



TEACHER'S GUIDE

SCOUT AND VOYAGER | VOL. 20 NO. 5

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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

Here comes the Sun300L

Plant for the Planet400L

Dig390L

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.

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.



Visit EXPLORERMAG.ORG to access digital issues of Explorer magazine in **English** and **Spanish**. Engage students with digital read-alouds, videos, and interactive activities.

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 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, identify the main topic and retell key details of a text. (K-2)

First Grade Standard Supported

- **CCSS Reading Informational Text:** With prompting and support, identify the reasons an author gives to support points in a text. (K-8)

What You Will Need

- “Plant for the Planet” (Young Explorer)
- Think Sheet (Teacher’s Guide, pages 6-7)
- Pencils

CONNECT & ENGAGE (5 minutes)

Display the first page of “Plant for the Planet” in the digital magazine.

Titles tell what an article is about, especially with nonfiction. In the title, writers try to give us a clue about what the big idea of the article is. Turn and talk about why you think writers do this.

Kids turn and talk. They might mention that a title that gives readers a clue or a hint at the big idea can help readers know what they will be reading about. It might also help readers decide if they are interested in reading the article and learning more.

Let’s look at this title: “Plant for the Planet.” Let’s also look at the photos. There is a big photo of a large landscape of hills or mountains that are covered with trees. There is also a smaller photo of a boy who is next to tree trunks and in an area with lots of trees in the background. He might even be somewhere in that forest of trees in the bigger photo.

Given the title and the photos, what do you think “Plant for the Planet” might be about? Think about the title and the photos, and then turn and talk.

Kids turn and talk.

What an article is mainly about is called the big idea. Let’s read the text on this page now to see if we get more information.

Read aloud the text.

Well, we learned a lot more, didn’t we? It says right in the text that Felix, the boy in the photo, had a big idea that kids could plant trees around the world. That is a big idea, isn’t it? Still, I want to know more about this big idea, don’t you?

MODEL (10 minutes)

Display the next page of “Plant for the Planet.”

Nonfiction articles like the one we’re reading are often packed with lots of information. Because of that, we need to slow down, read closely, and pay attention to the details. The details tell us more about the big idea, and if we pay careful attention, these bits of information can help us further understand the big idea.

Watch and listen as I show you how I do this. I’m going to write down the details. Next, I’ll look again at all of the details and think about how they fit together and support the big idea. I’m also not forgetting that Felix had a big idea that kids could plant trees around the world. I wonder if that is the big idea of the article, too. We might think about that as we read more.

Read aloud the text. Then write down on sticky notes or on the board what the details are. Be sure to “think aloud” so students can understand how you are sorting through and processing the information. The details are worded a little differently in Scout and Voyager (see below). You can write down the details exactly as they are written in the article or paraphrase them a bit, as shown below.

Scout Details

- Felix learned that cars and buildings put a gas into the air that pollutes Earth.
- Felix learned that trees help by taking in the gas to make food, which helps clean the air.

Voyager Details

- Felix learned that we put a gas in the air with our cars, planes, and buildings that pollutes Earth.
- Felix read that trees take in the gas to make food, and they store the gas in their wood. This helps clean the air.

These details let me know that trees can help and how they can help. And I'm thinking about the title, "Plant for the Planet" and Felix's big idea that kids could plant trees around the world. I'm starting to understand why he had that big idea. What do you think? Turn and talk about that and about what you noticed me doing.

Let students turn and talk and then share out.

GUIDE (10 minutes)

Make sure kids have access to their own Think Sheets. Display the next page of "Plant for the Planet."

Let's keep reading. I'll read aloud some more text, and you can read along, too. Write down the details you hear on the Think Sheet squares.

Read aloud the text. Kids should note the details on their Think Sheet squares.

Scout Details

- Felix shared his big idea at school.
- The class planted a tree and started a group called Plant-for-the-Planet.
- Felix went to other schools and got more kids to plant trees.
- The group got bigger.

Voyager Details

- Felix shared his big idea with the kids at his school.
- They planted their first tree and started a group called Plant-for-the-Planet.
- Felix went to other schools and talked about planting trees.
- Those kids planted trees, too.
- Plant-for-the-Planet spread.

