

TEACHER'S GUIDE



Voyager (Grade 1) Vol. 16 No. 5

In This Guide

In this guide, you will find language arts, science, and social studies lessons for the articles in this issue of YOUNG EXPLORER VOYAGER.

Young Explorer Magazine

YOUNG EXPLORER classroom magazines for kindergarten and grade 1 develop young readers' literacy skills through engaging informational text. Great storytelling and stunning photographs teach students about our planet and the people, plants, and animals that live on it. Encourage your students to read and explore our world with YOUNG EXPLORER magazines.

Voyager

The Voyager edition is written for first grade readers. All articles in the Voyager edition have been measured using the Lexile® Framework for Reading. Some articles will be easier to read than others, though all articles will be within the 190-400L range.

Visit YOUNG EXPLORER's website, NatGeo.org/explorermag-resources, to find additional resources for extending your students' learning.

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Grizzly Bear Family

LANGUAGE ARTS



Objective

- Students will identify the main topic and retell key details in a text.

Resources

- Language Arts Master (page 4)

Summary

A mother grizzly bear takes care of her cubs. She helps them survive by protecting them, watching over them as they play, and teaching them how to find food.

WORD WORK

Sight Words: *takes, of, her, how, by, from, over, as*

BUILD VOCABULARY AND CONCEPTS

- mother bear
- take care
- cub
- survive
- protect
- safe

The words above are used in the article and may be new to students. Pronounce the words for students.

Have students work with a partner. Give each pair one of the following sets of words written on index cards.

mother bear, cub
protect, take care
survive, safe

Ask students to talk about the words and discuss how the words relate to each other. Then have students come together as a class to share their thinking. Correct any misconceptions students might have about the words and their meanings and how the word pairs relate to each other.

READ AND DISCUSS

Read the article “Grizzly Bear Family” aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 2–3 Read the title aloud to students. After reading the title say: **Look at the picture of the grizzly bear family. What can you tell me about this bear family?** (*Accept reasonable responses, such as there are 3 bears in this picture; there are 2 baby bears/cubs and 1 adult. They look like they are playing in tall grass.*)

Say: **Lets find out more about a grizzly bear family.** Then read the text on page 2. Ask: **What did we find out about a grizzly bear family?** (*A mother grizzly bear takes care of her cubs and helps them survive.*) Help students understand that this is the main topic of the article and that as you read on, you will find out more details about how a mother bear takes care of her cubs and helps them survive.

Pages 4–5 Read the text on pages 4 and 5. Point out the definition of *protect* on page 4. Then ask: **What are some ways a mother bear protects her cubs?** (*She keeps the cubs safe by her side. She watches over the cubs as they play.*)

Remind students of the main topic: A mother bear takes care of her cubs and helps them survive. You might want to write the main topic on chart paper or a board. Ask students to tell you again the details you learned on pages 4–5. Then write those under the main topic.

Pages 6–7 Read the text on these pages and ask: **What are some other details we learn on these pages about how a mother bear takes care of her cubs and helps them survive?** (*A mother bear shows her cubs how to find food. She shows them how to catch fish and find berries.*) Sum up the lesson by guiding students to understand that a mother bear helps her cubs get what they need to survive.

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about something you learned about a grizzly bear family.**
- **Write or draw something you learned about a mother bear.**

Grizzly Bear Family

SCIENCE

Objective

- Students will understand and describe the ways an animal helps its offspring survive.

Resources

- Science Master (page 5)

Science Background

Grizzly bears are a type of North American brown bear. The average life span of grizzly bears is 25 years. They are large mammals of about 5 to 8 feet in length and around 800 pounds.

The name “grizzly” comes from the word *grizzled*, which means gray or partly gray hair. The grizzly bear’s brown fur can look white or gray at the tips, or “grizzled.”

Grizzly bears are mostly solitary animals, except for the females and their cubs. Brown bears hibernate in the winter and the females give birth during this time, often to twins.

ENGAGE

To engage students, spend time looking for pictures of animal families, including bears. Discuss with students what makes up the animal families in the various pictures. Ask: **How many babies and adults are in this animal family?** Also discuss what the young and adult animals are doing in the pictures. Many times pictures show young animals playing with one another.

