

# NATIONAL GEOGRAPHIC Young Explorer!

## Teacher's Guide

March 2010

### ***Dear Educator:***

With spring approaching, children in many places will soon hear the sound of rain falling and frogs croaking. To set the stage, our theme for this issue of YOUNG EXPLORER is “Wet Lands.”

In “Explore a Wetland,” children learn about a unique ecosystem. Readers venture into a mangrove forest and learn how important the forest is to the animals that live there—from egrets to alligators and fish. Children also learn how people depend on mangrove forests for filtering polluted water and preventing floods. The activity master on p. T16 will help children compare a mangrove forest to other types of forests, including those in your home state.

Next, readers get a close-up look at the amazing changes a frog goes through as it grows. “A Frog’s Life” is a wonderful springboard for teaching animal life cycles. Through words and labeled photographs, children will learn how a frog’s body changes as it transitions from life in the water to life mainly on land. The activity master on p. T23 gives children a chance to show the stages of a frog’s life cycle in sequence. You can use the life cycle diagram on the poster to reteach the key science concepts.

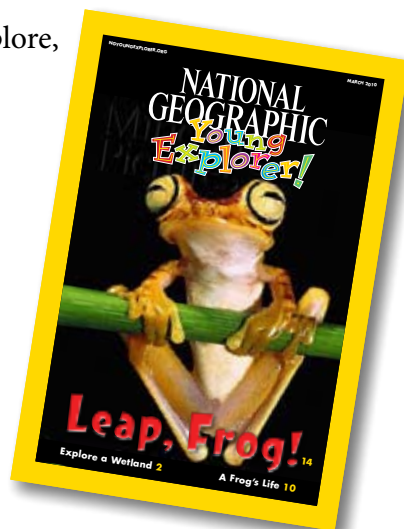
We hope we’ll make a splash with the last story in the issue. In “Leap, Frog!” readers learn about the special body parts that help frogs move, hunt, and stay safe from predators. Children also learn about how sensitive frogs are to pollution and why it’s important to keep their watery homes free of trash and chemicals.

From a mangrove forest to a pond near your backyard, water is key to healthy lives. We hope that this issue will help your students understand how precious water is and the role they play in making every drop count!

Wishing you buckets of fun as your young learners explore,



Jacalyn Mahler  
Editor in Chief





## Teacher's Guide

### March 2010

#### Curriculum Connections

- Science • Reading • Writing

#### Skills

- Connect prior knowledge and experience
- Compare and contrast details
- Sum up main ideas
- Write sentences
- Understand cause-effect relationships

#### High-Frequency Words

**also** (pp. 5, 22); **around** (pp. 7, 18); **grow** (pp. 4, 8, 11, 13);  
**come** (pp. 2, 9); **has** (pp. 12, 15); **have** (pp. 16, 21); **many** (pp. 6, 12);  
**other** (pp. 8, 17, 20, 21); **some** (pp. 8, 16); **their** (pp. 16, 17);  
**here** (pp. 6, 9); **they** (pp. 4, 5, 9, 16, 17, 20); **under** (pp. 12, 22)

#### Decoding Skills

**Long a:** drain (p. 8); make (p. 15); place (p. 8)

**Long e:** clean (p. 5); eat (pp. 7, 21); feeding (p. 6); keep (p. 23); leap (p. 14);  
near (p. 4); need (p. 23); see (p. 18); seem (p. 17); tree (p. 4, 5)

**Long i:** glide (p. 17); life (p. 10, 11)

**Long o:** soak (p. 5); toes (p. 17)

**Initial Consonant Blends:** **b**right (p. 20); **b**reathe (p. 12); **f**rog (pp. 10, 12, 13, 15-21); **f**roglet (p. 13); **g**lide (p. 17); **g**reat (p. 8); **g**row (pp. 4, 8, 11, 13);  
**p**lace (p. 8); **p**lant (p. 9); **s**pecial (p. 22); **s**kin (pp. 20, 21); **s**ponges (p. 12);  
**s**pot (p. 13); **t**rash (p. 14); **t**rees (pp. 4, 5)

**Compound Words:** shorelines (p. 4); wetland (p. 2)

# Explore New Words

## Teacher's Guide March 2010

### **Curriculum Connections**

- Reading
- Writing

### **Standards Correlations: Language Arts**

- Improve decoding and word recognition
- Develop academic vocabulary
- Explore multiple-meaning words
- Read aloud with fluency
- Read multi-syllabic words

### **Literacy Skills**

- Write sentences

### **Activity Masters**

Word Work, T5

Word Work, Answer Key, T6

Vocabulary, T7

Vocabulary, Answer Key, T8

# Explore New Words

## Before Reading

Before you read the stories with children, use the “Explore New Words” side of the poster to introduce key content words. First, direct their attention to the three rows of photos and ask them what they notice about each one.

If children name the key word, point to the word on the poster. If they do not, identify the word for them. Next, develop the meaning for each word. Use the following steps to teach *egg*:

1. **Pronounce** Tell children when they read “A Frog’s Life,” they will learn how a frog changes as it grows. Invite children to say the word *egg* with you. Then have the class say the word *egg* again, clapping once for one syllable: *egg*.
2. **Explain** Tell children that an *egg* is an oval or round object that some female animals lay. A young animal hatches from an egg at a later time. Say, *A frog starts life as a small egg.*
3. **Engage** Ask students to help you complete this sentence: *A frog \_\_\_\_\_ is very small.* (*egg*)
4. **Involve** Say: *Listen to this sentence and tell me if I’m using the word egg correctly.* *Birds and frogs hatch from eggs.* Ask students for a thumbs-up or a thumbs-down. Explain that those who voted ‘yes’ are correct because birds and frogs are two kinds of animals that lay eggs.
5. **Elaborate** Ask children to think of other animals that lay eggs. Are all the eggs the same size, shape, and color?

