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.
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

A — Attitudes

National Geographic kids are:
CURIOS about how the world works, seeking out new and challenging experiences throughout their lives.
RESPONSIBLE, with concern for the welfare of other people, cultural resources, and the natural world. NG kids are respectful, considering multiple perspectives, and honoring others regardless of differences.
EMPOWERED to make a difference. NG kids act on curiosity, respect, and responsibility. They are adventurous and persist in the face of challenges.

S — Skills

National Geographic kids can:
OBSERVE and document the world around them and make sense of those observations.
COMMUNICATE experiences and ideas effectively through language and media. They are storytellers!
COLLABORATE with others to achieve goals.
SOLVE PROBLEMS by generating, evaluating, and implementing solutions after identifying alternatives, weighing trade-offs, and making well-reasoned decisions.

K — Knowledge

National Geographic kids understand:
THE HUMAN JOURNEY is all about where we have been, where we live now (and why), and where we are going.
OUR CHANGING PLANET encompasses all that coexists on our planet—interconnected through systems that generate and nurture each other.
WILDLIFE AND WILD PLACES inhabit our planet—from the butterflies in our backyards to the lions in Africa.
LANGuAGE ARTS Navigate Nonfiction: Notice title, labels, photos, and text to get information

**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 2–3 in the magazine.

**TEACHER TIP:** The reason kids are grouped on the floor is that the focus needs to be on the teacher’s instruction. However, the whole point of “Connect and Engage” is to get kids fired up, and there will be plenty of interaction throughout this segment and the entire lesson.

Take a look at this beautiful article on birds. This article, as well as all of the articles in this magazine, is nonfiction. Flip through the pages and turn and talk about what you think you know about nonfiction?

**Kids turn and talk.**

Anyone have any ideas?

**Kids share out. They might mention that it’s true or real and has facts. Check their responses and restate those that are accurate, as well as add any nonfiction characteristics you think are important.**

That’s right! Nonfiction gives us true, factual information. When we read nonfiction, we are reading to learn something new and to get information.

**MODEL (10 minutes)**

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

**TEACHER TIP:** While this segment of the lesson is about the teacher modeling for students, be careful not to go on and on. This has to be interactive. Kids should be turning and talking a lot.

We are going to read this article called "Is It a Bird?" (Point to the title) Nonfiction articles like this all have titles. "Is It a Bird?" is the title of this article. The title tells us what the article is mostly about. So I can tell that this article is about birds, and probably about whether certain animals are birds. Titles are extremely important because they give us the big ideas of the article.

Hold up the two-column Think Sheet. Hand out Think Sheets and have kids attach them to their clipboards. Kids can write or draw on their Think Sheets as you figure out, as a class, the features found in this article and their purposes.

**What You Will Need**

- “Is It a Bird?” (*Young Explorer*, pages 2–9)
- Think Sheet (Teacher’s Edition, page 6)
- Clipboards
- Pencils

**Kindergarten Standard Supported**

- **CCSS Reading Informational Text:** With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts). [K-7]

**First Grade Standards Supported**

- **CCSS Reading Informational Text:** Know and use various text features [e.g., headings, tables of contents, glossaries, electronic menus, icons] to locate key facts or information in a text. [1-5]
- **CCSS Reading Informational Text:** Use the illustrations and details in a text to describe its key ideas. [1-7]
Now take a look at the photo of the bird on pages 2-3. See those little arrows with words on them? They are called labels. They identify a part of the photo. See the one near the nose part. That says beak. I looked at the photo and then at the first letter of the label to help me read the word beak. A beak is part of a bird. It is easier to read a label. You can look at the photo where the label is pointing and look at the first letter of the label to help figure out what it says. Does this make sense? Turn to each other and talk. What other labels can you see on these two pages?

Kids notice and read the labels either because they can read the label or because they use the photo and first letter to help them read it. Kids share out other labels.

These labels are so cool because they show us all sorts of parts of the bird. We can learn a lot from labels! Let’s add labels to our Think Sheet, and then I’ll put to name something as the purpose. And I can add photographs to the Think Sheet, too. If we look closely at photos, we can get quite a bit of information from them. What is the purpose of photos? Turn and talk about that.

