



TEACHER'S GUIDE
Scout and Voyager
Vol. 19 No. 4

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Answer Key 14

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

I Spy Black Bears..... 350L
 Snowman Weather..... 290L
 All About Manatees..... 390L

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 **ExplorMag.org**
 to access additional resources including:

- Interactive Digital Magazine with videos and activities
- Projectable PDF for one-to-one instruction

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 decision maker—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, describe the connection between two individuals, events, ideas, or pieces of information in a text. (K-3)

First Grade Standard Supported

- **CCSS Reading Informational Text:** Describe the connection between two individuals, events, ideas, or pieces of information in a text. (1-3)

What You Will Need

- “Snowman Weather” (*Young Explorer*, pages 8–15)
- 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 8–9.

Reading is thinking. Thinking is like our inner voice. When we listen to or read something, we are thinking—kind of silently talking to ourselves. We start to make connections to what we might already know and consider the new things we are learning. Pretty cool, isn’t it?

Let’s explore this a little more. When I look at pages 8–9 of the article “Snowman Weather,” my inner voice starts having a conversation with the pictures and the words on these pages. I know these pages have so much they want to tell me.

Go ahead and look at these pages. What do you see here? What do you think is happening? Turn and talk about what your inner voice is telling you.

Kids turn and talk and then share out their thinking.

MODEL (10 minutes)

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

When we read and look at pictures, it’s important to think about what we already know about what we are reading and viewing. That is called making connections. I’ll show you what I mean.

As I look at the picture on pages 8–9, I make a connection to what I know. I think about a time when I was little and tried to taste snow like the child in the picture. It was so much fun. I remember how cold it was outside and how wet the snow was. Next, I’m going to read the text.

Read aloud pages 8–9.

The text tells me that the weather is cold and that snow is falling from clouds. I grew up in a place where it snowed a lot in the winter. I know what weather like this feels like. I understand and can make a connection to what snowman weather is like. I’m going to write my connections on a chart. In the first column of the chart, I’m going to write “I grew up in a place where it snowed a lot in winter.” In the second column, I’m going to write how this helps me understand. I’m going to write “I know how snow looks, feels, and tastes.”

My connection	How it helps me understand
I grew up in a place where it snowed a lot in winter.	I know how snow looks, feels, and tastes.

There is one thing I want to make sure you remember before we move on. We don’t make connections just to make them. We make connections as we read to help us better understand the text. Take some time to turn and talk about that. How do you think making connections helps us better understand the text?

Kids turn and talk.

GUIDE (10 minutes)

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

Now it's your turn. I am going to read page 10. As I read, listen to your inner voice and think about the connections you have to the text and pictures.

Read aloud page 10. After reading, have kids turn and talk about the connections they have.

Let's talk about some of the connections you have to the picture and the text, but first, did you figure out the answer? Fantastic! Yes, the answer is 2. snowflake. Look how beautiful that snowflake picture is. That's a picture of a snowflake that is magnified, or made much bigger, so we can see its shape. Did you know that snowflakes have many different shapes?

Take some time to talk about page 10. You might also want to talk more about snowflakes and show pictures of different snowflake shapes and patterns.

Now, let's make sure to take some time to write your connections on your Think Sheets. In the first column, write your connection. Then in the second column, write or draw how that connection helps you understand what you are reading and viewing.

COLLABORATE (25 minutes)

This time, work with a partner. Before I read the text aloud, look at the pictures. They relate to the text and may also help you make connections. Each of the pages also has an answer to fill in. You can talk with your partner about that, too.

You might want to pace this out, going page by page in the following way for pages 11–15:

- *Have kids look at and think about the picture on the page.*
- *Read aloud the text on the page, and for pages 11–14, have kids tell what the answer is that correctly fills in the blank.*
- *Have kids turn and talk about their connections to the pictures and text.*

- *On their Think Sheets, have kids write or draw their connections and how those connections help them understand.*

Before we begin, know that you and your partner may have different connections. You can talk about that. It's interesting that we can all connect to what we are reading in different ways. We all have our own unique experiences.

After I read aloud the text, I'm going to move around the classroom, so let me know if you need help.

Partners work together. Move around the room, conferring with partners.

SHARE THE LEARNING (10 minutes)

Kids join a sharing circle.

Who would like to share a connection they had to "Snowman Weather"? Before we start, remember how we share politely with the class. First, share your connection, and don't forget to also tell how that connection helped you better understand what we read. When you are finished sharing, always ask if there are any questions or comments.

Allow time for kids to share their learning.

We did some real connecting today, didn't we? Who would have thought that our inner voices were so chatty? Or that our inner voices could be so helpful! When we read something, thinking about our own experiences and connections can really help us understand. Never forget that reading is thinking!