EXPLORE

Continue to use the pictures as a source of reference for students as you explore what animals might need to survive. You might ask some of the following questions:

- **What do you think the baby animals need to survive?**
- **Do they need food?**
- **Do they need water?**
- **Do they need a safe place to live?**

You might find out from students if they know what some of the animals in the pictures eat and the safe places they might find to live, such as in a den, a nest, or the hollow of a tree.

EXPLAIN

Read the article to students.

After reading, have students discuss what bears need to survive and how the mother bear helps them. Say: **A mother bear protects her cubs. They stay safe by her side.** Ask: **Why do you think the cubs are safe by her side?** It will take some inference on the students’ part to answer this question. Guide them in understanding that if the cubs are close by, the mother bear can lead them away from danger. It is easier to protect them when they are close by. Then say: **What else does the mother bear do?** (*She watches over her cubs as they play.*) **Why do the cubs play?** (*The cubs learn by playing.*) **What do you think the cubs learn by playing?** (*Again, this will take some inference on the students’ part. Guide them to understand that playing and roughhousing will help the cubs learn how to move and react, which will help them hunt and fight, when needed.*)

Say: **The cubs need to eat to survive.** Ask: **How does the mother bear help them with this?** (*She shows her cubs how to find food. She shows them how to catch fish and find berries.*)

ELABORATE

Research with students other types of bears. Find pictures and discuss how these bears are similar to or different from the grizzly bear. Find out where these bears live and what they need to survive. Some other bears you might research are listed below:

- Sun Bear
- Black Bear
- Polar Bear
- Moon Bear

EVALUATE

Assess students’ understanding with the Science Master for this article. You might also use the following prompts.

- **What do grizzly bear cubs need to survive?**
- **What things do the cubs learn from the mother bear?**

LANGUAGE ARTS: Main Topic and Details

Circle the main topic. Then write two details from the story in the detail boxes.

Main Topic

1. A mother bear is large and furry.
2. A mother bear takes care of her cubs and helps them survive.
3. The mother bear has three cubs that play together.