Kids share out, and they should mention that photos show us something.

Exactly—to show us something, let’s add that purpose to our Think Sheet.

GUIDE (10 minutes)

You can read nonfiction in many different ways. You can look at the photos, read the labels, and notice the title in any order you choose. So now that we have read the title and looked at the photos and the labels, let’s read the text on this page. Text is the words that tell the story.

Read text: All birds have wings. All birds have feathers. All birds have beaks.

The text also gives us information. Turn to each other and talk about this question: What do all birds have?

Kids share out and should answer “wings, feathers, beaks.”

That’s right. That is important information that the text gives us. We’ve found out that we get information from the title, labels, photos, and of course the text. Now it’s your turn, as I read pages 4 and 5, notice ways we get information, including text, photos, and labels.

Read pages 4-5 and lead a discussion. Have kids turn and talk about the pages, paying attention to the ways to get information, as well as the content itself.
Okay, now it’s time to share about the features we learned and what we learned from them. 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, and everyone likes to be listened to when they share out, so remember to pay attention to whoever is sharing.

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 out 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.

So today we learned about some important ways to get information from nonfiction. The titles can tell us in a quick way what the article is mainly about. The labels name the parts of something—in this case it was the parts of birds. The photos give us a ton of information, if we look closely at them. We also learned that the text is the words of the story and that we can, of course, get information from the text. So when you read nonfiction, remember to pay attention to the titles, labels, and photos as well as the text. Great job today, everyone!
Write the nonfiction features and their purpose.

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
A title is a feature of nonfiction. That means nonfiction always has a title. So I am going to write title on our Think Sheet in the feature column and jot down the title ______. Then I’m going to write to tell what the article is mostly about in the second column. That is the purpose of the title.

Now take a look at the photo of ______ on pages _____. See those words by the photos? They are called labels. They identify a part of the photo. See the one near ________. That says ________. I looked at the photo and then at the first letter of the label to help me read the word(s). It is easier to read a label. You can look at the photo and look at the first letter of the label to help figure out what it says. Does this make sense? Turn to each other and talk. What other labels can you see on these pages?

Kids notice and read the labels either because they can read the label or because they use the photo and first letter to help them read it. Kids share out other labels.

We can learn a lot from labels! Let’s add labels to our Think Sheet, and then I’ll put to name something as the purpose. And I can add photographs to the Think Sheet, too. If we look closely at photos, we can get quite a bit of information from them. What is the purpose of photos? Turn and talk about that.

Kids share out, and they should mention that photos show us something.

Exactly—to show us something, let’s add that purpose to our Think Sheet.
LESSON FRAME Navigate Nonfiction: Notice title, labels, photos, and text to get information

GUIDE (10 minutes)

You can read nonfiction in many different ways. You can look at the photos. You can read the labels and notice the title, and you can do that in any order you choose. So now that we have read the title and looked at the photos and the labels, let’s read the text on this page. Text is the words that tell the story.

Read text.

The text also gives us information. Turn to each other and talk about this.

*Kids share out.*

That’s right. That is important information that the text gives us. We’ve found out that we get information from the title, labels, photos, and of course the text. Now it’s your turn, as I read pages ______, notice ways we get information, including text, photos, and labels.

Read the pages and lead a discussion. Have kids turn and talk about the pages, paying attention to the ways to get information, as well as the content itself.

SHARE THE LEARNING (10 minutes)

Kids join a sharing circle with you and share out, using respectful language. Have kids share out some of the features and the information they got from the features they learned about.

Okay, now it’s time to share about the features we learned and what we learned from them. 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, and everyone likes to be listened to when they share out, so remember to pay attention to whoever is sharing.

*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 out 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.*

So today we learned about some important ways to get information from nonfiction. The titles can tell us in a quick way what the article is mainly about. The labels name things. The photos give us a ton of information, if we look closely at them. We also learned that the text is the words of the story and that we can, of course, get information from the text. So when you read nonfiction, remember to pay attention to the titles, labels, and photos as well as the text. Great job today, everyone!