Repeat the process to teach the other key concept vocabulary.

After you develop the meaning of each word, point to the word on the poster. Have children repeat it. Lead the class in clapping out the syllables.

Next, read the sentences at the top of the poster aloud. Call on different volunteers to read each word, say the last sound, and spell out the letters in the word.

Finally, guide children in reading the sentence that appears below the big picture. Volunteers can point to the bold word and then find the same word below the smaller photos. You may want to keep the “Explore New Words” poster displayed in the classroom. As you work through the stories in *YOUNG EXPLORER*, ask children to raise their hands when they read or hear one of the new words.

For word work practice, children can complete the activity master on p. T5. You can use the activity on p. T7 to assess children’s understanding of the new words’ meanings.

# Explore New Words

**Word Bank**

eyes root tadpole webbing  
egg fingers pond

Say each word in the Word Bank. Write the four words that have one syllable.

1. \_\_\_\_\_ 3. \_\_\_\_\_

2. \_\_\_\_\_ 4. \_\_\_\_\_

Write a word that names more than one thing.

5. \_\_\_\_\_

Now write all the words in ABC order.

6. \_\_\_\_\_ 10. \_\_\_\_\_

7. \_\_\_\_\_ 11. \_\_\_\_\_

8. \_\_\_\_\_ 12. \_\_\_\_\_

9. \_\_\_\_\_

# Explore New Words

**Word Bank**

eyes root tadpole webbing  
egg fingers pond

Say each word in the Word Bank. Write the four words that have one syllable.

1. **egg** 3. **pond**

2. **eyes** 4. **root**

Write a word that names more than one thing.

5. **eyes or fingers**

Now write all the words in ABC order.

6. **egg** 10. **root**

7. **eyes** 11. **tadpole**

8. **fingers** 12. **webbing**

9. **pond**

# Explore New Words

Write a story. Use at least four new words you learned. Then draw a picture.

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**Word Bank**

eyes   root   tadpole   webbing  
egg   fingers   pond

# Explore New Words

Write a story. Use at least four new words you learned. Then draw a picture.

**Stories will vary. Check for correct usage of the new vocabulary.**

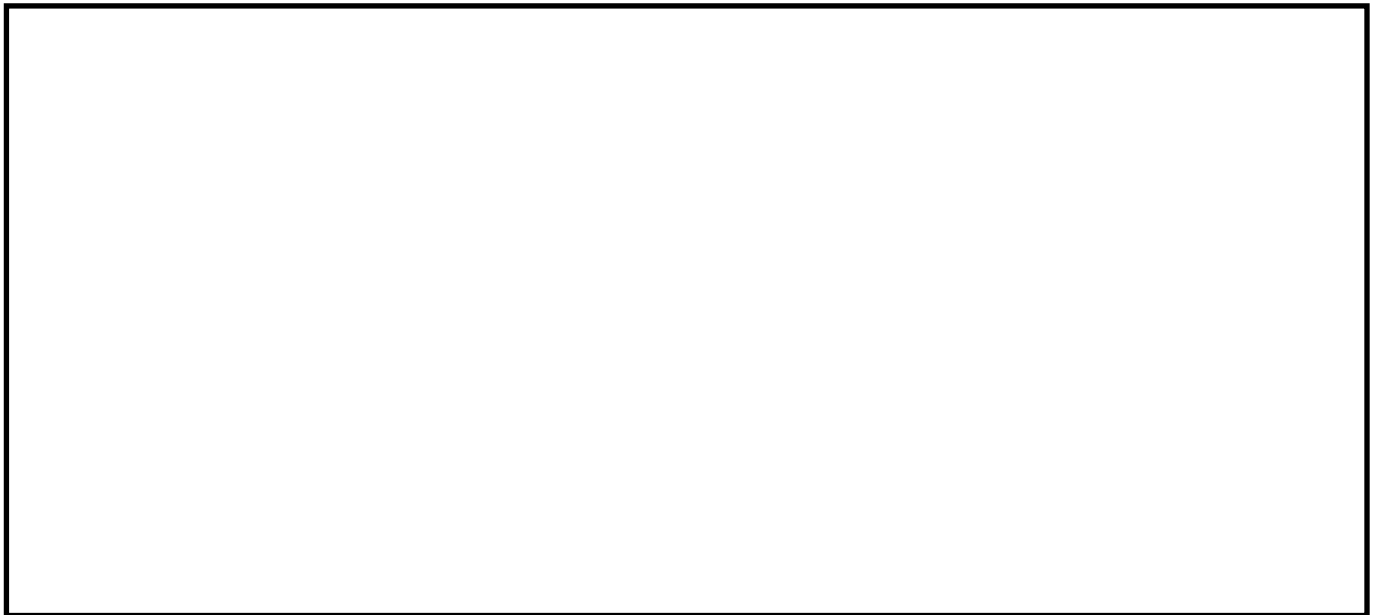
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## Word Bank

eyes root tadpole webbing  
egg fingers pond

# Explore a Wetland

## Teacher's Guide March 2010

### **Curriculum Connections**

- Language Arts
- Life Science

### **Standards Correlations: Language Arts**

- Improve decoding and word recognition
- Practice reading high-frequency words
- Relate prior knowledge to text
- Develop academic vocabulary
- Produce written work
- Compare and contrast details
- Read aloud with fluency
- Read multi-syllabic words
- Construct mental images