Detail

Detail

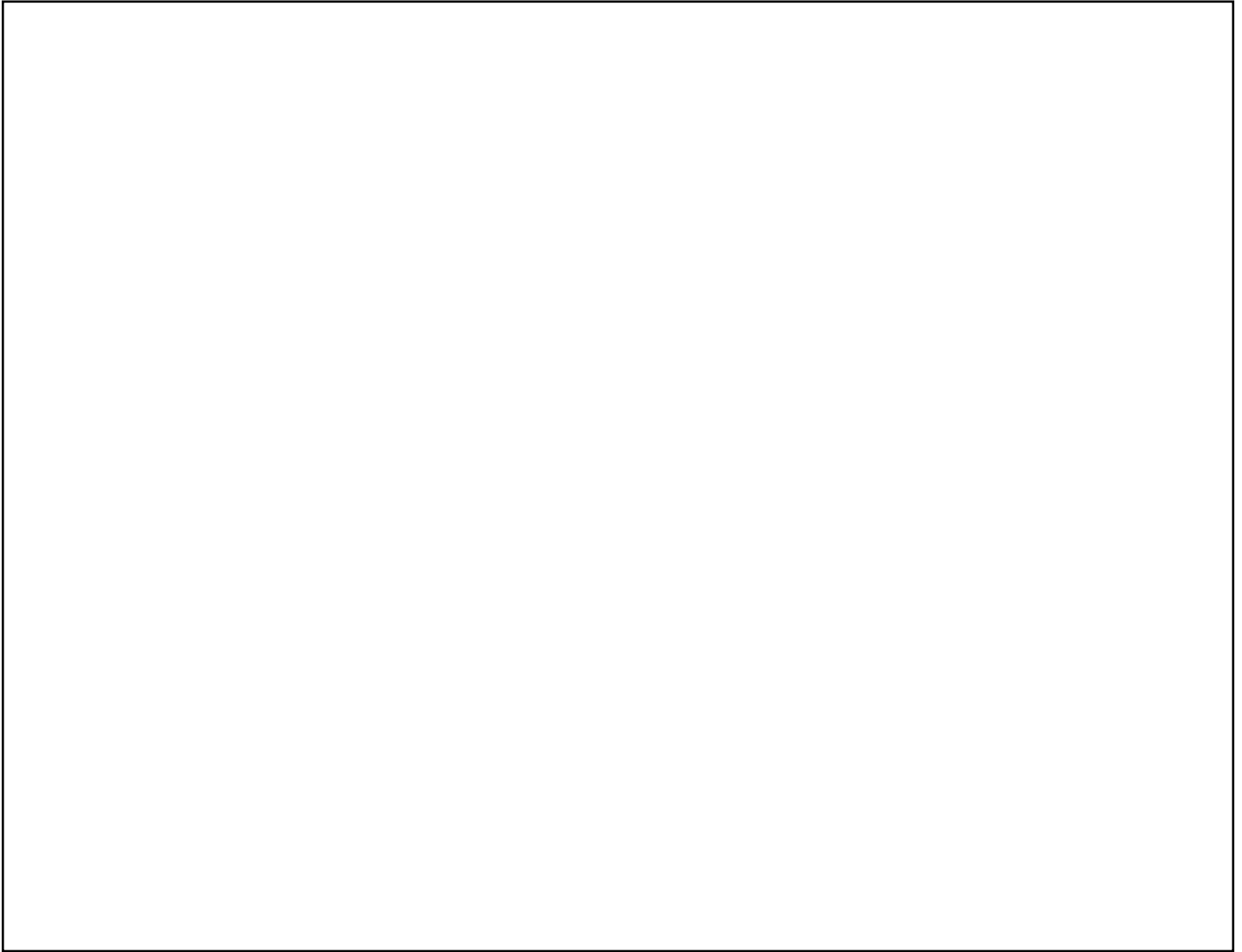
Name _____

Date _____

SCIENCE: What do cubs need to survive?

Draw what cubs need to survive.

Write about your picture.



LANGUAGE ARTS



Objective

- Students will read text aloud with accuracy and fluency.
- Students will participate in collaborative conversations.

Resources

- Language Arts Master (page 8)

Summary

There are different water forms in Yellowstone National Park. The article pictures and defines a river, waterfall, lake, hot spring, and geyser.

WORD WORK

Sight Words: *of, has, let, some, over, an, from, just*

BUILD VOCABULARY AND CONCEPTS

- **national park**
- **river**
- **cliff**
- **waterfall**
- **lake**
- **hot spring**
- **geyser**

Select several images from magazines or the Internet of each of these words. After students have a chance to look at the images, work together to define the words.

To extend learning, have students, individually or in groups, pantomime the words that name water forms. Students can show the movement of these water forms, based on the information in the images and from the discussion about the definitions of these words. Some of the movements could be as follows:

- river (moving along, but not necessarily in a straight path)
- waterfall (moving from high to low to get the sense of water falling)
- lake (moving within a contained area)
- hot spring (bubbling water coming up from the ground)
- geyser (water shooting forcefully from the ground into the air)

READ AND DISCUSS

Read the article “Water Wonders” aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 8–9 Read the title and text on page 8. Let students know that the photo on pages 8 and 9 is from Yellowstone National Park. Say: **Point to the land and the water in this photo.** Ask: **What else do you see?** (*Students may or may not know what animals are in the photo. Let them know that these animals are bison.*)

Pages 10–15 Read the text on pages 10–14, spread by spread. Ask students to point out each water form and discuss what distinguishes each one. For page 15, you might want students to work in pairs to find the water they read about on the map.

Paired Reading

You may want to have students work in pairs to read the article aloud. Ask students to follow this procedure:

- Read the article aloud together.
- Then take turns reading, with each person alternately reading a page at a time until the article is finished. Be sure to actively listen while the other person is reading.

Say: **Remember to help each other as you read. Ask your partner for help when you need it.** Encourage fluent and accurate reading, reminding students to practice good expression and intonation as they read aloud.

Provide the opportunity for collaborative discussion after paired reading. Partners can discuss how they thought they read as well as summarize what they learned about the different forms of water in Yellowstone National Park.

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about something you learned about the water in Yellowstone National Park.**
- **Write or draw something you learned about water.**

Water Wonders

SCIENCE AND SOCIAL STUDIES

Objective

- Students will learn that water takes many shapes and forms.
- Students will learn that people create parks to protect land and animals and that parks are places people can go to explore the outdoors.

Resources

- Park Habitats poster (Teacher's Edition)
- Science Master (page 9)

Science Background

There are several different water forms featured in "Water Wonders."

The Yellowstone River, at 671 miles in length, is the longest undammed river in the 48 contiguous states. It is one of the top river destinations for boating, fishing, and other recreational activities.

At 308 feet, Lower Falls is twice the height of Niagara Falls, but the volume of water in Niagara Falls is much greater.

