. Then, draw and color your frog character.

Character Name	
Character Traits (funny, smart, clumsy, etc.)	
Abilities (speaks, jumps high, plays soccer, etc.)	
Accessories (hat, sunglasses, etc.)	



Try This!

Write a story. Make your frog the main character!

Name: _____ Date: _____

Directions: Frogs lay their eggs at specific times and in specific places. Study the chart. Then, answer the questions.

Species	When It Lays Eggs	Location of Eggs	Time Before Hatching
Western Chorus Frog	March–April	in water, wrapped around grass or twigs	6–18 days
Northern Leopard Frog	April	in water, on plants	13–20 days
Green Frog	May–July	floating on the surface of water	3–5 days

1. A tadpole hatches in under a week. Which species of frog could it be?

- (A) Western Chorus Frog
- (B) Western Chorus Frog or Green Frog
- (C) Green Frog or Northern Leopard Frog
- (D) Northern Leopard Frog

2. None of these frogs lay eggs in _____.

- (A) summer
- (B) fall or winter
- (C) winter or spring
- (D) spring

3. What is similar about where these frogs lay their eggs?

_____

_____

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Name: _____ Date: _____

Directions: Read the text. Then, answer the question.

The Challenge

Frogs can be helpful to have in your garden. They eat insects that like to eat plants. Create a model of a frog habitat for a garden or yard.

Criteria

To be successful, your frog habitat must…

- support all stages of a frog's life cycle.
- provide at least two places for frogs to hide.

Constraints

- You may only use the materials provided to you.
- Ask your teacher how much time you have. Write it here:

_____

Check for Understanding

1. What questions do you need to ask?

_____

_____

_____

_____

Name: _____ **Date:** _____

Directions: Think about what you have learned about frogs. Answer the questions. Then, write any other research questions you have. Search for answers in books or online. Write the answers you find.

1. How could your habitat support frog eggs?

_____

_____

2. How could your habitat support tadpoles?

_____

_____

3. How could your habitat support adult frogs?

_____

_____

Other Questions I Want to Research	Answers

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Name: _____ **Date:** _____

Directions: Sketch your frog habitat design. Label the parts and materials. Draw frog eggs, tadpoles, and at least one adult frog. Show where each would live. Then, complete the sentence.

1. My design will attract frogs because _____

_____

Name: _____ **Date:** _____

Directions: Gather your materials. Plan your steps. Build your frog habitat. Then, answer the question.

Talk About It!

What do you think will be difficult? How could you make it easier?

Steps to Build My Frog Habitat

_____ _____

_____ _____

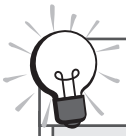
_____ _____

1. Compare your design to what you built. How are they different?

_____

_____

_____



Quick Tip!

If a material is not working how you want, try a different option.

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Name: _____ Date: _____

Directions: Answer the questions to assess your frog habitat. Share your frog habitat with others. Tell them about each part. Discuss whether they agree with your answers.

1. Does your habitat have a place for eggs to float or attach?

yes no

Explain: _____

_____

2. Does your habitat have a place for tadpoles to swim?

yes no

Explain: _____

_____

3. Will frogs be able to get out of the water and sit?

yes no

Explain: _____

_____

4. Does your habitat have at least two places for frogs to hide?

yes no

Explain: _____

_____

Name: _____ Date: _____

Directions: Think about your frog habitat. Answer the questions. Then, plan how you want to improve it.

1. What do you think frogs would like best about your frog habitat?

_____

_____

2. What changes do you need to make to meet the criteria?

_____

_____

3. What materials do you need to change or get more of?

_____

_____

Draw a star next to one or more ways you will improve your frog habitat.

- My first design did not meet the challenge criteria. I will make changes so it does.
- Provide more shelter or places to hide.
- Add decorations so people will want to put it in their gardens.
- Write directions. This will help people make their own.
- My own idea: _____

_____

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Name: _____ **Date:** _____

Directions: Plan your new frog habitat. Sketch your new design. Circle any parts or materials that are different or new. Then, complete the sentence.

In my redesign, I will…

add _____

remove _____

change _____

1. I think this design will work better because _____

_____

Name: _____ Date: _____

Directions: Write any new materials you will need. Gather your materials. Plan your steps. Rebuild your frog habitat. Write notes about the building process.

New Materials

_____ _____

_____ _____

Think About It!

What do you need or want to do differently as you rebuild?

Steps to Rebuild My Frog Habitat

_____ _____

_____ _____

_____ _____

Building Notes
(problems, questions, changes)

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Name: _____ Date: _____

Directions: Put a check next to each statement that is true. Answer the questions. Share your new design with others. Discuss whether they agree with your answers.

- ❑ My frog habitat has a place for eggs to float or attach.
- ❑ My frog habitat has a place for tadpoles to swim.
- ❑ My frog habitat has places for frogs to get out of the water and rest.
- ❑ My frog habitat has two or more places for frogs to hide.

1. In my redesign, I wanted to _____

_____

2. Does your new frog habitat meet your redesign goals? Write details to explain how you know.

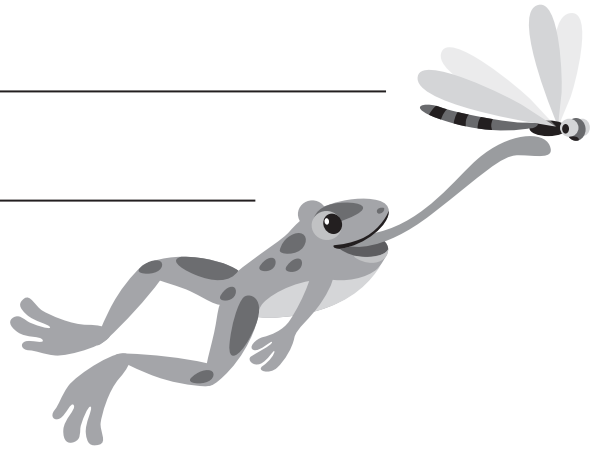
_____

_____

_____

_____

_____



Name: _____ Date: _____

Directions: Think about how you worked on this challenge. Answer the questions.

1. What science concepts did you need to know for this challenge?

_____

_____

2. What are you most proud of about this challenge?

_____

_____

3. Draw something you enjoyed. Write a caption.	**4.** Draw something that was hard. Write a caption.
_____	_____
_____	_____

Talk About It!

What other animals could you create homes for? What would the homes look like?

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