### **Standards Correlations: Science**

- Understand the life cycle of organisms
- Understand the characteristics of organisms
- Understand organisms and their environments

### **Literacy Skills**

- Compare and contrast details

### **Activity Master**

Assess, T14

Assess, Answer Key, T15

Compare, T16

# Explore a Wetland

## Preview/ Build Background

Display a map of the United States. You may access an interactive map at <http://maps.nationalgeographic.com/maps/map-machine> Explain that the next story is about a special type of wetland called a mangrove forest. Point to the state of Florida and tell children that mangrove forests grow along the coast of Florida, mainly in the southern part of the state. Next, ask children what type of animals they think might live in the shorelines of Florida. Record their responses.

## Vocabulary

### Teach Key Concept Vocabulary

Display these key words from the story: *drain, floods, polluted, roots, shoreline, tree, wetland*. Use the following steps to teach *roots*:

1. **Pronounce** Remind children that when they read “Explore a Wetland,” they are going to learn about special trees called mangroves and their roots. Ask children to say the word *roots* aloud with you. Then have children pronounce the word *roots* aloud together, clapping once for one syllable: *roots*.
2. **Explain** Tell children that *roots* refer to the part of a plant that grows in the ground and holds the plant in place. Plant roots soak up water and food from the ground. Say, *Most plant’s roots grow in the ground.*
3. **Engage** Ask students to help you complete this sentence: *Some trees’ \_\_\_\_\_ grow deep in the ground.* (roots)
4. **Involve** Say: *I want to use the word roots in a sentence. Listen to this sentence and tell me if I’m using the word roots correctly. The plant’s roots grew deep in soil.* Ask students for a thumbs-up or a thumbs-down. Explain that those who voted ‘yes’ are correct because a plant’s *roots* grow in the ground.
5. **Elaborate** Explain to children that different plants have different looking roots. Point out that mangrove tree roots may grow under water, but they still grow in the ground (under water) and hold the tree in place. They also give trees the food and water it needs from the ground. Display photos of several kinds of plants and their roots, like carrots, lima beans, and an oak tree, to show how roots can look different.

Repeat the process to introduce the other key concept vocabulary.

## High-Frequency Words

Create a word card for each of these high-frequency words from the story: *also, around, come, other, some, there, they*. Display any previously introduced words, both regular and irregular. Have the class read the cards aloud as a group. You may want to use the following steps to teach any new words; for example, the word *also*.

- Hold up the word card *also*. Say, *This word is also.*

# Explore a Wetland

(continued)

## High-Frequency Words, continued

- Write a simple sentence on the board using *also*. (*My friend is also a teacher.*) Read the sentence aloud. Underline the word *also* as you reread the sentence. Have children repeat the word after you.
- Lead children in noting the sounds and spelling patterns. (For example: Say, *What letter (or sound) does this word begin with? How many letters are in this word? What letter (or sound) does this word end with?*)
- Next, have children spell out the word as you point to each letter. (*also: a, l, s, o*) Ask, *What is this word?* (*also*) Then have children write the word in the air with a finger. Finally, have children write the word on a piece of paper.

Repeat the process to introduce the other high-frequency words.

**English Language Learners** In pairs, have children listen to “Explore a Wetland” multiple times <http://www.nationalgeographic.com/ngyoungexplorer/readstory.html> as they follow along with their copy of NATIONAL GEOGRAPHIC YOUNG EXPLORER. Encourage them to chime in when they recognize the high-frequency words.

## Access Science Content

Have children open their magazines to pp. 2-3. Invite a volunteer to read the title and another to read the deck copy. Say, *I can tell from the words and picture that a mangrove forest is different from other types of forests. I wonder what kinds of plants and animals live there? How do animals depend on a mangrove forest?* Say, *Let's read the story to learn the answers.*

Read the story aloud together. Pause after reading pp. 4-5 and ask, *What kinds of trees live in a mangrove forest?* (mangrove trees) *How are the mangrove trees different from other trees?* (They grow in water.) *What do the trees' roots do?* (They act like sponges, so they soak up and clean polluted water. They also help stop floods.)

Pause after reading pp. 6-7 and ask, *What kinds of animals live in a mangrove forest?* (birds like great egrets, fish, alligators) *Where in the mangrove forest do you think they live?* (Birds build nests in the tops of the trees; Fish swim in the water. They use mangrove tree roots to hide from bigger animals; Alligators swim in the water.) Lead children to understand that many birds and alligators eat the fish that live in the waters around mangrove forests.

Pause after reading p. 8 and ask, *What do you think happens to the animals when people drain or pollute the wetland?* (The animals may die or go to live somewhere else.)

# Explore a Wetland

(continued)

## Sum Up

After reading p. 9 together, revisit the questions you asked before reading. *What kinds of plants and animals live in a mangrove forest? How do animals and people depend on a mangrove forest?*

## Assess and Reteach

**Materials** Activity Master, p. T14; “Explore a Wetland” story; “Explore a Wetland” audio  
You can use the following questions for a quick oral comprehension check. Encourage children to respond using complete sentences:

- *What is a wetland?* (A wetland is land that stays wet most of the time.)
- *What kind of wetland is the story about?* (The story is about a mangrove forest.)
- *Where do mangrove forests grow?* (They grow in Florida, along the shoreline.)
- *How do mangrove roots act like sponges?* (Mangrove roots soak up water. They clean water.)
- *How do mangrove forests help people?* (Mangrove forests help prevent floods and clean polluted water.)