COLLABORATE (25 Minutes)

Now, with a partner, read pages ______. Use the labels as well as the text and photos to help you get information. You can also use your Think Sheets to help you remember what the features of nonfiction are and their purpose. Does this make sense?

If you finish reading these pages, take a look at the other articles in this magazine. Remember all nonfiction articles have titles and titles give us a good idea of what the article is about. Also notice the labels and photos of the other articles and see what information you get from those features as well as the text.

*Partners read the rest of the article and continue reading their choice of the other selections, as they practice the navigate nonfiction strategy. Move around the room, conferring with partners.*
Science Background

Birds are warm-blooded vertebrates with wings, feathers, and a beak. They are found all over the world in every kind of habitat.

Most birds can fly. Many of their bones are hollow, so their bodies are light. Their chest muscles are strong and help them flap their wings.

The size and shape of a bird’s wings affect how it moves. Some birds fly great distances. Others can hover, swim, or dive. Some cannot fly at all. An ostrich can run very fast. A penguin swims with short wings.

Birds are the only animals with feathers. Feathers are lightweight and durable. Feathers help birds fly. They also protect them from water, heat, and cold.

A bird’s beak is also known as a bill. The main job of a beak is to gather or capture food. Birds also use their beaks for defense, to pick up things, drink, feed their young, and even clean their feathers. All birds lay eggs. Most of them use their beaks to build nests for their young.

Is It a Bird?

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 Standards 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. (1-LS1-1)
• NGSS Crosscutting Concepts: Patterns: Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1), (1-ESS1-2)

What You Will Need
• Things with Wings poster (Teacher’s edition)
• Science Master (page 10)

Engage
Display a collection of photos that includes different types of dogs, cats, and birds. As a class, sort the photos into groups, including type of animal. Ask students to explain why they sorted the animals into the groups they did.

Explore
Display pages 2-3 of the projectable magazine. Have students examine the photo. Then read aloud the title. Poll the class to see how many students think this animal is a bird. Brainstorm ideas about why it is a bird. Then read the article aloud or have students read it in groups, with a partner, or on their own.

Explain
After reading, point out to students that all birds have three essential parts: wings, feathers, and a beak. Encourage students to share what they know about each body part. Have students reading Voyager brainstorm ideas about what each part might help birds do. (Possible responses: Wings and feathers help birds fly. Birds use their beaks when they eat.) Point out to students that other animals have some of these body parts, too. But unless an animal has all three parts, it is not a bird. Divide the class into pairs. Have partners ask each other questions about the animals in the article. Challenge them to identify the two animals that are not birds (bat, turtle). Then have partners compare and contrast the variety of wings, feathers, and beaks they see. Rejoin as a class and invite students to share what they learned about birds. Guide students to understand that wings, feathers, and beaks come in different colors, shapes, and sizes. But as long as an animal has all three parts, it is a bird.

Elaborate
Display the Things With Wings poster. Read aloud the text at the top. Ask: How can we figure out which of these animals are birds? (A bird has wings, feathers, and a beak.) As a class, examine each animal. Tell students to look closely to see which animals have all three of these body parts. Challenge students to identify each bird on the poster. (hawk, flamingo, woodpecker, rooster, sparrow)

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: Is It a Bird?

Look at the animals. Look at their parts.

Make check marks to show which parts each animal has.

1. butterfly
   - wings
   - feathers
   - beak

2. penguin
   - wings
   - feathers
   - beak

3. turtle
   - wings
   - feathers
   - beak

4. owl
   - wings
   - feathers
   - beak

Circle "yes" or "no" to tell which of these animals is a bird.

1. butterfly yes no
2. penguin yes no
3. turtle yes no
4. owl yes no
Curious About Clouds

SCIENCE

Kindergarten Standards 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)
• NGSS Earth’s Systems: Use and share observations of local weather conditions to describe patterns over time. (K-ESS2-1)

First Grade Standard Supported
• NGSS Crosscutting Concepts: Patterns: Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1), (1-ESS1-2)

What You Will Need
• Hide and Seek poster (Teacher’s edition)
• Science Master (page 12)

ENGAGE
Invite each student to draw a picture of a cloud. Have students display their drawings on the board. Ask students to point out similarities and differences in the drawings. Encourage them to explain how they know each picture is a drawing of a cloud.

