

California

Wonders

ELD Companion Worktext

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Education

Unit 4 ●



1 Comprehension

Cause and Effect

Look at the first paragraph.

Why did the brothers learn a lot about flying?

The brothers learned a lot about

flying because _____

_____.

2 Specific Vocabulary ACT

Gravity is a science word. It describes why objects fall to the ground. Which words tell what happened when the brothers conquered gravity? Circle the words.

3 Sentence Structure ACT

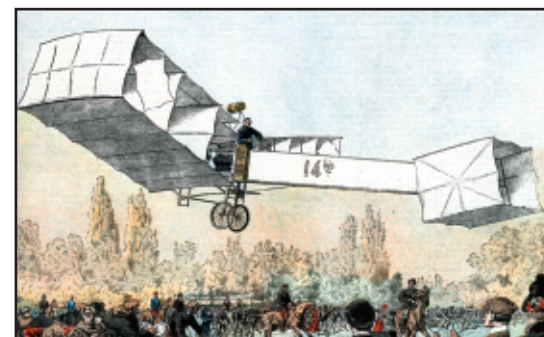
Look at the last paragraph. Draw a box around the part of the third sentence that tells when other people tried to fly airplanes. Circle the punctuation that sets this information apart.

The Wright brothers' first flight was not successful. As a result, they learned a lot about flying. So they built a glider with bigger wings in 1900. It did not work well either. In 1903, they built the *Wright Flyer*. It was their first airplane with an engine.

Flying Firsts

The Wright brothers were ready to test the *Wright Flyer*. Orville flew the plane. Wilbur watched from the ground. The flight lasted twelve seconds. With this flight, the Wright brothers conquered **gravity**. The plane moved in an upward direction. The brothers **unlocked** the secrets of flying.

Orville and Wilbur continued to make better planes. Their flights became longer. Soon, other people tried to fly airplanes.



Alberto Santos-Dumont was the third man in the world to fly a plane with an engine.

Heritage Images/Corbis

Will It Fly?

Do an experiment on flying. Use a paper airplane.

Materials needed:

• pencil • paper • ruler

Directions:

1. Fold two paper airplanes with a partner. Make the planes' wings different.
2. Gently throw one plane.
3. Measure how far the plane flew. Write it down.

4. Throw the plane four more times. Take turns. Measure and write down how far it flies each time.
5. Do the same thing with the other airplane.
6. Compare how far each plane flew. Then talk about what you learned.

Alberto Santos-Dumont was an inventor and pilot from Brazil. In 1906, he made the first official flight in front of an audience. The next year, a French pilot flew with a passenger in his plane. They flew for one minute and fourteen seconds.

Better Flying Machines

As time passed, better planes traveled longer distances. In 1909, a pilot flew across the English Channel.

Soon, inventors were building airplanes that carried more people. By 1920, new companies offered passengers the **chance** to fly. Humans had figured out how to fly!



This is what an airplane looked like in 1930.

Make Connections



How did the Wright brothers help people fly? **ESSENTIAL QUESTION**

Tell what you know about airplanes. Discuss other ways to fly. **TEXT TO SELF**

Text Evidence



1 Comprehension Cause and Effect

Look at the second paragraph. What happened when people invented better planes?

Better planes were able to

2 Specific Vocabulary ACT

Reread the second sentence in the last paragraph. The word *chance* means something that is possible. Circle what passengers had the chance to do.



COLLABORATE

3 Talk About It

How did inventors make it possible for people to fly in airplanes? Cite text evidence.

Inventors made

Respond to the Text



Partner Discussion Work with a partner. Read the questions about “Firsts in Flight.” Show where you found text evidence. Write the page numbers. Then discuss what you learned.

<p>How did the Wright brothers learn to fly?</p> <p>The Wright brothers went to _____ to fly _____.</p> <p>First, they flew gliders that _____.</p> <p>They flew an airplane with an engine _____.</p>	<p>Text Evidence </p> <p>Page(s): _____</p> <p>Page(s): _____</p> <p>Page(s): _____</p>
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<p>How did other inventors make flying possible?</p> <p>Alberto Santos-Dumont flew in front of _____.</p> <p>Henri Farman flew with a _____.</p> <p>Other inventors made planes that _____ and _____.</p>	<p>Text Evidence </p> <p>Page(s): _____</p> <p>Page(s): _____</p> <p>Page(s): _____</p>
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Group Discussion Present your answers to the group. Cite text evidence for your ideas. Listen to and discuss the group’s opinions.



Write Work with a partner. Look at your notes about “Firsts in Flight.” Write your answer to the Essential Question. Use text evidence to support your answer. Use vocabulary words in your writing.

