TEACHER'S GUIDE
Scout and Voyager
Vol. 19 No. 2

IN THIS GUIDE:

Educational consultant **Stephanie Harvey** has helped shape the instructional vision for this Teacher's Guide. Her goal is to ensure you have the tools you need to enhance student understanding and engagement with nonfiction text.

Lexile® Framework Levels

Scout

Some articles with characteristics of emergent text will be easier for students to read. You may find that other articles are better suited for teacher read-alouds.

Voyager

Stone Giants..... 370L
Whale Food 310L
The Best Beak..... 350L

Standards Supported

- Common Core State Standards (CCSS)
- Next Generation Science Standards (NGSS)
- C3 Framework for Social Studies State Standards (C3)

See each lesson for the specific standard covered.

Log in at ExplorerMag.org to access additional resources including:

- Interactive Digital Magazine with videos and activities
- Projectable PDF for whole class instruction

National Geographic Learning Framework

INTRODUCTION

BACKGROUND

Since 1888, the National Geographic Society has funded scientists and explorers and shared their findings with the world. To support educators who use our resources, we have created a Learning Framework, which lays out what we believe students should learn from their experiences with the Society.

PURPOSE

The Learning Framework was designed to convey the Society's core beliefs and values. It is built around a set of attitudes, skills, and knowledge that embody the explorer mindset.

To determine the learning outcomes within the Learning Framework, we dug deep into national standards in key subject areas. We also sought advice from subject matter and child development experts, along with the combined expertise of NG instructional designers, researchers, and content developers. To learn more, go to: https://www.nationalgeographic.org/education/learningframework/.

IMPLEMENTATION

Each article in this magazine has a knowledge-based link to the Learning Framework.

MINDSET OF AN EXPLORER: KEY FOCUS AREAS

Attitudes

CURIOSITY An explorer remains curious about how the world works throughout his or her life. An explorer is adventurous, seeking out new and challenging experiences.

RESPONSIBILITY An explorer has concern for the welfare of other people, cultural resources, and the natural world. An explorer is respectful, considers multiple perspectives, and honors others regardless of differences.

EMPOWERMENT An explorer acts on curiosity, respect, responsibility, and adventurousness and persists in the face of challenges.

Skills

OBSERVATION An explorer notices and documents the world around her or him and is able to make sense of those observations.

COMMUNICATION An explorer is a storyteller, communicating experiences and ideas effectively through language and media. An explorer has literacy skills, interpreting and creating new understanding from spoken language, writing, and a wide variety of visual and audio media.

COLLABORATION An explorer works effectively with others to achieve goals.

PROBLEM SOLVING An explorer is able to generate, evaluate, and implement solutions to problems. An explorer is a capable decisionmaker—able to identify alternatives and weigh trade-offs to make a well-reasoned decision.

Knowledge

THE HUMAN JOURNEY An explorer understands where we came from, how we live today, and where we may find ourselves tomorrow.

OUR CHANGING PLANET An explorer understands the amazing, intricate, and interconnected systems of the changing planet we live on.

WILDLIFE AND WILD PLACES An explorer reveals, celebrates, and helps to protect the amazing and diverse creatures we share our world with.

Kindergarten Standard Supported

- **CCSS Reading Informational Text:** With prompting and support, ask and answer questions about key details in a text. (K-1)

First Grade Standard Supported

- **CCSS Reading Informational Text:** Ask and answer questions about key details in a text. (1-1)

What You Will Need

- "Whale Food" (*Young Explorer*, pages 10–15)
- Think Sheet (Teacher's Guide, page 5)
- Clipboards
- Pencils

CONNECT & ENGAGE (5 minutes)

Kids are in a group on the floor in front of you. Sit on a low chair and hold up pages 10–11 in the magazine.

Before we start looking at this article, I want to show you how we turn and talk throughout a lesson. It's important to talk to one another about what we are thinking. That helps us understand what we are seeing, hearing, and reading.

Can I get two volunteers to help me? Wonderful! The two of you can sit down next to each other facing me. When I ask you to turn and talk, turn your heads and look at each other. You don't need to move your whole body, just turn your heads, look at each other, and talk. That's it. Nice job, volunteers!

