

LP

THE SOLAR SYSTEM

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THE
SOLAR
SYSTEM

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STRUCTURED GUIDED READING

Intro Introduction

Leveled Books

Beginning with the second grade reading level, lexiles are used to level each book. Other popular leveling systems are provided for comparison. See the back cover.

Organization

Lesson Plan (LP) books are organized into four sections:



Before Reading

It is highly recommended that Structured Guided Reading lessons always begin with **word recognition work** and **oral reading fluency practice** as described in the Before Reading section.

Building Background Knowledge

Teachers introduce unfamiliar concepts, directly teach vocabulary, and explore maps and the geography related to the content of the book.

Read and Discuss

Teachers guide students as they read aloud, in a **small voice**, each page of text. Teachers follow a systematic and structured instructional protocol.

Instruction is standards-based, with particular emphasis on vocabulary and comprehension skills and strategies, and using evidence in text to support text-dependent questions.

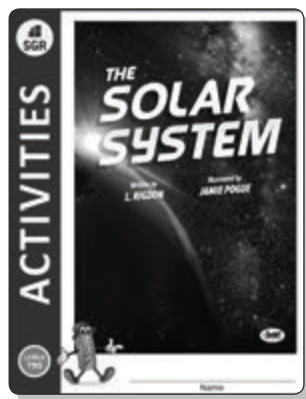
Extended Activities & Assessments

Multiple activities and assessments are available for every book. Descriptions are at the back of each Lesson Plan Book.

Activity Pack

Extended activities and assessments are found in the Activity Packs bundled with the Structured Guided Reading sets of books and lesson plans.

The Activity Packs also may be accessed from our website to view, project, and print.



Structured Lessons

Lessons are structured, systematic, and predictable.

Black font color indicates what the teacher says.

Blue font color indicates a direction or an answer to a question.

Before Reading



Word Recognition

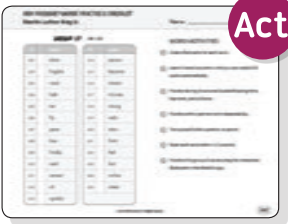
HIGH FREQUENCY WORDS GROUP 17			
401	402	403	404
done	person		
English	became		
road	shown		
habit	minutes		
ten	strong		
fly	verb		
grow	stars		
box	front		
finally	feet		
wait	fast		
correct	inches		
oh	street		
quickly			

Begin each Structured Guided Reading lesson with a few minutes of word recognition work using the word list found at the back of the student book.

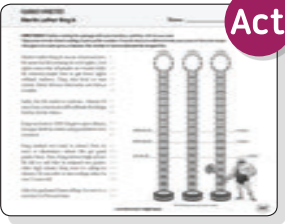
These words represent one group of 25 words from *Fry's 1000 Instant Words* and words with the most common affixes and Greek/Latin roots.

The goal is for students to read each word automatically (1-2 seconds). The High Frequency Word Checklist,

found in the Activity Pack, can be used to assess students. It also includes suggested word activities.



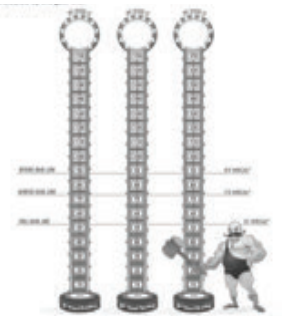
Oral Reading Fluency



Act

Continue with oral reading fluency practice after word recognition work.

In the Activity Pack is a passage taken from this book with numbered lines and three score towers. On the first day in this book, administer a one-minute timed cold read. Students count the number of words read correctly (WRC) and record the WRC in the first score tower.



On subsequent days, students practice oral reading fluency (choral reading, partner reading, independent reading) for 3-4 minutes. Administer a one-minute fluency assessment. Students count the WRC and record the scores in the second score tower.

Students record the final WRC score in the third score tower.



Building Background Knowledge

CD

Introduce the Book

Look at the book cover. Read the title of the book and look at the picture on the cover. With your partner, talk about what you think this book might be about.

Ask follow-up questions as needed.

Preview the Book

Open your book to page 3. *Review the Table of Contents.*

Turn to page 18. *Review the glossary, index, and references.*

TS

Glossary

A glossary helps the reader find the meaning of boldface words in the text.