How did inventors learn to fly?

First, the Wright brothers flew _____
_____.

Then the Wright brothers made an airplane _____
_____.

Other inventors made _____ that flew _____ and
_____.



Share Writing Present your writing to the class. Discuss their opinions. Talk about their ideas. Explain why you agree or disagree with their ideas. You can say:

I agree with _____.

That’s a good comment, but _____.

Write to Sources



Take Notes About the Text I took notes on this chart to answer the question: *How did the Wright brothers help people fly? Support your answer with text evidence.*



pages 44–47

Main Idea

The Wright brothers helped people fly because they built an airplane.

Detail

The first flying machines did not work.

Detail

The brothers tried to make a flying machine again.

Detail

The brothers built an airplane in 1903.

Detail

It flew for 12 seconds.

Write About the Text I used my notes to write about how the Wright brothers helped people fly.

Student Model: *Informative Text*

The Wright brothers helped people fly because they built an airplane. The brothers made flying machines. The first machines did not work. The brothers tried again. Then the brothers built a plane in 1903. It flew for 12 seconds. Then other people started making airplanes. The Wright brothers' airplane helped people fly.

TALK ABOUT IT



Text Evidence

Draw a box around the conclusion. Does this sentence retell Mina's main idea in different words?

Grammar

Underline the fifth sentence about when the Wright brothers built a plane. How can you add the words *with an engine* to describe the plane?

Connect Ideas

Circle the third and fourth sentences. How can you use the word *so* to connect the ideas?



Your Turn

Explain why it is important to try again when an invention does not work. Use text evidence to support your answer.

>> Go Digital

Write your response online. Use your editing checklist.