Let's all take a look at the first two pages of this article called "Whale Food." We can learn a lot by thinking about the title and the picture. Now, everyone, turn and talk to the person next to you, just like our volunteers did. Talk about your thinking about the title and the picture.

Kids turn and talk.

MODEL (10 minutes)

Kids sit in a group on the floor, with you in a low chair in front of them.

When we read or listen to an article or a story, we start thinking about what we are reading or hearing. We think about connections we have to the information or to the pictures. We might be reminded of something we know or of a place we've been. Or we could start wondering or having questions about something.

Thinking is so important! Thinking is the key to understanding what you are seeing, listening to, or reading about.

Let's look again at pages 10–11. I'm going to show you how I think about things. On these pages, the first thing I see is that big picture of a whale. I'm wondering what kind of whale it is and just how big it actually is. It looks huge, but sometimes that's hard to tell from a picture. Now I'm going to read the title. It's "Whale Food." All right, I'm pretty sure this article is going to tell me about what the whale eats. I'm going to write down or draw my thinking on a Think Sheet.

It's your turn. Turn and talk with a partner about what you are thinking about these pages.

Kids turn and talk.

Next, I'm going to read the text on page 11 and show you my thinking about what I'm reading.

Read the text aloud.

Well, I'm thinking I'm very happy the text let me know what kind of whale is in the picture. I don't know much about humpback whales, but now I know what they look like. The text says the whale can eat a lot. I'm not surprised about that, because the whale is so big. I am surprised, though, that what the whale eats is very tiny. That makes me want to find out more about that. But before we read on, I'm going to jot down my thinking on my Think Sheet. Can you help me remember my thinking?

Have kids help you remember what you were thinking as you read the text on page 11. Decide together how to represent your thinking in words or drawings on the Think Sheet.

GUIDE (10 minutes)

Hand out the Think Sheets attached to clipboards. Kids remain grouped in front of you on the floor.

Let's move on to pages 12–13. Look at the pictures as I read the pages aloud. On your Think Sheet, draw or write what the words and pictures on these pages make you think about. Then turn and talk about your thinking.

Give kids time to turn and talk and share their drawings and writings with a partner.

I'm curious to hear about your thinking. Who would like to share with the class what you were thinking?

Kids share out.

That's great thinking, everyone. I had some of the same thoughts you did while I was reading. What did you think about that picture of the swarm of krill? I thought it was amazing, and I loved how beautiful that pink color was against the blue ocean background. That was a great picture that helped me understand how big a swarm of krill can be. Even though each krill is tiny, a whole swarm can provide a lot of food for a whale to eat.

COLLABORATE (25 minutes)

Turn to pages 14–15. This time, work with a partner. Before I read the text aloud, turn and talk with your partner about the pictures. What are you thinking about the pictures? What do you wonder about? What questions do you have? Draw or write your thinking on your Think Sheet. Then I'll read the text aloud.

After kids do their thinking and writing about the pictures, read aloud pages 14–15.

Now work with your partner to draw or write your thinking about the text on your Think Sheet.

Give kids time to talk about their thinking and get their thinking recorded on their Think Sheet.

Once again, I'm curious about your thinking. Who would like to share their thoughts with the class?

Give kids time to share out and show any drawings or writings they might have on their Think Sheet.

Your thinking is just awesome, class! I'm so impressed with not only your thinking but also the way you have been talking with each other about your thinking.

SHARE THE LEARNING (10 minutes)

Kids join a sharing circle with you and share out, using respectful language.

Have kids share out something they learned about thinking as they were looking, listening, and reading. Kids share out using the respectful sharing protocol.

Okay, now it's time to share what we learned. I am going to invite [student name] to share. We are going to share using respectful language. So when I ask: "[student name] would you like to share your new learning?" You can say: "Yes thank you." Then you can share your learning. After you share, you can invite someone else to share. To do that, you need to call on the person by name and use the same language we just practiced. When we use polite, respectful sharing language, everyone pays closer attention to the important information being shared.