Distribute the activity master on p. T14 as a written assessment of comprehension.

**English Language Learners** Children can listen to the story at <http://www.nationalgeographic.com/ngyoungexplorer/readstory.html>. Then have them answer questions by pointing to the appropriate photos. As children point to the correct part of the photo, model saying the correct answer and have children repeat it after you. Ask children to turn to pp. 4-5. Ask, *Where do mangrove trees grow? Where are its roots?* Have children turn to pp. 6-7 and say, *Show me the kinds of animals that live in a mangrove forest.* Have children turn to pp. 8-9 and say, *Show me the new mangrove trees.*

Based on the results of the comprehension assessments, you may want to reteach key science concepts. For example, children may be unclear as to how mangrove tree **roots** act like sponges. Have them turn to pp. 4-5 of the story. Invite a volunteer to read the sentences on p. 4. Say, *I wonder how the mangrove forests protect land and water. Let's read to find out.* Read the first sentence aloud on p. 5. Say, *I wonder how?* Then invite another volunteer to read the next sentence. Ask, *How do the tree roots act like sponges?* (They soak up water.) Ask children to picture a sponge soaking up spilled water on the floor. Remind them that the sponge takes in the water so there is less water on the floor.

Have a volunteer read the last sentence on p. 5. Ask, *How do roots clean water?* Direct children to the first sentence on p. 5. Remind them that the roots act like sponges. Ask, *What else do we use sponges for?* (cleaning) So, *like a sponge, mangrove roots can clean polluted, or dirty, water.*

To further reinforce the key science content, children can work in small groups to page through the story and make a list of the ways the mangrove forest protects land, water, and animals.

# Explore a Wetland

(continued)

## Extend the Learning

**High-Frequency Words** Display the high-frequency words for “Explore a Wetland.” Have children read the story aloud as they listen to the audio at <http://www.nationalgeographic.com/ngyoungexplorer/readstory.html>. Tell children that they are high-frequency word detectives. Their job is to find the high-frequency words in the story as they read. Once they have found where the high-frequency words appear in the story, they can find the same words in the classroom and other print materials that you provide. Children can start a word book to record high-frequency words as they encounter them.

**Compare and Contrast** Remind children that a mangrove forest is just one kind of forest. Help them select another type of forest to learn about such as a temperate forest or a rain forest. You can find information about forests and other habitats at <http://www.nationalgeographic.com/geography-action/habitats.html> Use the Y-chart on p. T16 to show how the two forests are the same and different.

**Create a Habitat Display** Start a discussion with children about the kinds of plants and animals that live in your area. Talk to them about what these living things need to live: air, water, food, sun, and room to move. Explain that where these plants and animals live is called a habitat. Tell them that together, you will create a collage that shows the habitat of your local plants and animals.

Encourage children to observe the local habitat when they are outside or through the window. They should take or collect pictures that represent the kinds of plants and animals that live in the habitat. As a class, observe and note how the habitat changes with seasons, including the behavior of the animals that live there. Use these questions to guide children’s observations: *Do some animals go away when it is cold? Which animals do you see all year long? Do the plants bloom all year long?* Designate a place in your classroom for children’s work. The “habitat” should grow and change throughout the year.

# Explore a Wetland

Read the story. Then complete each sentence to show what you learned.

1. A wetland is land that stays \_\_\_\_\_ most of the time.
2. Mangrove forests protect \_\_\_\_\_ and \_\_\_\_\_.
3. Mangrove tree roots act like \_\_\_\_\_.

Name two animals that live in a mangrove forest.

4. \_\_\_\_\_
5. \_\_\_\_\_

Give two reasons some mangrove forests no longer grow.  
Use complete sentences.

6. \_\_\_\_\_  
\_\_\_\_\_
7. \_\_\_\_\_  
\_\_\_\_\_

# Explore a Wetland

Read the story. Then complete each sentence to show what you learned.

1. A wetland is land that stays wet most of the time.
2. Mangrove forests protect land and water.
3. Mangrove tree roots act like sponges.

Name two animals that live in a mangrove forest.

4. alligator fish
5. great egret other birds

Give two reasons some mangrove forests no longer grow.  
Use complete sentences.

6. Some mangrove forests no longer grow because  
people drained them.
7. Some mangrove forests no longer grow because  
people polluted the water.

Name: \_\_\_\_\_

# Forests

Compare two forests. Write or draw your answers.

|   |   |
|---|---|
| <div data-bbox="586 1461 662 1646">(forest)</div>   | <div data-bbox="586 445 662 630">(forest)</div> |
| <div data-bbox="881 980 946 1110"><b>Both</b></div> |   |



# A Frog's Life

## Teacher's Guide March 2010

### **Curriculum Connections**

- Language Arts
- Life Science

### **Standards Correlations: Language Arts**

- Improve decoding and word recognition
- Practice reading high-frequency words
- Relate prior knowledge to text
- Develop academic vocabulary
- Produce written work
- Compare and contrast details
- Read aloud with fluency
- Read multi-syllabic words
- Construct mental images
- Predict

### **Standards Correlations: Science**

- Understand the life cycle of organisms
- Understand the characteristics of organisms
- Understand organisms and their environments