TALK ABOUT IT

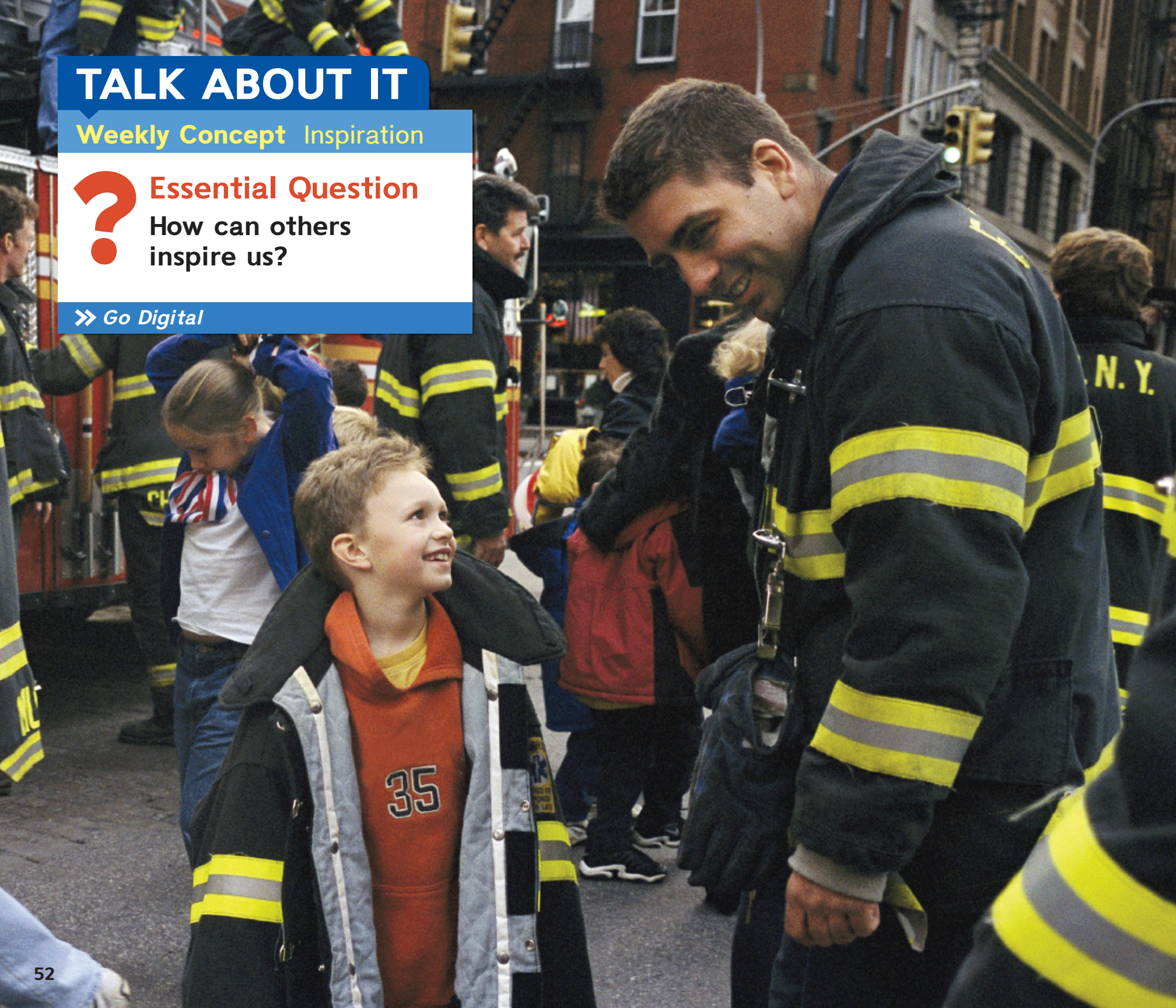
Weekly Concept Inspiration



Essential Question

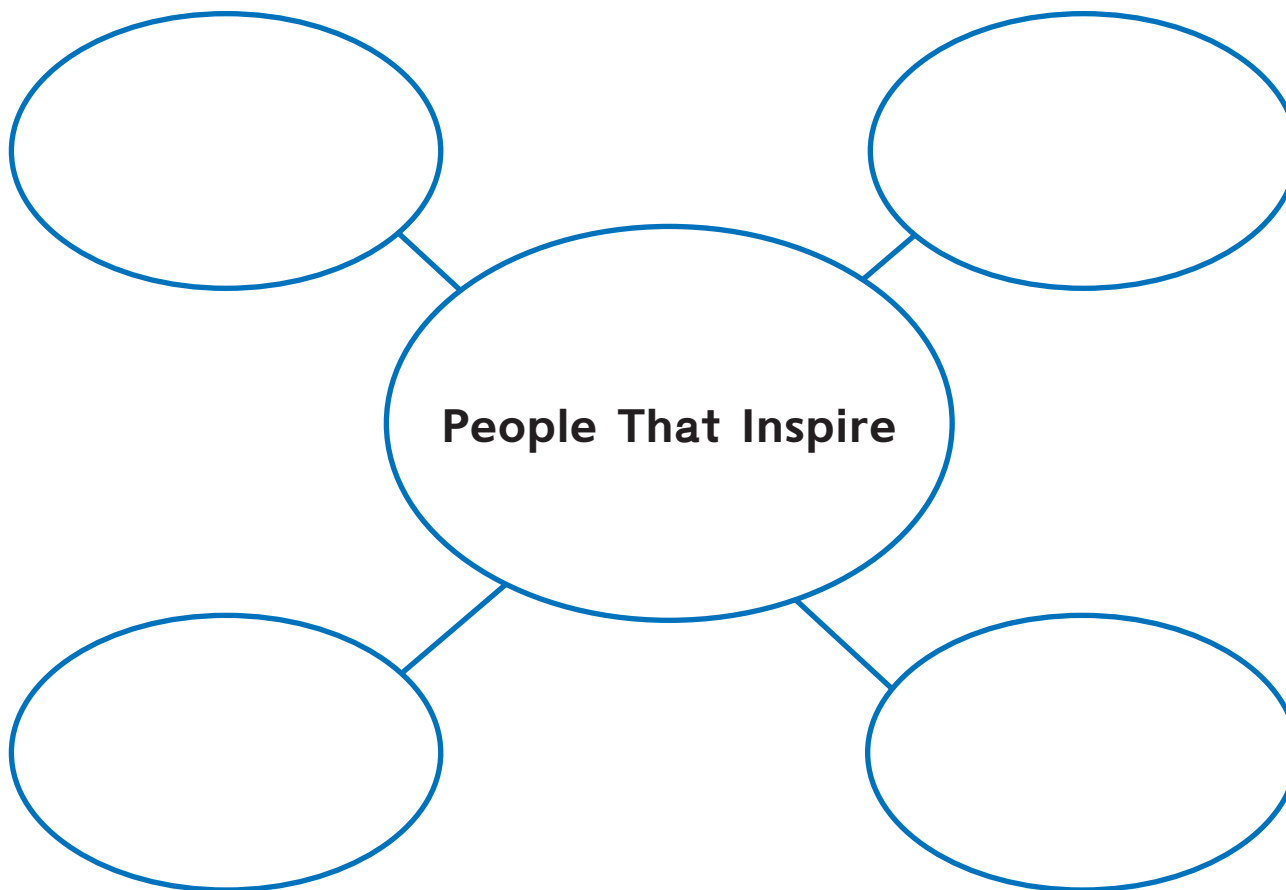
How can others inspire us?