THINK SHEET

In the chart, write or draw your connections and how they help you understand.

My connection	How it helps me understand

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.

Reading is thinking. Thinking is like our inner voice. When we listen to or read something, we are thinking—kind of silently talking to ourselves. We start to make connections to what we might already know and consider the new things we are learning. Pretty cool, isn't it?

Let's explore this a little more. When I look at page(s) _____ of the article " _____," my inner voice starts having a conversation with the pictures and the words on the page(s).

Go ahead and look at the page(s). What do you see here? What do you think is happening? Turn and talk about what your inner voice is telling you.

Kids turn and talk and then share out their thinking.

MODEL (10 minutes)

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

When we read and look at pictures, it's important to think about what we already know about what we are reading and viewing. That is called making connections. I'll show you what I mean.

As I look at the picture on page(s) _____, I make a connection to what I know. I think about _____ . I remember _____ . Next, I'm going to read the text.

Read aloud page(s) _____.

The text tells me _____ . I know _____ . I understand and can make a connection to _____ . I'm going to write my connections on a chart. In the first column of the chart, I'm going to write " _____ ." In the second column, I'm going to write how this helps me understand.

There is one thing I want to make sure you remember before we move on. We don't make connections just to make those connections. We make connections as we read to help us better understand the text. Take some time to turn and talk about that. How do you think making connections as we read helps us better understand the text?

Kids turn and talk.

GUIDE (10 minutes)

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

**Now it's your turn. I am going to read page(s) _____.
As I read, listen to your inner voice and think about
the connections you have to the text and pictures.**

*Read aloud page(s) _____. After reading, have kids turn
and talk about the connections they have.*

**Let's talk about some of the connections you have
to the picture and the text.**

Take some time to talk about page(s) _____.

**Now, let's make sure to take some time to write
your connections on your Think Sheets. In the first
column, write your connection. Then in the second
column, write or draw how that connection helps
you understand what you are reading and viewing.**

COLLABORATE (25 Minutes)

**This time, work with a partner. Before I read the
text aloud, look at the pictures. They relate to the
text and may also help you make connections.**

**Before we begin, know that you and your partner
may have different connections. You can talk about
that. It's interesting that we can all connect to what
we are reading in different ways. We all have our
own unique experiences.**

**After I read aloud the text, I'm going to move
around the classroom, so let me know if you
need help.**

*Partners work together. Move around the room,
conferring with partners.*

SHARE THE LEARNING (10 minutes)

Kids join a sharing circle.

**Who would like to share a connection they had?
Before we start, remember how we share politely
with the class. First, share your connection, and
don't forget to also tell how that connection helped
you better understand what we read. When you
are finished sharing, always ask if there are any
questions or comments.**

Allow time for kids to share their learning.

**We did some real connecting today, didn't we? Who
would have thought that our inner voices were
so chatty? Or that our inner voices could be so
helpful! When we read something, thinking about
our own experiences and connections can really
help us understand. Never forget that reading
is thinking!**

SCIENCE

Kindergarten Standard Supported

- **NGSS Crosscutting Concepts: Patterns:** Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1)

First Grade Standard Supported

- **NGSS LS1.B: Growth and Development of Organisms:** Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)

What You Will Need

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

Science Background

Black bears are the most common type of bear found in North America. Typically found in forests, they can grow up to six feet (1.8 meters) long and weigh up to 600 pounds (272 kilograms). On average, they live for about 20 years.

Despite their name, not all black bears are black. Their coat, which has layers of shaggy fur, can also be blue-gray, blue-black, brown, or even white.

Black bears aren't picky eaters. They mainly feed on grasses, roots, berries, and insects, but will also eat fish and mammals—dead or alive—along with human foods and garbage. They feast during the summer and fall to build up body fat that will help them survive as they hibernate in dens during the cold winter months.

It is during this hibernation that females give birth to their cubs, usually two or three at a time. The mothers nurse their young all winter long. When spring arrives, she takes her cubs out in search of food. The mother is extremely protective of her cubs as they stay with her for the next two years.

ENGAGE

Display a collection of photos of black bear cubs doing a variety of different things, such as playing with siblings, catching fish, climbing trees, or being taken care of by their mother. As a class, discuss what each photo shows and what it reveals about the life of young black bears.

EXPLORE

Display the "I Spy Black Bears" article with the projectable PDF or the interactive digital magazine. Read aloud the headline and text on the opening pages. Say: **The black bears in this photo are babies, and the writer says she studies how bears live in each season.** Encourage students to brainstorm a list of ways the bears will change through the seasons. 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 how young black bears change from one winter to the next:

- **Winter:** They are born in a den.
- **Spring:** They leave the den with their mother.
- **Summer:** They grow and learn how to climb trees.
- **Fall:** They grow, eat a lot, and get fat for winter.
- **Winter:** They find a den and sleep until spring.