EXPLORE
Display pages 10-11 of the projectable magazine. Have students examine the photo. Encourage them to use their fingers to trace the shapes of clouds in this photo in their student magazines. Point out the cloud shapes around the page numbers at the bottom of the screen. Ask students to find clouds in the photo that most resemble these cloud shapes. Then read the article aloud or have students read it in groups, with a partner, or on their own.

EXPLAIN
After reading, have students turn and talk with a partner to discuss what they learned about clouds.
• Clouds are in the sky.
• Clouds are different shapes.
• Clouds can look like other things.
Point out that clouds are a type of weather. For students reading SCOUT, discuss what the weather was like when they saw different types of clouds. Have students reading VOYAGER identify traits of different types of clouds in the article. Guide students to understand that two people can see different shapes in the same cloud, and clouds constantly change shape as they float through the air.

ELABORATE
Display the Hide and Seek poster. Read aloud the text. Have students raise their hand if they see a horse, frog, or goose in the clouds. How about a mouse or a duck that’s swimming? What other animal shapes can they see?

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 Background

Clouds form when water droplets cling to dust in Earth’s atmosphere. There are hundreds of millions of water droplets in a cloud.

Clouds come in many different shapes and sizes. Given the right conditions, they may look like giant rolling waves, bubbles, or alien spaceships hovering in the sky. When clouds form on the ground, they are called fog.

There are four main types of clouds:
• cirro-form: high-level clouds composed of tiny ice crystals that often look like thin, wispy hairs;
• cumulo-form: puffy, heaping, low-level clouds that appear to float in the sky, separated from other clouds;
• strato-form: layered clouds in any layer of the atmosphere that look like a hazy white or gray mist; and
• nimbo-form: hybrid storm clouds that may look like low-level blankets or towering thunderstorms.
SCIENCE: Curious About Clouds

Look up at the sky. Be careful. Do not look at the sun!

Do you see clouds? Draw the clouds you see.

Finish each sentence. Tell about the clouds you see.

The clouds I see are ____________________________________________.

They look like ____________________________________________.
What Changes in Fall?

**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 Standards Supported**
- **NGSS Crosscutting Concepts: Patterns:** Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1), (1-ESS1-2)
- **NGSS Earth's Place in the Universe:** Make observations at different times of the year to relate the amount of daylight to the time of year.

**What You Will Need**
- Science Master (page 14)

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**Science Background**

A season is a time of year characterized by special climate conditions, including amount of light, temperature, and weather patterns. The four seasons—spring, summer, fall, and winter—follow each other in a regular pattern on Earth.

Seasons occur because Earth is tilted on its axis. As Earth revolves around the sun, the side tilted toward the sun experiences summer. It is winter in the side leaning away. Spring and fall occur in between these two seasons.

In the Northern Hemisphere, fall typically starts around September 22, and the days begin to get shorter. Many leaves turn red, yellow, or orange before they become brown and drop from the trees. Temperatures drop, too, as winter is approaching.

Plants that have been growing all summer ripen and produce fruit. Farmers harvest crops of apples, pumpkins, corn, and more.

Animals make their own preparations for the coming winter. Many birds, beetles, and other insects head south so they can spend winter in a warmer location. Some animals, like bears, stock up on food and prepare to hibernate. Other animals adapt so they can survive the colder weather.

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**ENGAGE**

Display a four-column chart. Label the columns for the four seasons (spring, summer, fall, winter). Invite students to brainstorm words and examples that describe each season such as names of months, types of weather, holidays, activities, or even descriptions of the plants and animals they see. Review the chart. Then poll the class to see which season students think it is right now.

**EXPLORE**

Display pages 16-17 of the projectable magazine. Guide students to recognize that these four photos show the same scene. Ask: **Why are they so different?** (The photos were taken during different seasons.) Discuss how the trees and weather changed from one season to the next. Then read the article aloud or have students read it in groups, with a partner, or on their own.