» Go Digital





How does the fireman inspire others? Write words for people that inspire others in the chart. Talk about who inspires you.



Talk about people that inspire others. Use the words from the chart. You can say:

A _____ and _____ can inspire their children by working hard.

A _____ can inspire others by being a good leader.

A _____ can inspire others by being kind or helping.

More Vocabulary



Look at the picture. Read the word. Then read the sentences. Talk about the word with a partner. Answer the questions.



guide

We used a map to **guide** us.

What does the word *guide* mean?

The word *guide* means _____

_____.



pale

The flowers are **pale** pink.

What word means the opposite of *pale*?

The opposite of *pale* is _____

_____.

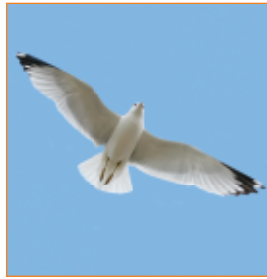
Poetry Terms

metaphor

A **metaphor** compares two things. The two things are very different.

Our **ship** was a **bird**.

ship = bird



rhyme

The words *cat* and *hat* **rhyme**. They end in the same sound.

The big black **cat** is asleep on my **hat**.



repetition

Repetition repeats the same word or phrase.

I won! I won!



COLLABORATE

Work with a partner.
Make up a rhyme.
Use the words below.
Say it together.

hog jog dog

The _____ likes
to _____ with
the _____.



COLLABORATE

1 Talk About It

What is the poem about? How do you know? Discuss your answers. Write your ideas.

2 Literary Element Repetition

Reread the first four lines of the poem. Circle the phrases that are repeated.

3 Specific Vocabulary ACT

Look at the third section. Circle the word *terrified*. *Terrified* means “really scared.” Why was the crew terrified? Underline two details that tell you.

Captain's Log,

May 12, 1868

We set sail from a port in Spain,
Sun high, no sign of rain.
The sea was satin, so blue—so blue.
Our ship was a bird, we flew—we flew.

Just past noon, how very weird,
Came a sound that we most feared.
Thunder rumbled, a giant drum.
Thunder rumbled, rum tum tum.

Rain was pouring, pouring.
The wind was a monster, roaring, roaring.
My crew, extremely **terrified**,
Froze at their posts, **pale** and wide-eyed.

Essential Question



How can another person inspire us?

Read about different ways that people inspire others.

A huge wave lifted up our ship,
My feet began to slip, slip, slip.
I knew that it was up to me,
To **guide** us through that stormy sea.

I grabbed a rope, reached for the mast,
And got back to the helm at last—at last
Shook off the rain, looked at my crew,
“Steady lads, I’ll get us through.”

The crew heard my call,
Each lad stood up tall.
All hands now on deck, we trimmed every sail.
Courageous, together, we rode out that gale.

Make Connections



Talk about how the person in the poem is inspiring. **ESSENTIAL QUESTION**

Is the captain in this poem inspiring to you? Why? **TEXT TO SELF**

Text Evidence



1 Literary Element Rhyme

Reread the first section. Look at the third and fourth lines. Circle the words that rhyme. Write the words.

2 Comprehension Theme

Reread the last section. Draw a box around the lines that show how the captain inspired the crew.



COLLABORATE



3 Talk About It

How does the captain describe the actions of the crew? Discuss your answer. Find the word that tells you. Write the word.

Respond to the Text



Partner Discussion Work with a partner. Read the questions about “Captain’s Log.” Show where you found text evidence. Write the page numbers. Then discuss what you learned.

<p>Why is the crew in danger?</p> <p>At first, the weather is _____.</p> <p>Then rain begins _____.</p> <p>A huge wave _____.</p>	<p>Text Evidence </p> <p>Page(s): _____</p> <p>Page(s): _____</p> <p>Page(s): _____</p>
<p>What does the captain do?</p> <p>First, the captain grabs _____.</p> <p>Then the captain says _____.</p> <p>The crew hear his call and _____.</p>	<p>Text Evidence </p> <p>Page(s): _____</p> <p>Page(s): _____</p> <p>Page(s): _____</p>



Group Discussion Present your answers to the group. Cite text evidence for your ideas. Listen to and discuss the group’s opinions.



Write Work with a partner. Look at your notes about “Captain’s Log.” Write your answer to the Essential Question. Use text evidence to support your answer. Use vocabulary words in your writing.

How does the captain inspire his crew?

The crew feels terrified because _____.

A huge wave _____.

Then the captain grabs _____ and tells the crew _____.