### **Activity Masters**

Assess, T21

Assess, Answer Key, T22

Assess, T23

Assess, Answer Key, T24

Think Like A Scientist, T25

Think Like A Scientist, Answer Key, T26

# A Frog's Life

## Preview/ Build Background

Invite children to open their magazines to pp. 10-11. Read the title and introduction together. Explain that when they read the rest of the story, they will learn how frogs change and grow. Have children turn to a partner and share three things they know about frogs. Then ask the pairs to share what they know. Record their responses in a concept web. You may want to use these prompts to lead the discussion:

- *How are frogs different from other animals?*
- *What do frogs look like?*
- *Do frogs live on the land, in the water, or both?*

## Vocabulary

**Teach Key Concept Vocabulary** Display these key words from the story: *lays, hatch, breathe, lungs*. Use the following steps to teach *hatch*:

1. **Pronounce** Tell children when they read “A Frog’s Life,” they will learn that baby frogs hatch from eggs. Invite children to say the word *hatch* with you. Then have the class say the word *hatch* again, clapping one time for one syllable.
2. **Explain** Tell children that like many baby animals, frogs hatch from eggs. That means a baby grows inside an egg and at a certain time it comes out. Say, *Frogs hatch from eggs*.
3. **Engage** Ask students to help you complete this sentence: *Birds and frogs both \_\_\_\_\_ from eggs.* (hatch)
4. **Involve** Say: *Listen to this sentence and tell me if I’m using the word hatch correctly. A frog can hatch many times.* Ask students for a thumbs-up or a thumbs-down. Explain that those who voted ‘no’ are correct because a baby frog can only hatch from an egg one time.
5. **Elaborate** Ask children to name animals that break out of an eggshell when they are born. As they name each one, ask: *Does (animal name) hatch from an egg?* Encourage them to respond each time with a complete sentence.

Repeat the process to introduce the other key concept vocabulary.

**Teach High Frequency Words** Create a word card for each of these high-frequency words from the story: *grow, has, many, under*. Display any previously introduced words, both regular and irregular. Have the class read the cards aloud as a group. You may want to use the following steps to teach any new words; for example, the word *grow*.

- Hold up the word card with *grow*. Say, *This word is grow.*
- Write a simple sentence on the board using *grow*. (*How much did you grow this year?*) Read the sentence aloud. Underline the word *grow* as you reread the sentence. Have children repeat the word after you.
- Lead children in noting the sounds and the spelling patterns. (For example: Say, *What letter (or sound) does this word begin with? How many letters are in this word? What letter (or sound) does this word end with?*)

# A Frog's Life

(continued)

## Vocabulary, continued

- Next, have children spell the word as you point to each letter. (*grow*: g, r, o, w) Ask, *What is this word?* (*grow*) Then have children write the word in the air with a finger. Finally, have children write the word on a piece of paper.

**English Language Learners** In pairs, have children listen to “A Frog’s Life” multiple times <http://www.nationalgeographic.com/ngyoungexplorer/readstory.html> as they follow along with their copy of NATIONAL GEOGRAPHIC YOUNG EXPLORER. Encourage them to chime in when they recognize the high-frequency words.

## Access Science Content

Invite a volunteer to reread pp. 10-11. Then have children turn to pp. 12-13. Explain that as a frog grows, its body goes through many changes. So does the way it breathes. These different changes are called the frog’s life cycle. In this story, they are learning about four different stages in the life cycle of a frog. Invite them to predict what these four stages are. (Children should refer to the four labeled photos: egg, tadpole, froglet, and adult frog.)

Read the text on p. 12 together. Help children connect the photo of the egg with the photo of the tadpole: A tadpole can hatch from each egg. Next, ask them what they notice about the tadpole. (Children should note it has a long tail and looks a bit like a fish). Explain that the tadpole’s gills are special organs that help it breathe underwater. Point out that fish have gills, too.

Read the text on p. 13 together. Ask them what they notice about the froglet. (Children should note it has a long tail and legs. Also, its head looks more like an adult frog, with bulging eyes). Explain that the froglet has lungs to breathe air, just like people do. Then ask what they notice about the adult frog. (Children should note that it lost its tail and now has a wide body and strong back legs.) Emphasize that legs and lungs help frogs make the change from living under water to living mostly on land. With legs they can hop and walk on the ground. With lungs they can breathe air.

## Assess and Reteach

**Materials** Activity Masters, pp. T21, T23; “A Frog’s Life” poster

Assign the activity master on pp. T21 or T23 to check children’s comprehension of the story. Use the answer key to score the assessment. As an alternate assessment, you can ask English language learners to draw pictures of a frog’s life cycle. Encourage them to refer to the poster to help them draw their pictures.

Based on the results, you may want to reteach key science concepts. For example, children may not understand the different stages in a frog’s **life cycle** or how frogs are able to transition from life underwater to life primarily on land.

# A Frog's Life

(continued)

## Assess and Reteach, continued

Display “A Frog’s Life” poster. Use these prompts as you talk through the life cycle diagram:

- *What does a mother frog lay? (eggs) Where does she lay her eggs? (in water)*
- *What can hatch from an egg? (a tiny tadpole) What special body parts does a tadpole have? (a long tail and gills for breathing underwater)*
- *What can a tadpole grow into? (a froglet) What special body parts does a froglet have? (a long tail, legs, and lungs to breathe air)*
- *How is an adult frog different from a froglet? (It has no tail and lives mostly on land.)*

## High-Frequency Words

Display the high-frequency words for “A Frog’s Life.” Have children read the story aloud along with the audio at <http://www.nationalgeographic.com/ngyoungexplorer/readstory.html>. Remind them that they are high-frequency word detectives. Their job is to find the high-frequency words in the story as they read. Children should update their high-frequency word books with any new words they find. Challenge children to use one of the high-frequency words in a sentence. Then challenge them to use a sentence with as many of the high-frequency words as they can. Children can write their sentences in their word books, underlining the high-frequency words in each sentence.