Okay, what details did we have on these pages? Do they support what we've been thinking is the big idea? How could we state the big idea a little differently, based on the details we've seen so far? Turn and talk about that, and then you can share out.

Encourage kids to think about how to synthesize the details and come up with a few different ways of stating the big idea. Remind them of Felix's big idea that kids could plant trees around the world. Ask if they think that is also the big idea of this article or if they want to state that a little differently to work with the details they are finding in the article. Some suggestions kids have might include the following:

- Planting trees can help the planet.
- Kids around the world plant trees for the planet.

Let kids know that as they read more and find out more information through details, they can continue to refine their thinking about what the big idea is.

COLLABORATE (25 minutes)

Now it's your turn. Find a partner and read the rest of the article together. Write down the details on your Think Sheet squares and keep talking about how they support the big idea. You should also keep talking about what you think the big idea is. With more details, you might have some different thoughts about what the big idea is.

While you are working together, I'm going to walk around the room to see if you need any help or have any questions.

Kids read, write down details, and talk about them and the big idea. Move around the room, conferring with partners.

Scout Details

- *Now, many kids around the world are in the group.*
- *The kids, with adults, have planted many trees.*
- *They want to plant even more.*
- *These trees will help the planet.*

Voyager Details

- *Today, many kids who live around the world are part of Plant-for-the-Planet.*
- *The kids work with adults to plant trees.*
- *Felix and the kids planted many trees around the world and have a new goal to plant even more trees to help planet Earth.*

Work with kids to come up with a big idea that is something like this: "Plant-for-the-Planet is a group of kids around the world who plant trees to help the planet."

SHARE THE LEARNING (10 minutes)

Who would like to share any interesting details or surprising information you learned that support the big idea? Remember to share using respectful language. First, tell what you want to share, and when you are finished, ask if there are any questions or comments. Then politely call on someone else who would like to share with the class.

Allow time for kids to share.

Paying close attention to the details and seeing how they all relate to one another and the big idea takes some real brain power. Great work today, everyone!

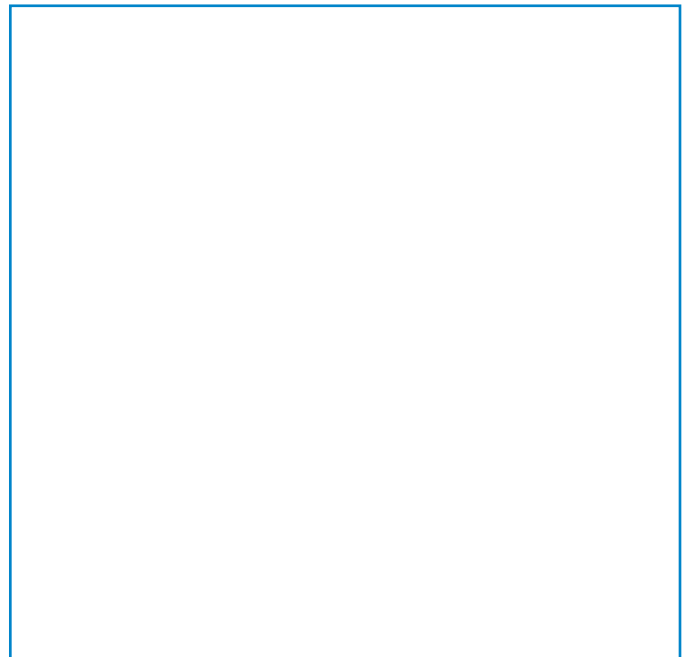
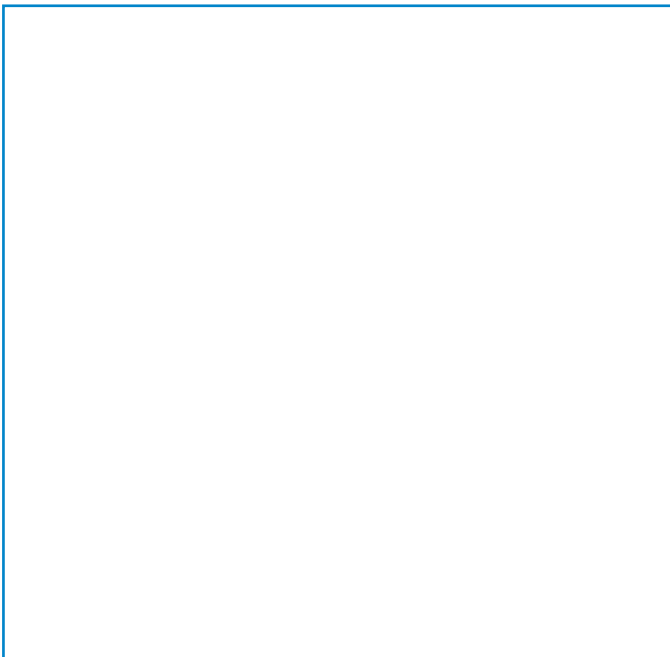
THINK SHEET