Index

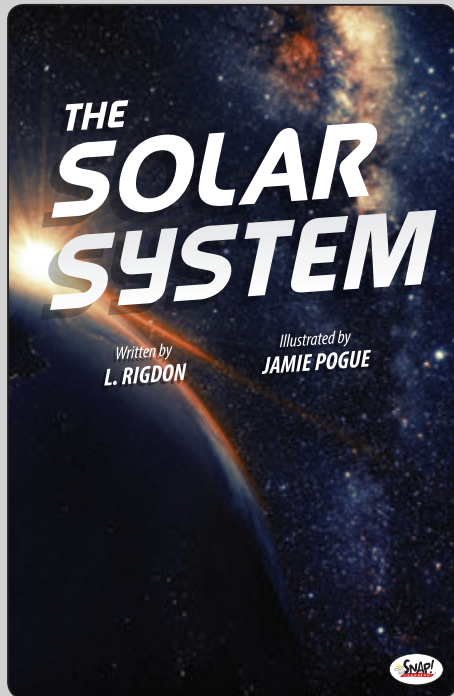
An index helps the reader find information in the text quickly.

References

The references list the sources the author uses in writing the text.

Browse the book with a partner.
With your partner, predict what you will be learning.

Have students share their predictions.



THE SOLAR SYSTEM

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STRUCTURED GUIDED READING

3

GLOSSARY

civilization - a culture in a specific place and time

illuminate - to light up, to brighten

light-year - the distance that light travels in a year (almost 6 trillion miles)

tether - to control as if tied by a string

whirlpool - something in a round shape that appears to move toward the center (usually water)

wonder - something amazing to look at

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REFERENCES

DK Publishing. *First Space Encyclopedia*.

Simon, S. *Our Solar System*.

Solar System (National Geographic): science.nationalgeographic.com/science/space/solar-system

Solar System Exploration: Planets: solarsystem.nasa.gov/planets

Image Credits:

COVER/BACK: Earth survivor - iStock.com/vjanaz

Page 5: [ISS: moon](#) - Luc Viatour / [www.Lucvix.be](#), [ISS: space exploration](#) - NASA/ Kennedy Space Center

Page 6: Vocabulary: dominant/Sun -
Vocabulary: dominant/Earth

proximity/Jupiter - NASA, ESA, and A. Simon (Goddard Space Flight Center), Vocabulary: proximity
NASA/JPL Space Science Institute, Vocabulary: terrestrial - NASA

Page 7: Vocabulary: detect - NASA/Johnson Space Center, Vocabulary: galaxy - Nick Risinger, Vocabulary: revolve/turn - NASA/SDO (AIA), Vocabulary: sunspot/flare - NASA, Vocabulary: satellite/telescope - NASA, Vocabulary: satellite/telescope - NASA/Johnson Space Center

Page 9: Alpha Centauri - ESO/Digitized Sky Survey 2, Acknowledgement: Davide De Martin

Page 12: An Apollo 10 photograph of Earth taken from 100,000 miles away - NASA, F1406077; Ringworld Waiting - NASA/JPL/Space Science Institute, Jupiter and its shrouded Great Red Spot - Image Credit: NASA, ESA, and A. Simon (Goddard Space Flight Center)

Page 13: Comet Hale-Bopp - E. Kolmhofer, H. Raab; Johannes-Kepler-Observatory, Linz, Austria; Christmas Comet Lovejoy - ESO/Guillaume Blanchard
Page 14: Galileo Images the Moon - NASA/Jet Propulsion Laboratory, Jupiter's moon Ganymede - National Oceanic and Atmospheric Administration

Page 16: Artist's impression of the Milky Way - NASA/JPL-Caltech/ESO/B. Hart

Page 17: A Cosmic Magnifying Glass - NASA/ Goddard Space Flight Center

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Building Background Knowledge

sun

Introduce Content

Look at the first image. What do you see?

Allow time for description. Now, read the word above the image.

Model the pronunciation (SUN). Let's say it together. *Sun.*

The sun is a star at the center of our solar system. The earth and seven other planets orbit the sun. You are going to read about why the sun is an important part of our solar system and of life on Earth.

CD

Make Connections

Partner talk about the following.