## Extend the Learning

**Materials** paper lunch bags, red and green construction paper, scissors, glue, green markers

**Compare and Contrast** Remind children that other animals also hatch from eggs. Review the life cycle of several of these animals, including birds, butterflies, and snakes. Assign children to small groups. Assign one of the animals you discussed to each group. Explain that their job is to compare the life cycle of their assigned animal with that of a frog. Give each group some poster board. Divide the board in half. On one half, the group should write and draw their assigned animal’s life cycle. On the other half, they should write or draw the life cycle of a frog. Each group can present what they have learned, including how the frog’s life cycle is the same and different from their assigned animal.

**Poetry** Explain to children that while all frogs start as small eggs, there are many different kinds of frogs. Not only do they look different, they sound different, too! Assign children to small groups. Have each group listen to the sounds that different frogs make at <http://allaboutfrogs.org/weird/general/songs.html>. You may want to assign each group to two or more frogs. After listening to the sounds, each group should work together to write a poem about the sounds their frogs make. Each group can read or perform their poem the class.

**Frog Art** Children can make a frog puppet to help them retell the life cycle of a frog. Distribute brown paper lunch bags. The flat side of the bag will be the frog’s back. The side with the flap is the frog’s head and mouth. The creases on either side of the bag is where the frog’s arms will go. First, glue green construction paper to the front (flap side) of the frog (children can also use green markers to color the bag). Next, have children cut out two arms from the green construction paper. Then have them cut out a tongue from the red construction paper. Set the arms and tongue aside. Have children decorate the frog’s face with eyes and nostrils. Glue each arm into the crease on either side of the bag. Glue the tongue under the flap. Assign children to small groups and encourage them to use their puppets to retell or act out the life cycle of a frog.

# A Frog's Life

Read the story. Then complete each sentence to show what you learned.

1. A frog starts life as a small \_\_\_\_\_.
2. A female frog lays many eggs in \_\_\_\_\_.
3. A \_\_\_\_\_ can hatch from each egg.
4. The tadpole has \_\_\_\_\_ to breathe under water.
5. A tadpole can grow into a \_\_\_\_\_.
6. A froglet grows \_\_\_\_\_ and \_\_\_\_\_.
7. When a froglet loses its \_\_\_\_\_, it starts to live mostly on land.

# A Frog's Life

Read the story. Then complete each sentence to show what you learned.

1. A frog starts life as a small **egg**.
2. A female frog lays many eggs in **water**.
3. A **tadpole** can hatch from each egg.
4. The tadpole has **gills** to breathe under water.
5. A tadpole can grow into a **froglet**.
6. A froglet grows **legs** and **lungs**.
7. When a froglet loses its **tail**, it starts to live mostly on land.

# A Frog's Life

Cut out the pictures. Put them in the correct order to show a frog's life cycle.

1. A female lays many eggs in the water.

2. An egg can hatch into a tadpole.

3. A tadpole can grow into a froglet.  
It has legs and lungs.

4. When a froglet loses it's tail, it is  
an adult frog.

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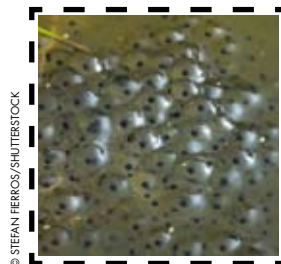
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# A Frog's Life

Cut out the pictures. Put them in the correct order to show a frog's life cycle.

1. A female lays many eggs in the water.



2. An egg can hatch into a tadpole.



3. A tadpole can grow into a froglet.  
It has legs and lungs.



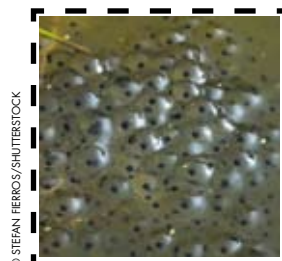
4. When a froglet loses its tail, it is  
an adult frog.