Write or draw the details in the squares.

Write the big idea on the line at the bottom.

HOJA DE PENSAR

Escribe o dibuja los detalles en los recuadros.
Escribe la gran idea sobre la línea en blanco.



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
- Pencils

CONNECT & ENGAGE (5 minutes)

Display the first page(s) of the article.

Titles tell what an article is about, especially with nonfiction. In the title, writers try to give us a clue about what the big idea of the article is. Turn and talk about why you think writers do this.

Kids turn and talk. They might mention that a title that gives readers a clue or a hint at the big idea can help readers know what they will be reading about. It might also help readers decide if they are interested in reading the article and learning more.

Let's look at this title: _____. What do you think the big idea of this article might be? Think about the title, and then turn and talk.

Kids turn and talk.

MODEL (10 minutes)

Display the next page(s) of the article.

Nonfiction articles like the one we're reading are often packed with lots of information. Because of that, we need to slow down, read closely, and pay attention to the details. The details tell us more about the topic, and if we pay careful attention, these bits of information can help us discover the big idea.

Watch and listen as I show you how I do this. I'm going to write down the details. Next, I'll look again at all of the details and think about how they fit together. I'm also not forgetting that we said the title can often be a clue to the big idea, so I'm going to keep that in mind, too.

Read aloud page(s) _____. Then write down on sticky notes or on the board what the details are. Be sure to "think aloud" so students can understand how you are sorting through and processing the information.

The details on these pages certainly support that _____. These details tell _____. What do you think? Turn and talk about that and about what you noticed me doing.

Let students turn and talk and then share out.

GUIDE (10 minutes)

Make sure kids have access to their own Think Sheets. Display the next page(s) of the article.

Let's keep reading. I'll read some more text aloud, and you can read along, too. Write down the details you hear on the Think Sheet squares.

Read aloud page(s) _____. Kids should note on their Think Sheet squares a few more details.

Okay, what details did we have? Do they support what we've been thinking might be the big idea? How could we state the big idea, based on the details we've seen so far? Turn and talk about that, and then you can share out.

Encourage kids to think about how to synthesize the details and come up with a few different ways of stating the big idea. Remind them to keep the title in mind, if it is useful for thinking about the big idea. Let kids know that as they read more and find out more information through details, they can continue to refine their thinking about what the big idea is.

COLLABORATE (25 Minutes)

Now it's your turn. Find a partner and read the rest of the article together. Write down the details on your Think Sheet squares and keep talking about how they support the big idea. You should also keep talking about what you think the big idea is. With more details, you might have some different thoughts about what the big idea is.

While you are working together, I'm going to walk around the room to see if you need any help or have any questions.

Kids read, write down details, and talk about them and the big idea. Move around the room, conferring with partners.

SHARE THE LEARNING (10 minutes)

Who would like to share any interesting details or surprising information you learned that support the big idea? Remember to share using respectful language. First, tell what you want to share, and when you are finished, ask if there are any questions or comments. Then politely call on someone else who would like to share with the class.

Allow time for kids to share.

Paying close attention to the details and seeing how they all relate to one another and the big idea takes some real brain power. Great work today, everyone!