Yellowstone Lake is the largest high-elevation lake in North America. It is ice-covered for nearly half the year, from mid-December to May or June.

Grand Prismatic Spring is Yellowstone's largest hot spring. It is approximately 370 feet in diameter with a depth of more than 121 feet.

Old Faithful erupts frequently. Eruption intervals can range from 60 to 110 minutes. Eruptions usually last between a minute and a half to five minutes

ENGAGE

Some of your students may have visited Yellowstone National Park on a vacation. Ask students who have visited there if they can recall some of the sites they saw. Have on hand photos of the park, including some of the water forms mentioned in the article. Let students discuss and ask questions about the photos.

EXPLORE

Find Yellowstone on a map. Have students trace the boundaries of the park and determine which states the park spreads through. Find the state you live in and trace the distance on the map from where you live to the park. Ask: **How many states would we have to cross to get to Yellowstone?**

EXPLAIN

Read the article to students.

After reading, have students discuss with a partner what they learned about the different forms of water in Yellowstone National Park. Ask students to talk about what they learned by using the pictures in the article. Say: **With a partner, take turns talking about the different water forms. Look at the pictures and talk about the different shapes and features of each water form.**

ELABORATE

Explain that Yellowstone is the world's first national park. It opened in 1872. Let students know that national parks are public lands where plants, animals, and their habitats are protected. Use the Park Habitats poster to guide students in learning more about different national park habitats.

The National Park Service celebrated its 100th anniversary on August 25, 2016. You can explore more about the national parks at www.nationalgeographic.org/idea/national-park-resources/.

EVALUATE

Assess students' understanding with the Science Master for this article. You might also use the following prompts.

- **What are some different forms of water in Yellowstone National Park?**
- **Describe two forms of water.**

Name _____

Date _____

LANGUAGE ARTS: 3-2-1 Boxes



Write about "Water Wonders."

Write 3 things you learned:

Write 2 interesting facts:

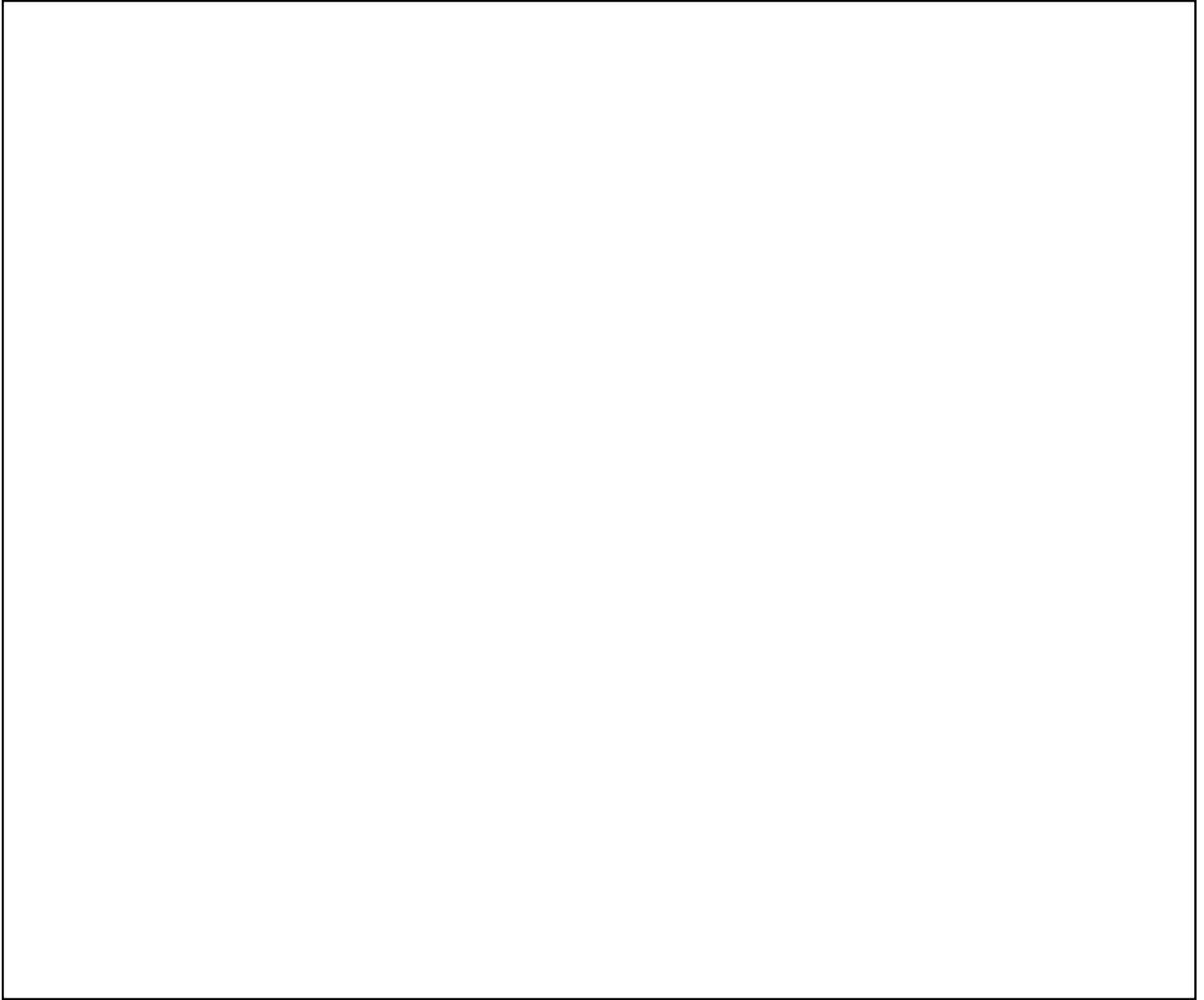
Write 1 question you have:

Name _____

Date _____

SCIENCE AND SOCIAL STUDIES: Draw a Water Form

Draw your favorite water form. Write about it.



Objective

- Students will use the illustrations and details in a text to describe the key ideas.
- Students will produce sentences in response to prompts.

Resources

- Language Arts Master (page 12)

Summary

Students explore math concepts in a rain forest setting.

WORD WORK

Sight Words: *how, let, from, fly, by*

BUILD VOCABULARY AND CONCEPTS

- sloth/sloths
- butterfly/butterflies
- frog/frogs
- bird/birds

Introduce the vocabulary words to students by displaying them in the classroom on a word wall or on a board. Do a picture walk through the article “Rain Forest Math” and point out pictures of the vocabulary words to students. Have students work in small groups of 3 or 4. Assign an animal to each group or allow students to choose an animal. Have them discuss how they would describe the animal and then decide on a definition. Then ask each group to share their definition with the class. Post the definitions on the word wall.

Remind students that to make words that mean “more than one,” you can add /s/ (or /ies/ for words ending in y). Use these sentence frames to have students determine whether the singular or plural form of the vocabulary words should be used. You can use these frames to fill in any of the animal names.

A _____ is a rain forest animal.

There are many _____ in the rain forest.

READ AND DISCUSS

Read the article “Rain Forest Math” aloud to students as they follow along. You may want to read the entire article first, and then reread the article, taking time to stop and discuss each two-page spread.

Pages 16–17 Read the text and have students describe how the picture shows what the text explains. Ask: **How does the picture help you understand the text?** (*The picture shows two sloths. One is big, and one is small.*)

Say: **Let’s write a sentence about the sloths. Let’s answer this question with our sentence: How many sloths are there, and where are they?** Together create a sentence such as “Two sloths are in a rain forest tree.”

Pages 18–19 Read the text and have students describe how the pictures show what the text explains. Ask: **How do the pictures help you understand the text?** (*The pictures show three frogs: one on a branch and two on a log.*)

Say: **Let’s write a sentence about the frogs. Let’s answer this question with our sentence: How many rain forest frogs are there in all?** Together create a sentence such as “There are three rain forest frogs.”

Pages 20–21 Read the text and have students describe how the pictures show what the text explains. Ask: **How do the pictures help you understand the text?** (*The pictures show seven butterflies: three on a leaf and four on a flower.*)

Say: **Let’s write a sentence about the butterflies. Let’s answer this question with our sentence: Where are the butterflies?** Together create a sentence such as “There are butterflies on a leaf and on a flower.”

Pages 22–23 Read the text and have students describe how the pictures show what the text explains. Ask: **How do the pictures help you understand the text?** (*The pictures show nine birds: four on a branch and five flying.*)

Say: **Let’s write a sentence about the birds. Let’s answer this question with our sentence: What can the birds do?** Together create a sentence such as “The birds can sit and fly.”