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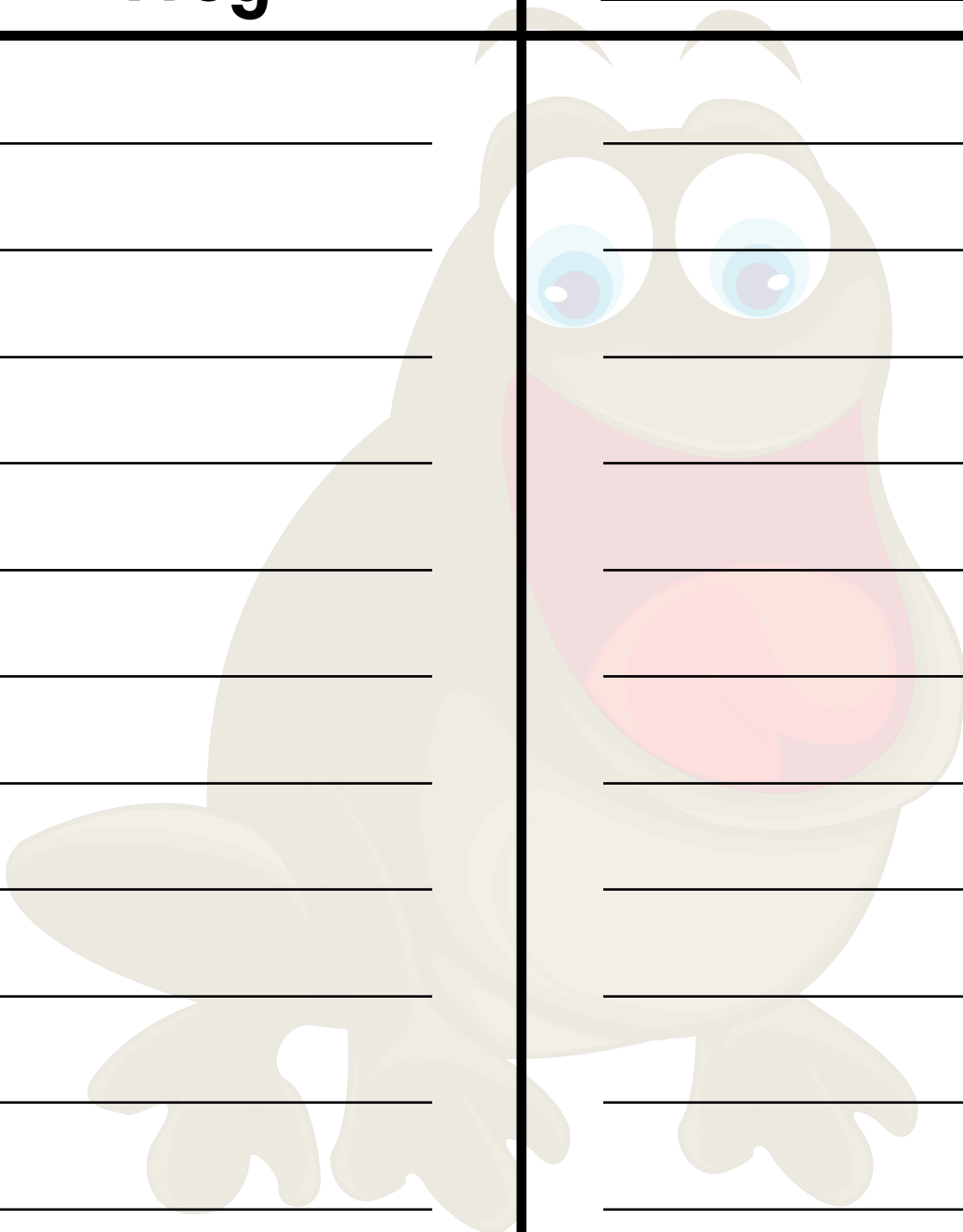
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# A Frog's Life

Compare a frog's life cycle to that of another animal. How are they the same?

**Frog**

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# A Frog's Life

Compare a frog's life cycle to that of another animal. How are they the same?

| Frog       | Butterfly   |
|------------|-------------|
| egg        | egg         |
| tadpole    | caterpillar |
| froglet    | pupa        |
| adult frog | butterfly   |
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# Leap, Frog!

## Teacher's Guide

March 2010

### **Curriculum Connections**

- Language Arts
- Life Science

### **Standards Correlations: Language Arts**

- Improve decoding and word recognition
- Practice reading high-frequency words
- Relate prior knowledge to text
- Develop academic vocabulary
- Produce written work
- Read aloud with fluency
- Read multi-syllabic words
- Construct mental images

### **Standards Correlations: Science**

- Understand the life cycle of organisms
- Understand the characteristics of organisms
- Understand organisms and their environments

### **Activity Masters**

Assess, T31

Assess, Answer Key, T32

# Leap, Frog!

## Preview/Build Background

Display a K-W-L chart on the board. Ask children to open their magazines to pp. 14-15. Invite a volunteer to read aloud the title and two sentences. Remind children that they learned about a frog's life cycle when they read "A Frog's Life." Now they're going to have a chance to take a closer look at a frog's body parts and what these body parts help frogs do. Ask *What kinds of body parts do you think the author means?* Lead children to name such things as legs, feet, eyes, and skin. Children may also recall that gills and lungs help frogs breathe at different stages in their life cycle. Add the information children share to the first column of the chart.

## Vocabulary

**Teach Key Concept Vocabulary** Display these key words from the story: *body, legs, fingers, webbing, eyes, tongue, skin*. Use the following steps to teach the word *eyes*:

1. **Pronounce** Ask children to say the word *eyes* aloud with you. Then have the class say the word again, clapping one time for one syllable: *eyes*
2. **Explain** Tell children that an eye is a part of the body used to see. Say, *I use my eyes to see the photos in the story.*
3. **Engage** Ask students to help you complete this sentence: *My dad has brown \_\_\_\_\_. (eyes)*
4. **Involve** Say: *Listen to this sentence and tell me if I'm using the word eye correctly. I smelled the cookies with my eyes.* Ask students for a thumbs-up or a thumbs-down. Explain that those who voted 'no' are correct because the word *eye* is a body part used for seeing, not smelling.
5. **Elaborate** Ask children to think about things they see with their eyes.

Repeat the process to introduce the other key concept vocabulary.

**High-Frequency Words** Create a word card for each of these high-frequency words from the story: *also, around, have, other, some, they, their*. Display any previously introduced words, both regular and irregular. Have the class read the cards aloud as a group. You may want to use the following steps to teach any new words; for example, the word *around*.