**EXPLAIN**

After reading, point out to students that each season brings changes. Ask: **What changes in fall?** (air, sun, animals, plants) Invite students to turn and talk with a partner to discuss how each of these things changes. Then encourage students to think about why these things change. Challenge them to recognize a link between the sun setting earlier, the air getting cooler, and the changes in plants and animals as winter approaches. Guide students to recognize that seasonal changes like this are a regular pattern on Earth.

**ELABORATE**

Point out to students that plants and animals aren’t the only living things that change when fall comes. People change, too. Encourage students to think about the clothes they wear, the sports they play, and even the places they go in fall that they can’t go any other time of the year—such as a pumpkin patch or Halloween party. Have students turn and talk with a partner to share details about their favorite fall activity.

**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.
Color these pictures to show summer and fall.

Write a sentence or draw a picture to tell what changed in fall.
Explore Maps

SOCIAL STUDIES

Standard Supported
• 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
• Social Studies Master (page 16)

Social Studies Background
Creating maps is an essential skill that students must learn in order to better understand the world around them. Maps relay knowledge that is both personally and socially useful. Understanding how to read maps helps people make decisions and solve problems, whether they are studying places in ancient history or just trying to find the quickest route to the grocery store.

To create an accurate map, students must know how to gather relevant information about the area the map will represent. That process begins with asking geographic questions and then organizing and analyzing the answers. Students can use those answers to create a detailed map that is simple and easy for others to use.

ENGAGE
Instruct students to turn their heads to look at the person sitting to their left. Then have them turn their heads to look at the person sitting to their right. Kindly correct any students who have trouble distinguishing between left and right. Then have the class brainstorm ideas about how they could draw a simple picture to show who is sitting where in the classroom.

EXPLORE
Display the activity on the back cover of the projectable magazine. Have students examine the picture. Ask: How is this picture like the one we just talked about? (It shows where things are in a classroom.) How is it different? (It shows things instead of people.) Read aloud the title and big idea. Discuss reasons why this picture is a map. Then read aloud the next two sentences or have students read them in groups, with a partner, or on their own.

EXPLAIN
After reading, point out to students that a map, like the picture of Classroom 210 on the back page, shows where things are. Say: Knowing where things are helps people make decisions and solve problems. For example, I can look at this map and decide if I need to look left or right to find the clock. The map can also help me find the door so I know where to exit the room in an emergency. Turn students’ attention to the questions below the map. Review the questions as a class. Have students turn and talk with a partner as they come up with new questions of their own. Challenge partners to use the map to find each answer.

ELABORATE
As a class, brainstorm ideas about the different types of things maps can show. Then display a map of your school. Challenge students to locate rooms such as the main office, clinic, and gymnasium. Encourage them to find the quickest way to the cafeteria. Have students trace the route they walk to reach your classroom each morning.

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.
Draw a map of your classroom.

My Classroom
ANSWER KEY

Language Arts
Think Sheet, page 6
Students should write nonfiction features and their purpose on the Think Sheet.

Is It a Bird?
Science: page 10
1. Butterfly: has wings; not a bird
2. Penguin: has wings, feathers, and a beak; is a bird
3. Turtle: has a beak; not a bird
4. Owl: has wings, feathers, and a beak; is a bird

Curious About Clouds
Science: page 12
Drawings will vary. Students should write one word that describes the clouds and a word or phrase that identifies something familiar that the clouds resemble.

What Changes in Fall?
Science: page 14
When coloring, students should select colors appropriate to the season. For example, the grass should be green in summer and browner in fall. Leaves should be green in summer but red, orange, or yellow in the fall. Students might draw apples on the trees. Apples should only be red in the fall picture. Sentences or drawings might mention differences in weather, the sun, plants, or animals.

Explore Maps
Social Studies: page 16
Students’ maps should resemble your classroom.

Explore Maps
Back page
1. four
2. a computer and a globe
3. right
4. Students’ maps should resemble your classroom.

Things with Wings Poster
BIRDS
flamingo
woodpecker
rooster
sparrow

NOT BIRDS
lady bug (insect)
moth (insect)
dragonfly (insect)
bat (mammal)
bee (insect)

Hide and Seek Poster
Students should find a cloud shaped like a horse, a duck, and a frog.