Standards Supported

- **NGSS PS3.B: Conservation of Energy and Energy Transfer:** Sunlight warms Earth's surface. (K-PS3-1), (K-PS3-2)
- **NGSS LS1.D: Information Processing:** Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (1-LS1-1)

What You Will Need

- Interactive Digital Magazine
- Science Master (English and Spanish) (pages 11-12)

SCIENCE BACKGROUND

Geckos are reptiles found on all continents except Antarctica. They are a type of lizard and have adapted to live in habitats including rainforests, deserts, and cold mountain slopes.

Most geckos are nocturnal. They sleep during the day and are active at night. For the more than 100 gecko species that live in deserts, this trait helps them avoid the hot afternoon sun.

This is important because, like all reptiles, geckos are ectotherms, or cold-blooded animals. They maintain their body heat through their behaviors. To warm up, they seek out the morning sun. To stay cool, they dig a hole to hide from the sun's rays.

ENGAGE

Poll the class to see how many students have ever been to the beach. Invite volunteers to describe what it was like walking on the sand. Encourage them to include details about how the temperature of the sand changed throughout the day.

EXPLORE

Display the "Here Comes the Sun" article with the interactive digital magazine. Read aloud the headline and text on the opening pages. As a class, brainstorm ideas about what the gecko will do when the sand heats up. 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 from the article. Ask: **What did the sun do to the sand?** (*heated it up*) **What did this cause the gecko to do?** (*dig a hole in the sand*) **How did this help the gecko?** (*It helped the gecko keep cool during the hot day.*) As a class, discuss when the gecko might come out of his hole. Brainstorm ideas about what the gecko might do at night.

ELABORATE

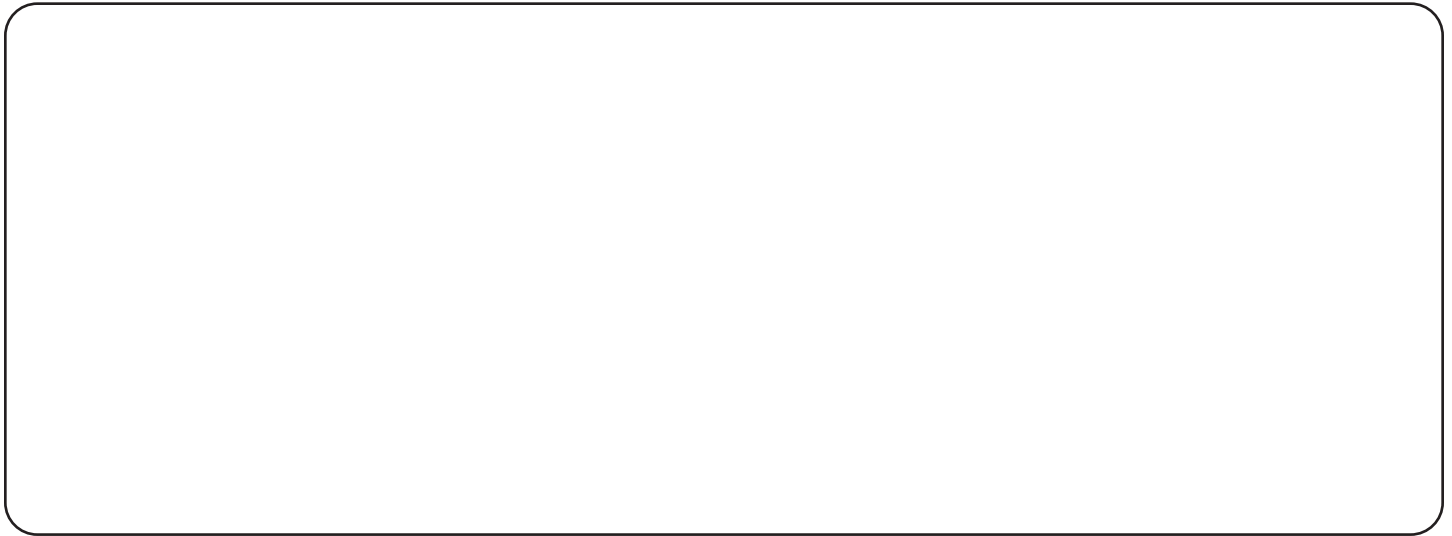
Point out to students that geckos aren't the only animals that take cover during the day to avoid the hot sun. As a class, conduct research to identify more animals that do this. Challenge students to find other ways animals beat the heat of the sun's rays.