TALK AND WRITE

Students can respond to the article by talking and writing. Use the following prompts to guide them. You might also want to use the Language Arts Master for this article.

- **Talk about something you learned about the animals by looking at the pictures.**
- **Write or draw something about one of the animals.**

MATH

Objective

- Students will determine the unknown whole number in an addition equation relating three whole numbers.

Resources

- Part Part Whole poster (Teacher's Edition)
- Science Master (page 13)

Math Background

Share with students the names of the rain forest animals pictured in the article.

- three-toed sloths
- red-eyed frog
- strawberry poison dart frogs
- glasswinged butterflies
- Numata longwing butterflies
- brown-hooded parrots
- macaws

READ AND CALCULATE

Read the article "Rain Forest Math" aloud to students as they follow along. As you read through each two-page spread, work together to determine the answers to the math equations.

Pages 16–17 Read the text. Point out the equation $1 + ? = 2$. Write it on the board. Say: **Find the missing number.** Ask: **How many sloths are small?** (1)

Pages 18–19 Read the text. Point out the equation $1 + ? = 3$. Write it on the board. Say: **Find the missing number.** Ask: **How many frogs are sitting on a log?** (2)

Pages 20–21 Read the text. Point out the equation $3 + ? = 7$. Write it on the board. Say: **Find the missing number.** Ask: **How many butterflies are drinking?** (4)

Pages 22–23 Read the text. Point out the equation $4 + ? = 9$. Write it on the board. Say: **Find the missing number.** Ask: **How many birds are flying?** (5)

EXPLORE NUMBERS

Use the Part Part Whole poster to explore more about numbers. Guide students to understand that a number is made of parts, and you can add those parts together to find the whole. Use the equations and the pictures to work through some or all of equations on the poster.

PLAY RAIN FOREST FUN

Encourage students to practice their addition skills with the Math Master for this article. Pairs of students will need a copy of the Math Master, a coin or a chip with two different sides, and playing pieces.

LANGUAGE ARTS: Create Sentences

Put number, animal, and action words together to make sentences about the article.

Numbers		Animals		Actions
One		frogs		hangs from a tree
Two		butterflies		sit on a log
Four		birds		drink from a flower
Five		sloth		fly by a cliff

number animal action

number animal action

number animal action

number animal action

Write your own sentences.