The captain and the crew _____.



Share Writing Present your writing to the class. Discuss their opinions. Talk about their ideas. Explain why you agree or disagree with their ideas. You can say:

I agree with _____.

That’s a good comment, but _____.

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TALK ABOUT IT

Weekly Concept New Ideas



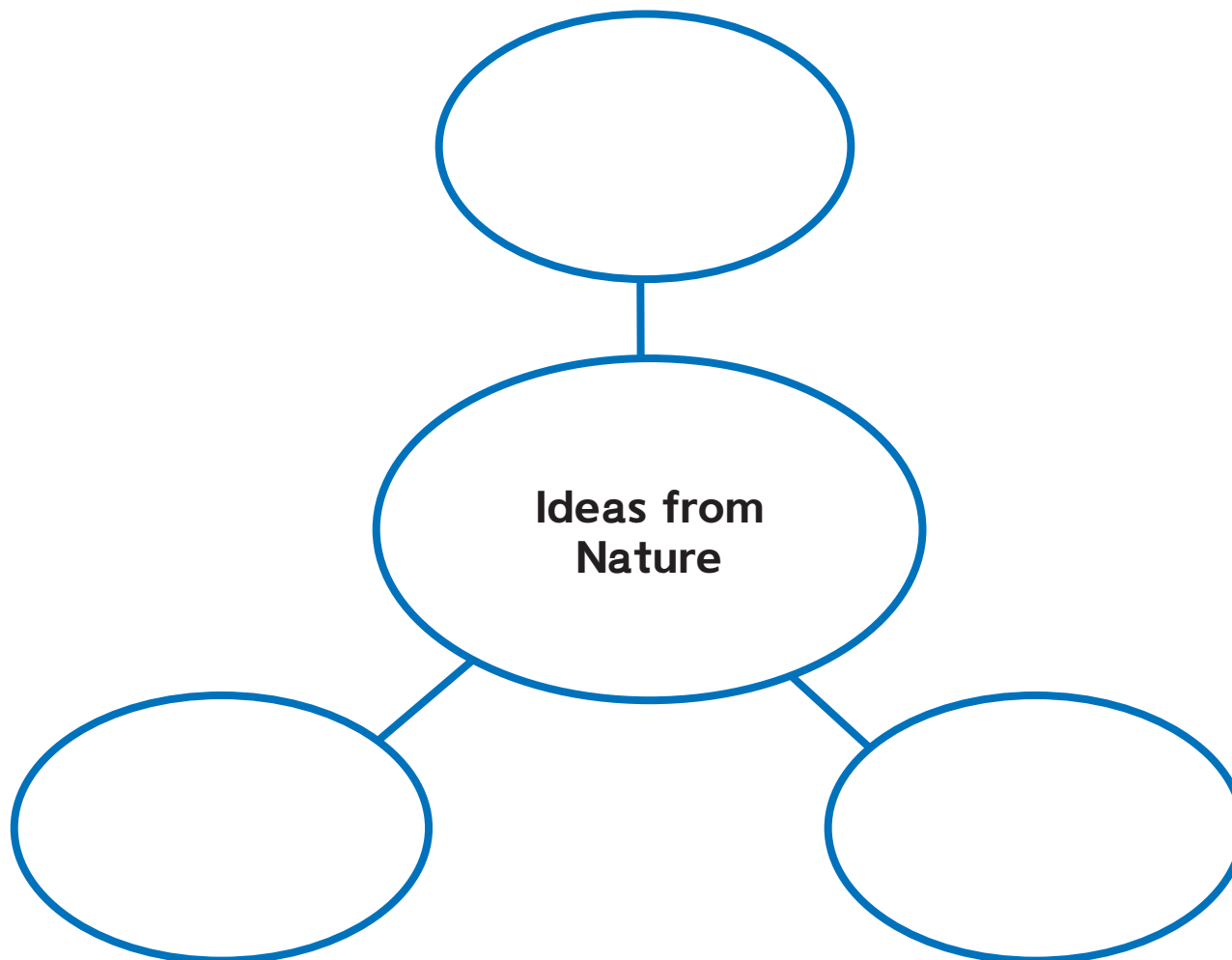
Essential Question

What ideas can we get from nature?

» *Go Digital*



What is the boy learning about in the picture? What can people learn from nature? Write ideas about nature in the web. Describe how humans use the ideas from nature to make new things.



Discuss inventions inspired by things from nature. Use the words from the chart. You can say:

A _____ inspired scientists to make _____.