Kids share out and invite others to share, always using the respectful sharing language that was modeled. There should be time for about three or four kids to share with the whole group. Once they are finished, have everyone turn and share with the person next to them, so that all have a chance to be heard.

Thinking as we look, listen, and read is so important. It is also important to talk, draw, and write about our thinking. You all did a wonderful job of thinking and sharing your thinking today. Nice work!

Name _____ Date _____

THINK SHEET

Use these boxes to draw or write your thinking.

LESSON FRAME Think and Talk About the Text

This frame is a template of the language arts lesson. It has the instructional moves and language of the lesson, but the specific content has been removed. This way you can use the Lesson Frame for the other articles in the issue or for any nonfiction text you might be teaching.

What You Will Need

• Nonfiction text • Think Sheet template • Clipboards • Pencils

CONNECT & ENGAGE (5 minutes)

Kids are in a group on the floor in front of you. Sit on a low chair and hold up the article.

Before we start looking at this article, I want to show you how we turn and talk throughout a lesson. It's important to talk to one another about what we are thinking. That helps us understand what we are seeing, hearing, and reading.

Can I get two volunteers to help me? Wonderful! The two of you can sit down next to each other facing me. When I ask you to turn and talk, turn your heads and look at each other. You don't need to move your whole body, just turn your heads, look at each other, and talk. That's it. Nice job, volunteers!

Let's all take a look at the beginning of this article called _____. We can learn a lot by thinking about the title and the picture(s). Now, everyone, turn and talk to the person next to you, just like our volunteers did. Talk about your thinking about the title and the picture(s).

Kids turn and talk.

MODEL (10 minutes)

Kids sit in a group on the floor, with you in a low chair in front of them.

When we read or listen to an article or a story, we start thinking about what we are reading or hearing. We think about connections we have to the information or to the pictures. We might be reminded of something we know or of a place we've been. Or we could start wondering or having questions about something.

Thinking is so important! Thinking is the key to understanding what you are seeing, listening to, or reading about.

Let's look at page(s) _____. I'm going to show you how I think about things. On these pages, the first thing I see is _____. I'm wondering _____. Now I'm going to read the title. It's _____. All right, I'm pretty sure this article is going to tell me about _____. I'm going to write down or draw my thinking on a Think Sheet.

It's your turn. Turn and talk with a partner about what you are thinking about these pages.

Kids turn and talk.

Next, I'm going to read the text on page(s) _____ and show you my thinking about what I'm reading.

Read the text aloud.

Well, I'm thinking _____. Before we read on, I'm going to jot down my thinking on my Think Sheet. Can you help me remember my thinking?

Have kids help you remember what you were thinking as you read the text on page(s) ____. Decide together how to represent your thinking in words or drawings on the Think Sheet.

GUIDE (10 minutes)

Hand out the Think Sheets attached to clipboards. Kids remain grouped in front of you on the floor.

Let's move on to page(s) _____. Look at the picture(s) as I read aloud. On your Think Sheet, draw or write what the words and picture(s) make you think about. Then turn and talk about your thinking.

Give kids time to turn and talk and share their drawings and writings with a partner.

I'm curious to hear about your thinking. Who would like to share with the class what you were thinking?

Kids share out.

That's great thinking, everyone. I had some of the same thoughts you did while I was reading. What did you think about _____? I thought _____.

COLLABORATE (25 Minutes)

Turn to page(s) _____. This time, work with a partner. Before I read the text aloud, turn and talk with your partner about the picture(s). What are you thinking about the picture(s)? What do you wonder about? What questions do you have? Draw or write your thinking on your Think Sheet. Then I'll read the text aloud.

After kids do their thinking and writing about the picture(s), read page(s) _____ aloud.

Now work with your partner to draw or write your thinking about the text on your Think Sheet.

Give kids time to talk about their thinking and get their thinking recorded on their Think Sheet.

Once again, I'm very curious about your thinking. Who would like to share their thoughts with the class?

Give kids time to share out and show any drawings or writings they might have on their Think Sheet.

Your thinking is just awesome, class! I'm so impressed with not only your thinking but also the way you have been talking with each other about your thinking.