- Hold up the word card *around*. Say, *This word is around.*
- Write a simple sentence on the board using *around*. (*Walk around the corner.*) Read the sentence aloud. Underline the word *around* as you reread the sentence. Have children repeat the word after you.
- Lead children in noting the sounds and the spelling patterns. (For example: Say, *What letter (or sound) does this word begin with? What is the next sound? How many letters are in this word? What letter (or sound) does this word end with?*)
- Next, have children spell out the word as you point to each letter. (*around: a, r, o, u, n, d*) Ask, *What is this word?* (*around*) Then have children write the word in the air with a finger. Finally, have children write the word on a piece of paper.

# Leap, Frog!

(continued)

## Access Science Content

Remind children of your preview of the story and the information they shared about frogs. Invite a volunteer to reread pp. 14-15 and ask, *What do you want to learn from reading the story?* Record all reasonable responses in the K-W-L chart.

Read p. 16 with children. Then ask, *What two things did we learn about frogs?* (Most use strong back legs to jump. Some have sticky disks on their fingers to help them climb.) Have children find and point to the strong back legs and sticky disks in the two photos. Read p. 17 together. Then invite children to point to the webbing between the frog's toes. Explain that it acts like a parachute, slowing down the frog as it glides through the air. Without the webbing, the frog might fall to the ground too quickly and hurt itself.

Read p. 18 with children. Ask, *Where are a frog's eyes?* (on top of its head) *How does this help frogs?* (With eyes on top of their heads, frogs can see all around their bodies.) Read p. 19 with children and ask, *How does a frog's tongue help it get food?* (It's long and sticky to catch bugs.)

Before reading pp. 20-21, tell children they are going to learn two different ways that a frog's skin can be helpful. Display the words *bright colors* and *patterns* as cues. Then read the pages together. Have partners refer to the key words and prepare to answer this question: *How does their skin help some frogs?* (Some frogs have skin with bright colors that make other animals sick. Some frogs have skin with patterns so other animals can't find them.)

Read pp. 22-23 with children. Remind children that frogs spend a lot of time in water. Since frogs use their skin to breathe, they are very sensitive to any chemicals or trash that might pollute the water. That's why it's important to keep the ponds where frogs live clean. Invite several volunteers to restate the ideas on these pages in their own words.

## Assess and Reteach

**Materials** Activity Master, pp. T31; "Leap, Frog!" story

As an informal assessment, work with children to fill in the last column of the K-W-L chart. Prompt discussion by returning to the question on the opening spread of the story, "What makes a frog a frog?" Next, assign the activity master on p. T32 to check children's comprehension of the story. Use the answer key to score the assessment. Based on the results, you may want to reteach key science concepts. For example, children may need to revisit how a frog's special body parts help it **move**, **hunt**, and **protect it from predators**.

Reread the story with children, asking them to focus on the special body parts that make a frog a frog. Pause at the end of each page to help children sum up the main ideas. Encourage them to connect the photos to the information the writer gives.

# Leap, Frog!

(continued)

## High-Frequency Words

Display the high-frequency words for “Leap, Frog!” Have children read the story aloud along with the audio at <http://www.nationalgeographic.com/ngyoungexplorer/readstory.html>. Remind children that they are high-frequency word detectives. Their job is to find the high-frequency words in the story as they read. Children should update their high-frequency word books with any new words they find. Next, have children write the high-frequency words from the story on cards. Have children sort the cards into different groups. They can group them by the first letter, the last letter, or the number of letters in each word. Finally, have children arrange the cards in ABC order.

## Extend the Learning

**Research** To further reinforce the key science content, children can work in small groups to learn more about different kinds of frogs. Have one group research poisonous frogs. Another group can research frogs with bright colors. A third group can research frogs that use camouflage. Each group should present what they learned to the class. A good place for children to start their research is at <http://animals.nationalgeographic.com/animals/amphibians/>.

**Frog Riddles** Remind children that they learned about different frog body parts. Assign children to five groups, assigning each group one of the following body parts: legs, fingers, eyes, tongue, skin. Explain that each group will write a riddle about one of the body parts. Give children sample riddles, for example: *I am a frog and can jump really high. What do I use when I jump for the sky?* (legs) Ask each group to share their riddle with the class.

# Leap, Frog!

Read the story. Then complete each sentence to show what you learned.

1. Most frogs have strong back \_\_\_\_\_.
2. Frogs use their legs to \_\_\_\_\_.
3. Some frogs are good \_\_\_\_\_.
4. Frogs have sticky disks on their \_\_\_\_\_.
5. Some frogs have \_\_\_\_\_ between their fingers and toes.
6. A frog has \_\_\_\_\_ on top of its head.
7. A frog's \_\_\_\_\_ is long and sticky.
8. Some frogs' \_\_\_\_\_ protects them from other animals.
9. Other frogs have skin with \_\_\_\_\_.
10. Frogs use their skin to \_\_\_\_\_ under water.
11. Frogs need clean \_\_\_\_\_ to stay healthy.

**Answer the question. Write a complete sentence.**

12. How can we help keep frogs' watery homes clean?

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# Leap, Frog!

Read the story. Then complete each sentence to show what you learned.

1. Most frogs have strong back **legs**.
2. Frogs use their legs to **jump**.
3. Some frogs are good **climbers**.
4. Frogs have sticky disks on their **fingers**.
5. Some frogs have **webbing** between their fingers and toes.
6. A frog has **eyes** on top of its head.
7. A frog's **tongue** is long and sticky.
8. Some frogs' **skin** protects them from other animals.
9. Other frogs have skin with **patterns**.
10. Frogs use their skin to **breathe** under water.
11. Frogs need clean **water** to stay healthy.

**Answer the question. Write a complete sentence.**

12. How can we help keep frogs' watery homes clean?

**Keep trash away from ponds.**

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