More Vocabulary



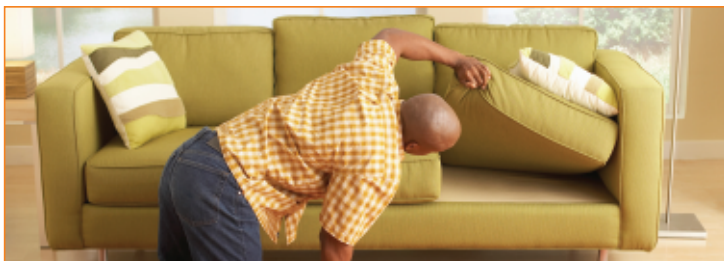
Look at the picture and read the word. Then read the sentences.
Talk about the word with a partner. Write your own sentence.



inspiration

The photographer gets **inspiration** from trees.

I find *inspiration* when I _____



locate

I need to **locate** my lost car keys.

Another word for *locate* is _____



navigate

The people use a map to **navigate**.

Maps help people *navigate* because



objects

I see many **objects** on the desk.

Some *objects* in my backpack are _____



observations

Lena makes **observations** about nature.

I make *observations* when _____

_____.



ordinary

The boys wear **ordinary** white shirts.

The word *ordinary* means _____

_____.

Words and Phrases

Suffix *-ion*

Add the suffix *-ion* to a verb to make it a noun.

discuss + -ion = *discussion*

We had a discussion about the stars.

invent + -ion = *invention*

The telephone was an important invention.

Circle the word with the suffix *-ion*.

We use subtraction in mathematics.

I added the cards to my collection.

Write your own sentences using *subtraction* and *collection*.

» Go Digital Add the words with the suffix *-ion* to your New Words notebook. Write your sentences with the words in your notebook.



COLLABORATE

1 Talk About It

Read the title. Discuss what you see. Write your ideas.

What does the title tell you?

Who do you see on page 201?

What is he doing?

Take notes as you read the text.

BATS DID IT FIRST



Essential Question



What ideas do we get from nature?

Read about how bats inspired a new cane for blind people.

(bkgd) ©Radius Images/Alamy, (d) Ewen Charlton/Moment/Getty Images



Nature is full of great ideas. Many inventors and scientists just step outside and look around for **inspiration** and ideas. They often **imitate**, or copy, what they see outdoors. They use nature to inspire their inventions.

One amazing invention was inspired by bats. It is a special cane that helps blind people **navigate** and get around.

This boy is blind and uses a special cane to help him get around.



ELD.PI.3.1.Ex, ELD.PI.3.1.Br, ELD.PI.3.6.Ex, ELD.PI.3.6.Br, ELD.PII.3.2a.Ex, ELD.PII.3.2a.Br
See the California Standards section.

1 Specific Vocabulary **ACT**

Look at the third sentence in the first paragraph. What context clue shows the meaning of *imitate*? Circle the word.

2 Comprehension

Main Idea and Key Details

Reread the first paragraph. Where do inventors and scientists get ideas? Underline the key details that support this main idea.

3 Sentence Structure **ACT**

Reread the last paragraph. Circle the pronoun in the second sentence. Which noun does the pronoun refer to? Write the noun.



1 Sentence Structure **ACT**

Look at the last sentence in the first paragraph. The word *as* connects two parts of the sentence. It shows two things happening at the same time. When do canes help blind people move safely? Underline the sentence part that tells you.

2 Specific Vocabulary **ACT**

The word *bat-inspired* means “an idea that came from bats.” What object is bat-inspired? Circle the word.

3 Comprehension

Main Idea and Key Details

Reread the last paragraph. How did the scientist think of an idea for a new cane? Write a detail that supports this main idea.

Canes Lead the Way

Many blind people use canes. They tap the canes on the ground in front of them to **locate objects** that may be in the way. This helps them move around safely as they do their shopping or walk outdoors.