EVALUATE

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

SCIENCE: HERE COMES THE SUN

Draw a picture of the sun shining on a gecko on the sand.



Now tell about the gecko and the sun.

Write the numbers 1–6 on the lines.

Put the steps in the correct order.

Number 1 has been done for you.

_____ The gecko digs a hole.

_____ The sand keeps the gecko cool.

_____ The gecko moves into the hole.

_____ The top of the sand gets hot.

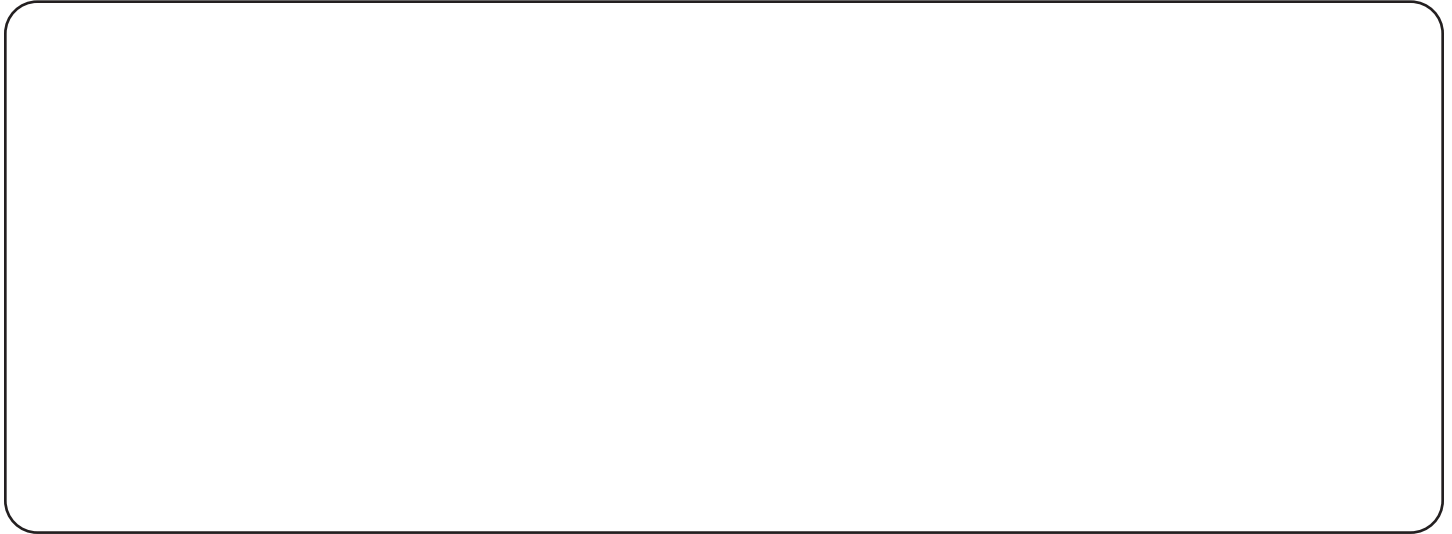
_____ The sand blocks the heat.

 1 The sun is rising.



CIENCIAS: ¡AHÍ VIENE EL SOL!

Dibuja un sol sobre un geco en la arena.



Ahora escribe algo acerca del geco y el sol.

Escribe los números del 1 al 6 en las líneas.

Pon los pasos en el orden correcto.

El paso número 1 ya está marcado.

_____ El geco hace un agujero.

_____ La arena mantiene fresco al geco.

_____ El geco se mete dentro del agujero.

_____ Por arriba, la arena quema.

_____ La arena bloquea el calor.

 1 El sol está saliendo.



Standard Supported

- **C3: Taking Informed Action:** Identify and explain a range of local, regional, and global problems, and some ways in which people are trying to address these problems. (D4.6.K-2)

What You Will Need

- Interactive Digital Magazine
- Social Studies Master (English and Spanish) (pages 14-15)

SOCIAL STUDIES BACKGROUND

When Felix Finkbeiner was nine years old, he gave a presentation in his fourth-grade classroom about Nobel Peace Prize winner Mangari Maathai, who planted 30 million trees in Kenya. That presentation inspired Felix, who set out to do the same.