Ask: **Why do black bears sleep in a den during winter?** (*It is safe and warm. There is less food to eat.*) Then discuss how the things young black bears learn and do during the other seasons help them survive to grow big and strong like their mother.

ELABORATE

All bears have cubs that grow into adults. Display a collection of photos showing different kinds of bears, including black bears. Show multiple photos of each kind of bear. Sort the photos and create a group for each bear species. Have students describe the bear they see in each group. Challenge them to name each type of bear.

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: I Spy Black Bears

Unscramble the name of each season.

Write or draw something black bears do each season.

Tell a partner how black bears live and grow.

<p>nitwre</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>rginps</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>mrmues</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>lafl</p> <p>_____</p> <p>_____</p> <p>_____</p>

SCIENCE

Kindergarten Standard Supported

- **NGSS ESS2.D: Weather and Climate:** Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (K-ESS2-1)

First Grade Standard Supported

- **NGSS Science and Engineering Practices: Analyzing and Interpreting Data:** Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (1-ESS1-1)

What You Will Need

- Projectable PDF or interactive digital magazine
- Science Master (page 11)

Science Background

Snow is a type of winter weather. It forms when there is moisture in the air and the atmospheric temperature is at or below freezing (0 degrees Celsius or 32 degrees Fahrenheit). It falls from clouds in the sky down to the ground, sometimes as single ice crystals and other times as larger clumps of snowflakes.

Sometimes, it snows for a really short time and no snow builds up. This is called a snow flurry. Other times, it snows for hours and the wind howls as the temperature plummets. This is called a blizzard.

Although snow can be dangerous—think about an avalanche—it can also be a lot of fun. People like to go skiing, snowboarding, and snowmobiling in the winter. They also like to go sledding down snow-covered hills. It's even fun to lay on the ground to make a snow angel. Just remember to bundle up to protect yourself from the cold!

ENGAGE

Invite volunteers to say the first thing they think of when you say the phrase "snowman weather." Make a list that includes everything from what they might see, feel, or even wear during this type of weather.

EXPLORE

Display the "Snowman Weather" article with the projectable PDF or the interactive digital magazine. Have students examine the photos. Ask: **What is the one thing you see in each of these photos?** (*snow*) Invite students to share what they know about snow. Then read the article aloud or have students read it in groups, with a partner, or on their own. As students read, challenge them to select the correct word to complete each sentence.

EXPLAIN

After reading, point out to students that snow is a type of weather that many places have during winter. Ask: **Why does snow fall in winter?** (*The weather is cold.*) **Where does snow fall from?** (*clouds*) **What might fall from clouds if the weather were warmer?** (*rain*) Invite students to describe how they can use snow to build a snowman. Then have students compare the last two photos in the article. Ask: **What is happening to the snowman?** (*It is melting.*) **Why?** (*Snow melts when the weather is warm.*) **What does warm snow turn into?** (*water*) Encourage students to use information from the text and photos to ask and answer more questions about snow.

ELABORATE

Remind students that as they read this article they had to choose the correct snow-related words to complete several sentences. Review those sentences as a class to ensure that students have identified the correct words. Challenge students to think of other snow-related words (*snowboard, snowmobile, snowdrift, etc.*). Then point out that there are words related to other types of weather, too. Challenge students to think of words that contain the word *rain* (*raindrop, rainfall, raincoat, etc.*).

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.