SHARE THE LEARNING (10 minutes)

Have kids share out something they learned about thinking as they were looking, listening, and reading. Kids share out using the respectful sharing protocol.

Okay, now it's time to share what we learned. I am going to invite [student name] to share. We are going to share using respectful language. So when I ask: "[student name] would you like to share your new learning?" You can say: "Yes thank you." Then you can share your learning. After you share, you can invite someone else to share. To do that, you need to call on the person by name and use the same language we just practiced. When we use polite, respectful sharing language, everyone pays closer attention to the important information being shared.

Kids share out and invite others to share, always using the respectful sharing language that was modeled. There should be time for about three or four kids to share with the whole group. Once they are finished, have everyone turn and share with the person next to them, so that all have a chance to be heard.

Thinking as we look, listen, and read is so important. It is also important to talk, draw, and write about our thinking. You all did a wonderful job of thinking and sharing your thinking today. Nice work!

Stone Giants

SOCIAL STUDIES

Kindergarten and First Grade Standards Supported

- **C3 Geographic Representations: Spatial Views of the World:** Use maps, globes, and other simple geographic models to identify cultural and environmental characteristics of places. (D2.Geo.3.K-2)
- **C3 Geographic Representations: Spatial Views of the World:** Construct maps, graphs, and other representations of familiar places. (D2.Geo.1.K-2)

What You Will Need

- Projectable PDF or interactive digital magazine
- Social Studies Master (page 9)

Social Studies Background

Moai are giant stone statues built by the Rapa Nui people between A.D. 1400 and 1600. They are found along the coast of Easter Island, also called Rapa Nui — a tiny, isolated island that lies 1,931 kilometers (2,200 miles) west of Chile.

About 900 of these carved head-and-torso figures stand out on the island's otherwise barren landscape. Averaging 4 meters (13 feet) tall and 14 tons, it would have taken great effort to carve, move, and place them.

There is no written or oral record explaining what the statues are or how or why they were built. Most scholars suspect they were created to honor ancestors, chiefs, or other important people in Rapa Nui society.

ENGAGE

Prior to conducting this activity, collect photos of statues or monuments around the world that students are likely to recognize, such as the Statue of Liberty, the Eifel Tower, etc. Display the photos for the class. Challenge students to identify and tell what they know about each one. Guide them to understand that statues and monuments are symbols that represent something important to the people who built them.

EXPLORE

Display the "Stone Giants" article with the projectable PDF or interactive digital magazine. Read aloud the headline and text. Have students find and count the "stone giants" in the photo. Challenge them to find the people in the photo and compare their size to the statues. Discuss reasons why "stone giants" is a good way to describe these statues. Then read the article aloud or have students read it in groups, with a partner, or on their own.

EXPLAIN

After reading, remind students that the statues in the article are called moai. Use the pronunciation guide on page 5 to help students say the word correctly. Have students share what they learned about the statues. (*on Easter Island; made long ago out of stone; some as tall as six people; large head, long ears and noses; some wear red hats*) Say: **Today, these statues are a mystery. Nobody knows how or why they were built. But they are so big and there are so many of them that we can guess that they were important to the people who created them.** Brainstorm ideas about how and why the people of Easter Island might have built the moai and what the moai could have meant to them.

ELABORATE

Instruct students to turn to pages 8-9 of their student magazines. Read the text and review the map as a class. Challenge students to answer each question. Brainstorm ideas about why the people might have built so many of the moai by the shore.

EVALUATE

Have students complete the Social Studies Master for this lesson. Encourage them to share and compare their results in small groups or with a partner.

Name _____ Date _____

SOCIAL STUDIES: Stone Giants

Follow the directions to make a map of an island.

1. Draw a big, round island on the map.
2. Draw a little statue in the Map Key.
3. Draw five statues just like it on the island.
4. Color all statues black.
5. Color the island green.
6. Color the water around the island blue.
7. Write your island's name at the top of the map.