The young German started his own organization, Plant-for-the-Planet. He wanted to encourage people around the world to plant trees. His movement was such a success that at the age of 13 he was invited to address the United Nations General Assembly. He told them, "We children know adults know the challenges and they know the solutions. We don't know why there is so little action."

To date, over 88,000 children have trained at his organization's academies in 74 countries. Together, they are on a mission to bring back a trillion trees.

ENGAGE

As a class, create a list of things that cause pollution. Invite volunteers to identify the pollutant they think is most harmful to Earth. Encourage students to share their reasons for selecting different items on the list.

EXPLORE

Display the "Plant for the Planet" article with the interactive digital magazine. Read aloud the headline and text on the opening pages. Brainstorm ideas about why Felix might want to plant trees around the world. Encourage students to share their ideas about how he did it. 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 Felix is one boy who saw a problem and had an idea. Ask: **What problem did Felix see?** (*air pollution*) **What did he learn about the problem?** (*Cars and buildings put a gas in the air that pollutes Earth. Trees can take in that gas and clean the air.*) **How was he able to plant millions of trees all around the world?** (*Beginning at his own school, he started a group and had kids plant trees. Now, kids from around the world are in his group and they all plant trees.*) Have students turn and talk as they discuss Felix's idea and how it will help save the planet.

ELABORATE

Point out to the class that Felix is an example of how one person can make a difference. Have students turn and talk in small groups to identify one change they would like to see in the world. Have students share ideas about how they could start making that change at their school. Challenge them to also identify ways to turn their idea into a global movement.

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.

SOCIAL STUDIES: PLANT FOR THE PLANET

Think about Felix and his big idea.

Draw a picture.

Tell how his idea will help the planet.



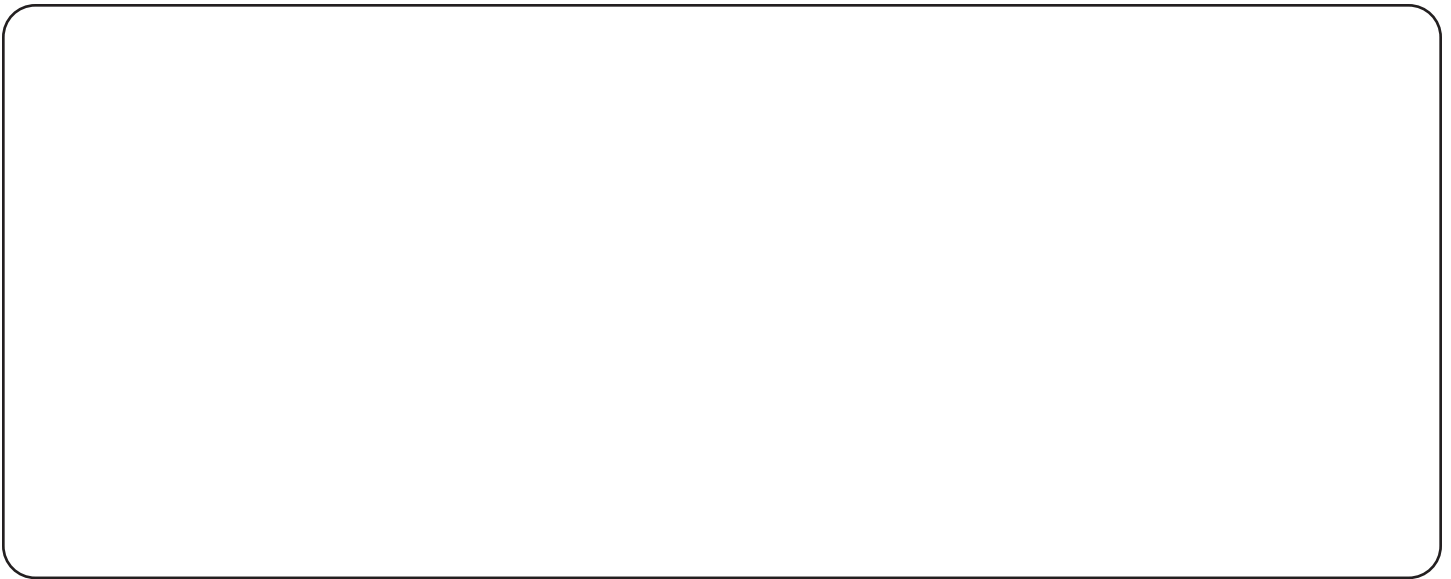
Four sets of primary-ruled lines for writing, each consisting of a solid top line, a dashed middle line, and a solid bottom line.