number animal action

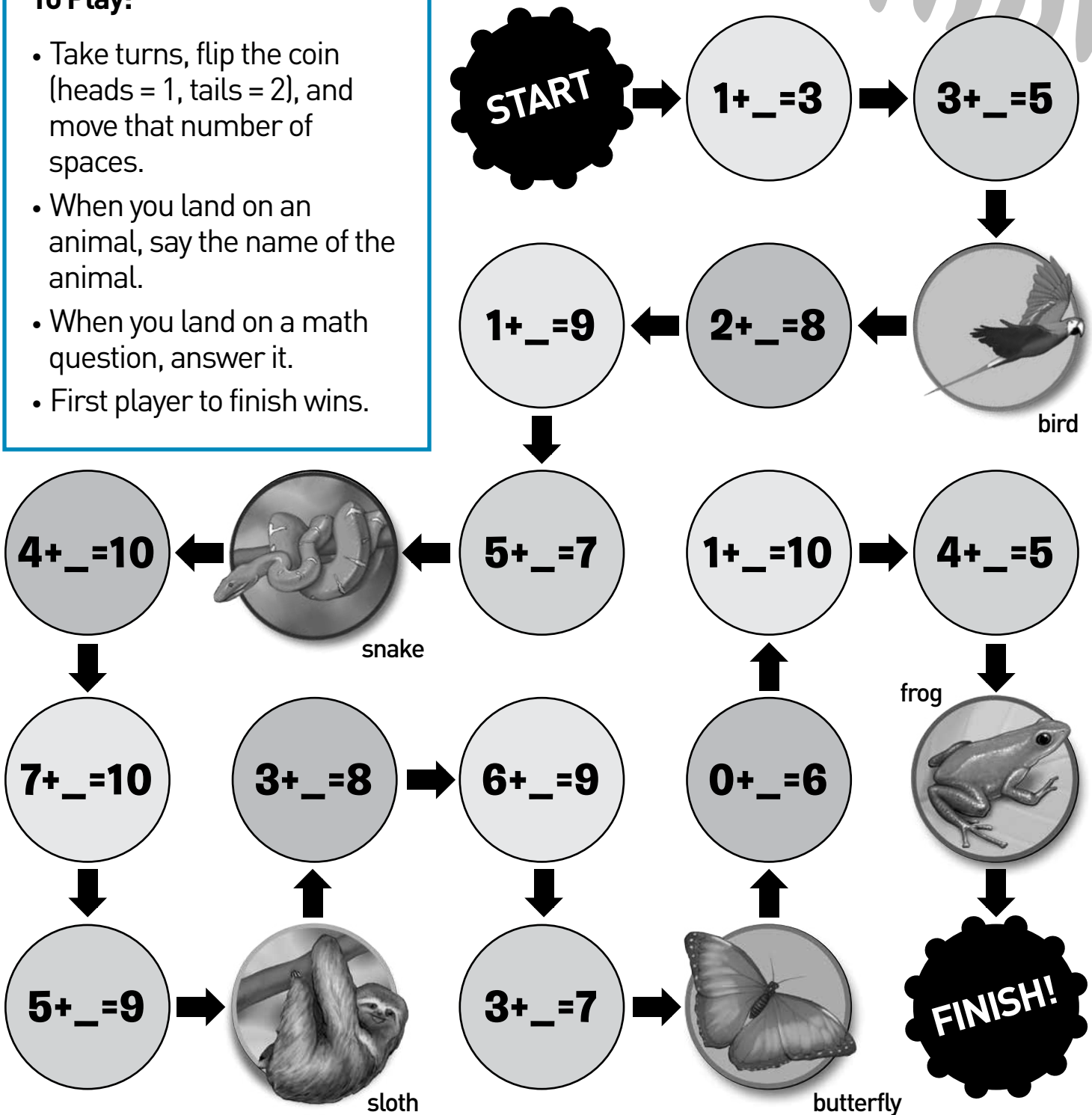
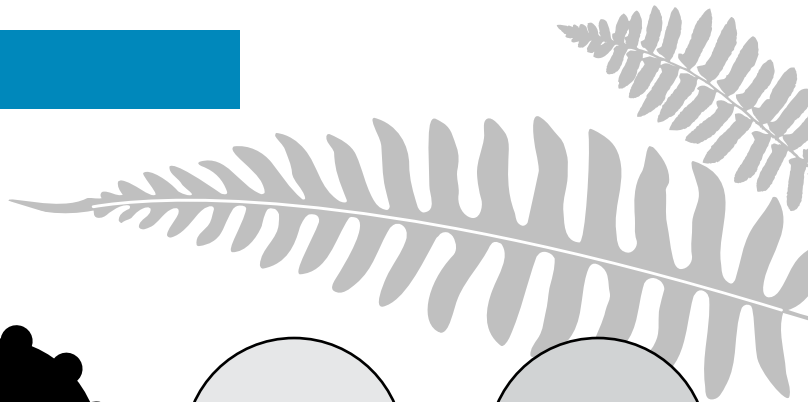
number animal action

MATH: Rain Forest Fun

You Will Need: a coin, playing pieces, a partner

To Play:

- Take turns, flip the coin (heads = 1, tails = 2), and move that number of spaces.
- When you land on an animal, say the name of the animal.
- When you land on a math question, answer it.
- First player to finish wins.



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ANSWER KEY

Grizzly Bear Family

Language Arts: Main Topic and Details, page 4

Students should circle the main topic (*A mother bear takes care of her cubs and helps them survive.*) and write two details (*Accept reasonable responses such as the following: A mother bear protects her cubs. A mother bear shows her cubs how to find food.*)

Science: What do cubs need to survive?, page 5

Students should draw what cubs need to survive and write about what they drew.

Water Wonders

Language Arts: 3-2-1 Boxes, page 8

Students should write three things they've learned, two interesting facts, and one question they have about "Water Wonders."

Science and Social Studies: Draw a Water Form, page 9

Students should draw and write about their favorite water form.

Rain Forest Math

Language Arts: Create Sentences, page 12

Students should put number, animal, and action words together to make sentences and then write their own sentences.

One sloth hangs from a tree.

Two frogs sit on a log.

Four butterflies drink from a flower.

Five birds fly by a cliff.

Math: Rain Forest Fun, page 13

Students should work with a partner to play Rain Forest Fun. The first player to finish wins.