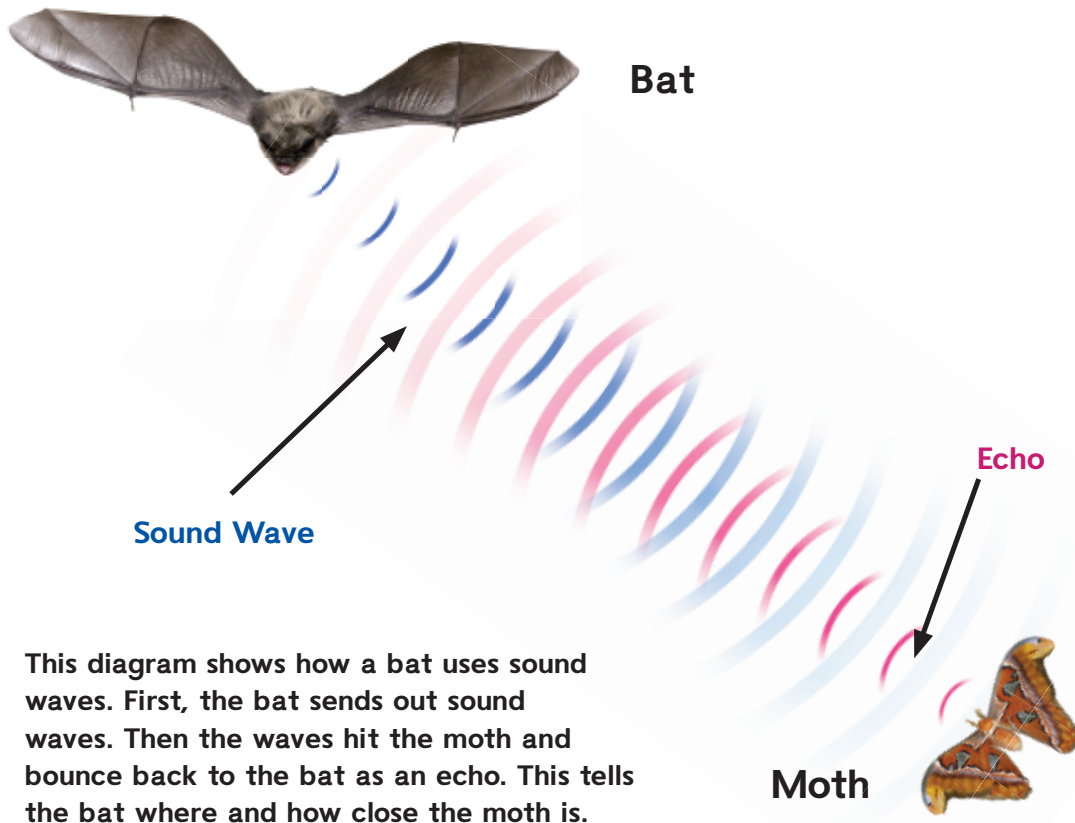
The **bat-inspired** cane is different from these canes. It sends out sound waves, or signals. These signals are almost identical to the ones bats use to find their way in the dark.

How Bats Get Around

The scientist that came up with the idea for the new cane was inspired by watching bats. He observed the way bats fly at night. The bats make high-pitched sounds that people cannot hear. These sounds create an amazing navigation system for the bats. Here’s how it works.

Bats send sound waves out through their mouth or nose. These sound waves hit objects and then bounce back as an **echo**. The echo tells the bats how far away an object is and how big it is. This information helps bats find bugs to eat. It is also an effective way to keep bats from bumping into trees and other bats.

How Bats Use Sound Waves



1 Sentence Structure ACT

Reread the second sentence. Circle the subject of the sentence. Underline the two actions in the predicate.

2 Specific Vocabulary ACT

Read the second sentence. What words in the sentence tell you the meaning of the word *echo*? Draw a box around the words.



3 Talk About It

How do echoes from sound waves help bats? Write your ideas. Cite text evidence.

Text Evidence

1 Sentence Structure ACT

Read sentences six and seven in the first paragraph. Circle the connecting word that shows a sequence of events. Underline what the scientist did after he built the cane.

2 Comprehension

Main Idea and Key Details

Reread the heading for the second paragraph. Then reread the key details in the paragraph. Write the main idea of the paragraph.

3 Specific Vocabulary ACT

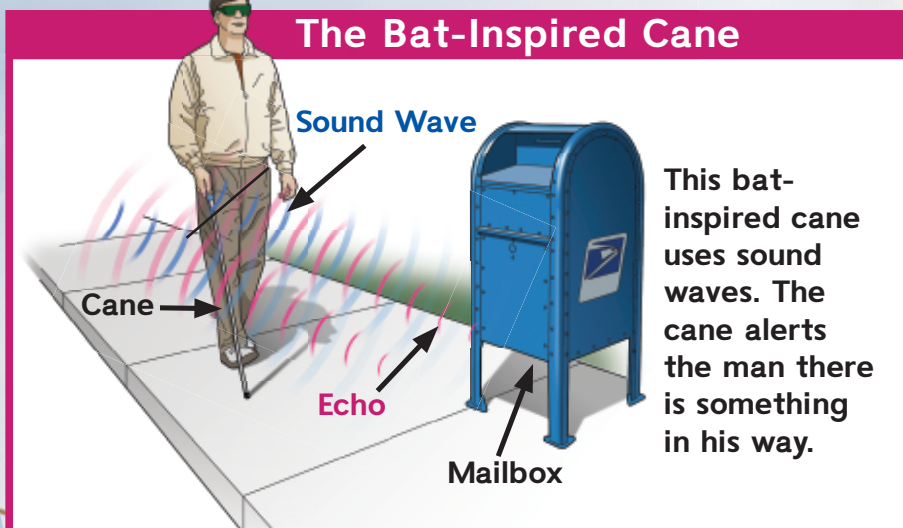
Reread the second paragraph. The word *vibrate* means “to shake quickly.” What vibrates on the cane? Circle the words that tell you.