ESTUDIOS SOCIALES: PLANTA POR EL PLANETA

Piensa en Félix y en su gran idea.

Haz un dibujo.

Di cómo la idea de Félix ayudó al planeta.



Four sets of primary writing lines, each consisting of a solid top line, a dashed middle line, and a solid bottom line.

Standard Supported

- **C3: Historical Sources and Evidence:** Explain how historical sources can be used to study the past. (DS.HIS.10.K-2)

What You Will Need

- Interactive Digital Magazine
- Social Studies Master (English and Spanish) (pages 17-18)

SOCIAL STUDIES BACKGROUND

National Geographic Explorer Nora Shawki is an Egyptian archaeologist. For the past seven years, she has been excavating ancient sites in the Nile Delta.

While many archaeologists study Egyptian history, Shawki specializes in settlement archaeology. This new area of study focuses on people who lived in non-elite settlements. She is on a quest to learn about their daily lives and how they were impacted by royal policies so long ago.

Almost all of Shawki's excavations are in the Nile Delta. Uncovering the past here, she believes, is a race against time as modern villages expand and overtake the area.

ENGAGE

Prior to conducting this activity, select three or four small items and bury them in a container full of dirt. Display the container and invite volunteers to dig through it until they find each item. Encourage students to share what they know about each discovery.

EXPLORE

Display the "Dig" article with the interactive digital magazine. Read aloud the headline and text on the opening pages. As a class, brainstorm ideas about why Nora would want to dig and what she might discover when she does. Then read the article aloud or have students read it in groups, with a partner, or on their own.

EXPLAIN

After reading, discuss what an archaeologist is and what they search for when they dig. Ask: **What are some of the tools Nora uses when she digs?** (*picks, brushes, shovels*) **Why does she work slowly?** (*Possible response: So she doesn't accidentally break anything she discovers.*) **What did Nora discover when she dug in Egypt?** (*pottery and coins*) As a class, discuss what pottery and coins could tell Nora about the people who made and used them long ago..

ELABORATE

Remind students that Nora is an archaeologist working in Egypt. When she dug, she found old coins and pottery. Tell students to imagine that they are archaeologists. Where would they like to dig? What would they expect to discover? What could it tell them about the past?

EVALUATE

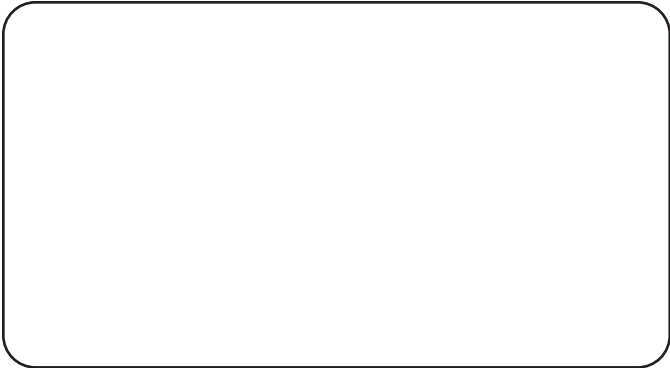
Have students complete the **Social Studies Master** for this lesson. Encourage them to share and compare their results in small groups or with a partner.

SOCIAL STUDIES: DIG

Draw pictures of two things Nora dug up.

Think about how people could use each one.

Share your ideas with a friend.



Draw pictures of two things you use.

Imagine someone dug them up in the future.

Write what they could learn about each.