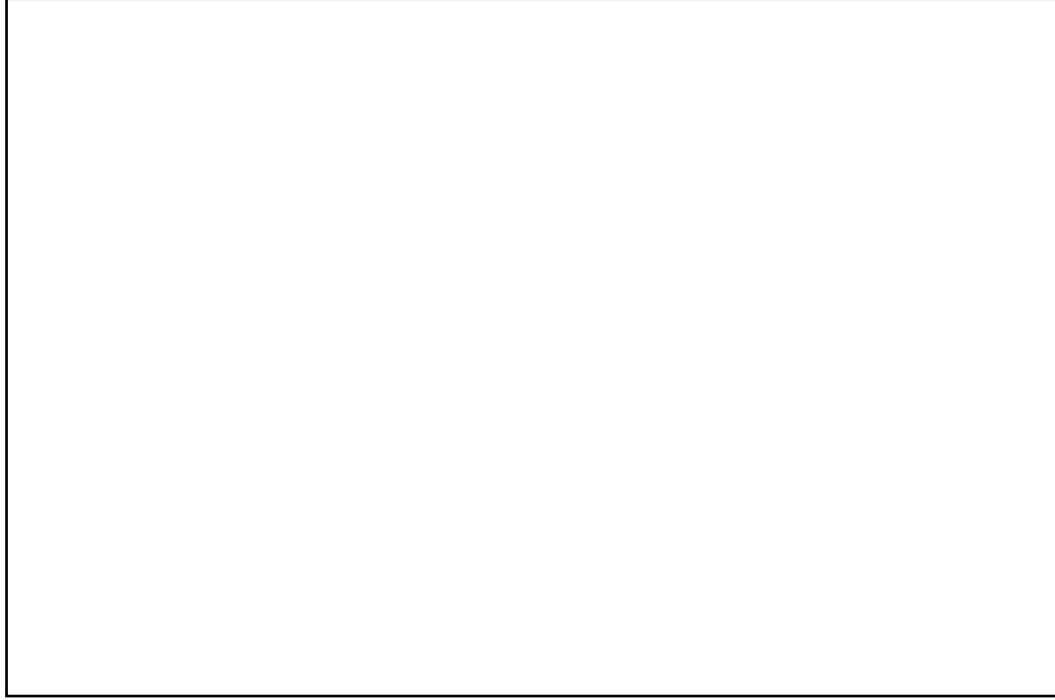
Name _____

Date _____

SCIENCE: Snowman Weather

Draw a picture of a snowman.

Then circle the answer to each question.



What is the weather like in winter?

hot cold

Where does snow fall from?

weather clouds

What blows in a snowstorm?

wind rain

What does snow do in warm weather?

fall melt

What does snow turn to when it melts?

snowball water

SCIENCE

Kindergarten and First Grade Standard Supported

- **NGSS ESS3.A: Natural Resources:** Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1)
- **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 have different 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
- Manatees Migrate poster (Teacher's edition)
- Animals in North America poster (Teacher's edition)
- Science Master (page 13)

Science Background

Manatees are massive mammals that live in warm, shallow waters in rivers and near coasts. Growing up to 13 feet (4 meters) long and weighing up to 1,300 pounds (600 kilograms), these gentle giants have an average lifespan of about 40 years.

There are three species of manatee, based on where they live. The West Indian manatee, featured in this article, lives along the North American east coast around Florida and on down to Brazil in South America. The Amazonian manatee lives in the Amazon River, and the African manatee lives along the west coast and rivers of Africa.

While baby manatees drink their mothers' milk, adults feast on water grasses, weeds, and algae. And they eat a lot! A manatee can eat a tenth of its own weight in just one day.

Manatees live in water, but they breathe air so they must come to the surface every three or four minutes while swimming to breathe. While resting, they can stay underwater for up to 15 minutes.

ENGAGE

Poll the class to see if any students have ever seen a manatee in real life. If so, invite volunteers to describe what the manatee looked like. If not, encourage students to examine the photos in the article. Invite students to describe the animal they see.

EXPLORE

Display the "All About Manatees" article with the projectable PDF or the interactive digital magazine. Read aloud the headline and text on the opening pages. As a class, brainstorm a list of things students want to learn about manatees. 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 manatees are wild animals that live in warm, shallow waters. Display the Manatees Migrate poster. Review the definition of the word *migrate*. Ask: **Where do manatees live in winter?** (*in the ocean near Florida*) **Why do you think they migrate to other places in the summer?** (*The water further north is too cold in winter. In summer, it is warm and shallow, like the water near Florida.*) Have students turn and talk with a partner to discuss what manatees eat and how they act. As a class, review the last two pages of the article. Discuss how a manatee's parts help it swim and find food in the water.

ELABORATE

Display the Animals in North America poster. As a class, use the map key to identify and describe the habitats where each animal lives. Then display the Manatees Migrate poster. Guide students to recognize that manatees live off the southeastern coast of the United States. Challenge students to find this location on the Animals in North America poster. Then have each student draw an icon and map key symbol that could be used to represent the manatee and its habitat if it were included on the Animals in North America poster.

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.

SCIENCE: All About Manatees

Write three facts you learned about manatees.

Then circle each word or phrase that tells what manatees are like.

fact: _____

fast

slow

plant eater

meat eater

fact: _____

fact: _____

big

small

ANSWER KEY

Language Arts

Think Sheet, page 5

Students should write or draw their connections and how they help them understand.

I Spy Black Bears

Science: page 9

Students should unscramble the words: (top row) winter, spring; (bottom row) summer, fall. They should also write or draw something they learned about black bears in the space provided.

Snowman Weather

Science: page 11

Students should draw a picture of a snowman and then answer the questions.

1. cold
2. clouds
3. wind
4. melt
5. water

All About Manatees

Science: page 13

Students should write three facts about manatees and then circle each word or phrase that tells what manatees are like.

1. slow
2. plant eater
3. big

Words to Explore

1. shallow
2. cub
3. season
4. snow