_____

_ _

_____

Map Key

statue

Whale Food

SCIENCE

Kindergarten Standard Supported

- **NGSS LS1.C: Organization for Matter and Energy Flow in Organisms:** All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS1-1)

First Grade Standard Supported

- **NGSS LS1.A: Structure and Function:** All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air. Plants also have parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)

What You Will Need

- Projectable PDF or interactive digital magazine
- Animals in Antarctica poster (Teacher's edition)
- Science Master (page 11)

Science Background

Humpback whales are giant marine mammals that live in oceans around the world. They measure up to 18 meters (60 feet) long, weigh up to 40 tons, and can live for up to 90 years.

Humpback whales have one of the longest migrations of any mammal on Earth. Each year they swim up to 8,046 kilometers (5,000 miles) to go from warm, tropical breeding grounds to colder waters where they can feed. There, they feast on small shrimp-like animals called krill, as well as small fish.

Humpbacks must eat small prey because they do not have teeth. When they eat, they strain huge quantities of tiny food and water through baleen plates that line their mouths.

Named for the distinctive hump on their backs, humpback whales are also recognized as the most vocal of all whales. Their songs—a combination of moans, cries, and other sounds—can be up to half an hour long.

ENGAGE

Tell students to imagine that their bodies are as big as a school bus...and it's lunchtime. Ask the following questions: **What would you like to eat? How would you get enough food to feel full? And how would mealtime be extra challenging if you had no teeth?** Invite students to share their responses.

EXPLORE

Display the "Whale Food" article with the projectable PDF or the interactive digital magazine. Read aloud the headline and text. Brainstorm ideas about how a big animal like a humpback whale could survive if it only eats tiny food. Then read the article aloud or have students read it in groups, with a partner, or on their own.

EXPLAIN

After reading, remind students that humpback whales are big ocean animals that eat tiny food. Ask: **Why do they do this?** (*They have no teeth. They can't chew big food.*) Guide students to understand that if the whale can't chew big food, it has to swallow everything it eats whole. Ask: **What would happen if it tried to swallow big food whole?** (*It would choke.*) Remind students that krill swim in groups called swarms. Ask: **How does this help the humpback whale survive?** (*With one gulp, the whale can get a lot of food at one time.*) Review the diagram on the last page of the article. Have students examine the shape of the whale's mouth. Discuss how a scoop-shaped mouth helps the whale capture even more krill in one big gulp.

ELABORATE

Display the Animals in Antarctica poster. Invite volunteers to identify each animal. Examine where all of the animals live. Then inform the class that each of the animals they see eats krill, the tiny animal in the bottom left corner of the poster. Ask: **How is where these animals live connected to what they eat?** (*Krill live in the ocean. To eat them, the animals have to also live in or near the ocean.*)

EVALUATE

Have students complete the Science Master for this lesson. Encourage them to share and compare their results in small groups or with a partner.

Name _____ Date _____

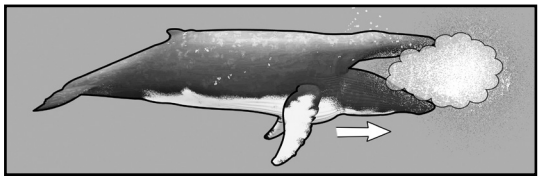
SCIENCE: Whale Food

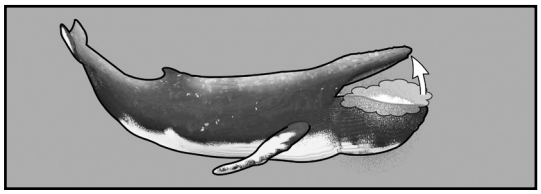
Follow the directions in each box.

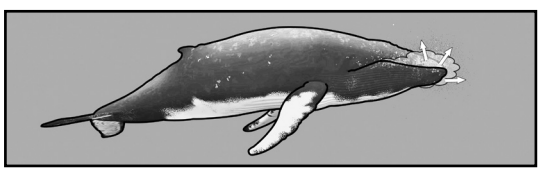
Draw a humpback whale.	Circle the word that tells what a humpback whale is like. **tiny** **big**
Write what a humpback whale eats. _____ _ _ _ _ _ _ _ _ _ _ _ _ _____	Color the word that tells what a humpback whale's food is like. tiny big

Draw a line to match each picture to the correct description.