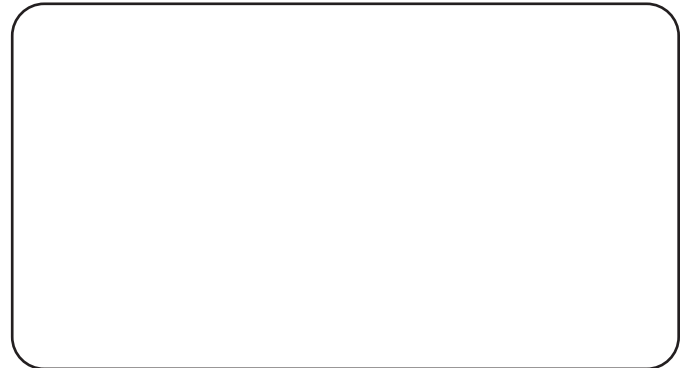
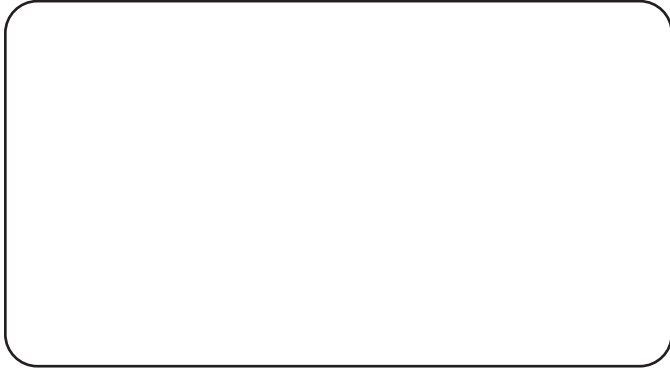


ESTUDIOS SOCIALES: ¡A EXCAVAR!

Dibuja dos cosas que haya desenterrado Nora.

¿Cómo podría usarlas la gente?

Comparte tus ideas con un amigo.



Dibuja dos cosas que uses mucho.

Imagina que alguien las desentierra en el futuro.

Escribe qué aprendería de esas cosas.



LANGUAGE ARTS

Think Sheet, page 6

Students should write or draw the details and write the big idea.

HERE COMES THE SUN

Science: page 11

Draw: Students should model a photo from the article to draw a picture of the sun shining on a gecko on the sand..

Number: 3, 6, 4, 2, 5, 1.

PLANT FOR THE PLANET

Social Studies: page 14

Draw: Students should draw a picture related to planting trees around the world.

Tell: Responses will vary, but students responses should include the facts that cars and buildings create a gas that pollutes Earth. Trees take in the gas to make food. This helps clean the air.

DIG

Social Studies: page 17

Part 1: Students should draw pictures of a coin and pottery shown in the article and share how people could use them.

Part 2: Students should draw pictures of two things they use. They should write a brief description telling what someone in the future could learn about the objects, such as how they were used or how old they are.

PLANT A TREE FOR EARTH DAY

Activity

1. tree
2. sunny
3. shovel
4. helps
5. fun

ARTES DEL LENGUAJE

Hoja de pensar, página 7

Los estudiantes deben escribir o dibujar los detalles y escribir la gran idea.

¡AHÍ VIENE EL SOL!

Ciencias: página 12

Dibuja: Los estudiantes deben fijarse en la foto del artículo para hacer un dibujo del sol sobre un geco en la arena.

Número: 3, 6, 4, 2, 5, 1.

PLANTA POR EL PLANETA

Estudios sociales: página 15

Dibuja: Los estudiantes deben hacer un dibujo relacionado con los árboles plantados por el mundo.

Cuenta: Las respuestas de los estudiantes variarán, pero deben incluir que los autos y los edificios liberan un gas que contamina la Tierra. Con ese gas, los árboles fabrican comida. Y limpian el aire.

¡A EXCAVAR!

Estudios sociales: página 18

Parte 1: Los estudiantes deben hacer un dibujo de una moneda y de una pieza de cerámica mostradas en el artículo, y compartir cómo la gente podría usarlas.

Parte 2: Los estudiantes deben dibujar dos cosas que suelen usar. Deben escribir una breve descripción sobre lo que alguien, en el futuro, podría aprender de esos objetos; por ejemplo, cómo se usaban y cuántos años tienen.

PLANTA UN ARBOL EL DIA DE LA TIERRA

Actividad

1. un árbol
2. soleado
3. una pala
4. ayuda
5. divertimos