A Batty Idea

The scientist who invented the new cane took what he learned from observing bats. He used a similar idea. He started with an **ordinary** white cane. He wanted the cane to imitate the way bats use sound waves. So, he sketched plans and made a model of his invention. When he built the cane, the scientist used a special material that was lightweight and strong. Then he added sound waves. Finally, a team of scientists tested the cane. It worked!

How the Cane Works

The handle of the cane sends out signals. The signals bounce off objects in front of the cane. Then an echo bounces back to the cane’s handle. The person holding it feels buttons on the handle **vibrate**, or shake. These buttons tell the person how far away and how big the object is.



ELD.PI.3.1.Ex, ELD.PI.3.1.Br, ELD.PI.3.6.Ex, ELD.PI.3.6.Br, ELD.PII.3.2b.Ex, ELD.PII.2b.Br
See the California Standards section.



Scientists and **inventors** study plants and animals all the time. Their **observations** have led them to invent many useful things. And like many new inventions, the bat-inspired cane is a good example of how great ideas can come from nature.

This scientist is studying how bats fly.

Make Connections



How did bats inspire a cane that helps blind people? **ESSENTIAL QUESTION**

What is something in nature that inspires you? What would you invent? **TEXT TO SELF**

1 Specific Vocabulary

Circle the root word in *inventor*. The suffix *-or* means “a person who does something.” What does the word *inventor* mean?

2 Sentence Structure **A C T**

Look at the last sentence. Circle the comma. The words before the comma give more information about the subject of the sentence. Underline the subject of the sentence.



COLLABORATE

3 Talk About It

Why do scientists study plants and animals? Use text evidence.

Respond to the Text



Partner Discussion Work with a partner. Answer the questions. Discuss what you learned about “Bats Did It First.” Write the page numbers where you found text evidence.

How do bats navigate at night?

Bats make _____.

The sound waves _____.

The echo tells bats _____.

Text Evidence

Page(s): _____

Page(s): _____

Page(s): _____

How was the new cane for blind people invented?

A scientist observed bats _____.

He created _____.

The cane uses an echo to _____.

Text Evidence

Page(s): _____

Page(s): _____

Page(s): _____



Group Discussion Present your answers to the group. Cite text evidence to justify your thinking. Listen to and discuss the group’s opinions about your answers.



Write Work with a partner. Review your notes about “Bats Did It First.” Then write your answer to the Essential Question. Use text evidence to support your answer. Use vocabulary words in your writing.

What idea did scientists get from bats?

Bats make sound waves that _____

_____.

A scientist watched _____ and created _____

_____.

The cane uses _____

_____.

The cane helps blind people _____.



Share Writing Present your writing to the class. Discuss their opinions. Think about what the class has to say. Did they justify their claims? Explain why you agree or disagree with their claims.

I agree with _____.

That’s a good comment, but _____.

Write to Sources



Take Notes About the Text I took notes on this chart to answer the question: *Why is the new cane better than other canes? Use details from the text.*



pages 200–205

Main Idea	Details
The new cane is better than other canes. It tells blind people how far away objects are.	The cane sends out signals like a bat.
	Other canes do not send out signals.
	The cane vibrates and tells the person how far away an object is.

Write About the Text I used notes from my chart to write an informative paragraph about the new cane.

Student Model: *Informative Text*

The new cane is better than other canes because it tells blind people how far away objects are. It sends out signals like a bat. Other canes cannot do this.

The cane sends out signals, and the signals hit objects in front of the cane. The person holding the cane will feel the cane vibrate. The cane is a good invention because it helps blind people walk and move around.

TALK ABOUT IT



Text Evidence

Draw a box around the second sentence. Why does Aisha use this information as a supporting detail?

Grammar

Circle the sentence about the person holding the cane. What is the future-tense verb?

Connect Ideas

Underline the second and third sentences. How can you combine these sentences?

Your Turn



How does the author help us understand how bats use signals? Use details from the text.

>> Go Digital

Write your response online. Use your editing checklist.