Tell how a humpback whale gets food.







- The whale eats the krill. It pushes the water out.
- The whale traps krill in its mouth.
- The whale swims to a swarm.

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The Best Beak

SCIENCE

Kindergarten Standard Supported

- **NGSS Crosscutting Concepts: Organization for Matter and Energy Flow in Organisms:** All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS1-1)

First Grade Standard Supported

- **NGSS LS3.B: Variation of Traits:** Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)

What You Will Need

- Projectable PDF or interactive digital magazine
- Island Living poster (Teacher's edition)
- Science Master (page 13)

ScienceBackground

The Galápagos Islands, which lie about 1,000 kilometers (621 miles) west of Ecuador, are a group of 19 islands and more than 100 islets and rocks in the Pacific Ocean.

The islands are isolated, and many of the plants and animals that live there are found nowhere else on Earth. Most have evolved from ancestors that lived on the islands millions of years ago.

One name forever linked to the islands is that of Charles Darwin, an English scientist who served as naturalist aboard the *H.M.S. Beagle*. When the ship arrived at the Galápagos Islands in 1835, Darwin studied the islands' many unique species—including finches.

The Galápagos Islands finches display a wide variety of beak shapes and sizes, because they are adapted to eat different kinds of food. For example, a finch with a big beak is good at cracking open nuts, and a finch with a long beak is good at catching insects. Darwin saw that the finches had a common ancestor, which is why they were so similar except for their beaks. This was an important clue for Darwin in developing his theory of evolution.

ENGAGE

Prior to conducting this activity, gather a ping-pong ball, a chopstick, and a pair of salad tongs. Put the ball on the desk. Poll the class to see which tool students think you should use to pick it up. Attempt to pick it up with each tool. Discuss the results. Guide students to recognize that different tools are designed to do different types of jobs.

EXPLORE

Display the "The Best Beak" article with the projectable PDF or the interactive digital magazine. Read aloud the headline and text and point out the label, which indicates that this photo was taken on the Galápagos Islands. Invite students to share what they know about the Galápagos Islands and the unique plants and animals that live there. Brainstorm ideas about why the article's title is "The Best Beak." Then read the article aloud or have students read it in groups, with a partner, or on their own to find out.

EXPLAIN

After reading, have students turn and talk with a partner to discuss what they learned about the different types of bird beaks Charles Darwin saw on the Galápagos Islands:

- Birds with pointy beaks used them to eat or spear insects.
- Birds with stubby beaks used them to eat or pick up seeds.
- Birds with curved beaks used them to eat or nibble plants.

Point out that beaks—like tools—are designed for specific types of jobs. Then examine the connection between the shape of a bird's beak and the type of food it eats.

ELABORATE

Display the Island Living poster. Review the poster as a class. Have students examine the shape of each bird beak and identify types of food the bird might eat. For other animals, have students identify body parts that would help each animal catch food. Challenge students to identify the type of food those body parts would help the animal eat.

EVALUATE

Have students complete the Science Master for this lesson. Encourage them to share and compare their results in small groups or with a partner.

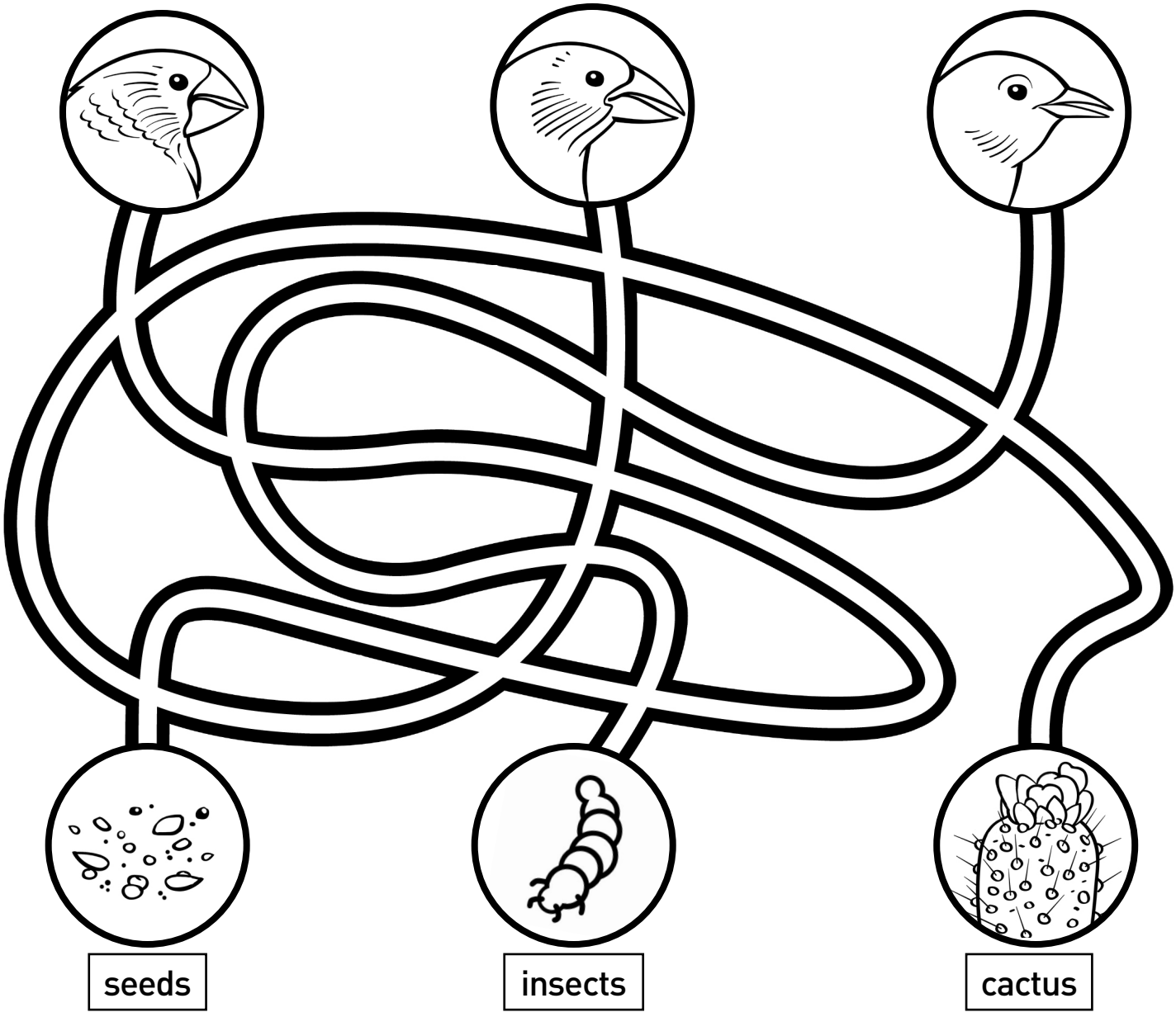
Name _____ Date _____

SCIENCE: The Best Beak

Circle the word that describes each bird beak.

Then color each path a different color to help each bird find food.

pointy	pointy	pointy
stubby	stubby	stubby
curved	curved	curved



seeds insects cactus

Scout and Voyager

ANSWER KEY

Language Arts

Think Sheet, page 5
Students should draw or write their thinking on the Think Sheet.

Stone Giants

Social Studies: page 9
Maps will vary, but students should follow all directions and write a name for their island.

Whale Food

Science: page 11
1. Students should draw a humpback.
2. Students should circle "big."
3. Students should write "krill."
4. Students should color "tiny."

Matching
Illustration 1: A humpback whale swims to a swarm.
Illustration 2: It traps krill in its mouth.
Illustration 3: The whale eats the krill. It pushes the water out.

The Best Beak

Science: page 13
Bird 1: stubby; seeds
Bird 2: curved; plants
Bird 3: pointy; insects

Words to Explore

Back Cover
1. krill
2. beak
3. statue
4. island