What do you already know about the sun and our solar system?

Answers may vary.

planets

Introduce Content

Look at the second image. What do you see?

Allow time for description. Now, read the word above the image.

Model the pronunciation (PLA-nets). Let's say it together. *Planets.*

There are eight planets in our solar system. Some are made of gas, and others have a solid surface. You are going to read about how planets in our solar system are similar and different. You will also read about how some planets are more likely to have life on them than other planets.

CD

Make Connections

Partner talk about the following.

What do you already know about the sun and our solar system?

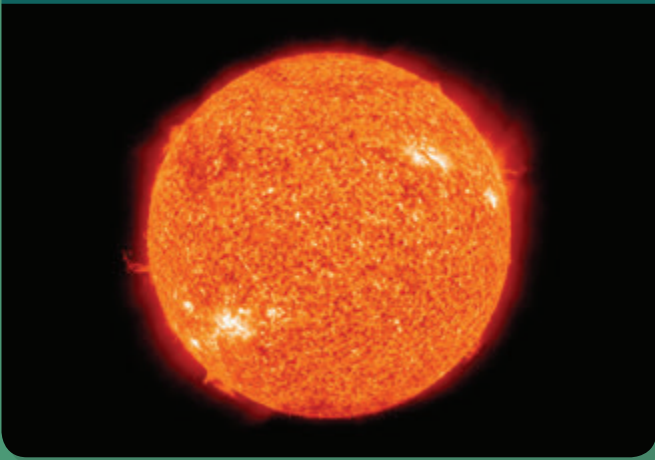
Answers may vary.

Have you ever looked into space with a telescope?

Answers may vary.

BUILDING BACKGROUND KNOWLEDGE

sun



Credit: NASA/SDO/AIA

planets





Building Background Knowledge

moon

Introduce Content

Look at the first image. What do you see?

Allow time for description. Now, read the word above the image.

Model the pronunciation (MOON). Let's say it together. *Moon.*

The moon is a satellite. It is a satellite because it orbits, or circles, the Earth. You are going to read about why the moon orbits Earth and not the sun.

CD

Make Connections

Partner talk about the following.

What have you noticed about the moon's size when viewed in the sky?
Does it always appear to be the same size? *Answers may vary.*

space exploration

Introduce Content

Look at the second image. What do you see?

Allow time for description. Now, read the words above the image.

Model the pronunciation (SPEYS ek-spluh-REY-shun).

Let's say it together. *Space exploration.*

Space is a place that people have always been curious about, so they explore it to learn more about it. You are going to read about how space exploration began and what we've learned about space by exploring it.

CD

Make Connections

Partner talk about the following.

What do you know about other objects in space?
Answers may vary.

BUILDING BACKGROUND KNOWLEDGE

moon



Credit: Luc Viatour

space exploration



Credit: NASA/Kennedy Space Center



Building Background Knowledge



Introduce Vocabulary *(Only introduce vocabulary words appearing in the day's lesson. Page numbers are noted for each word on the facing page.)*

Pronounce

Look at the first word. Listen to me say the word. Let's say it together.
Say it one more time by yourself.

Define and Explain

Dominant (adjective) means more important, powerful, or successful than others.

Look at the image.
The sun is a dominant part of our solar system.

Read Sentence

Read the sentence with students.

Connect

What connection can you make with the word?
Repeat the sequence with gravity, proximity, terrestrial.

Gravity (noun) refers to the force that pulls something towards Earth or another object in space.

Look at the image.
Gravity pulls the ball toward the ground.

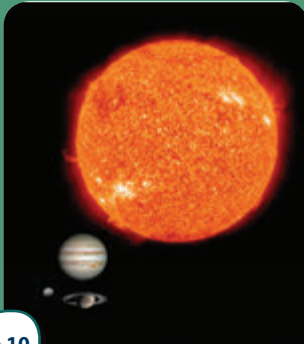
Proximity (noun) refers to closeness in space or time.

Look at the image.
The chart shows the proximity of each planet to the sun.

Terrestrial (adjective) describes things that live or grow on land.

Look at the image.
Because Earth is not made of gas, it is a terrestrial planet where things can grow.

VOCABULARY



p.10

dominant

The sun is a dominant player compared to the planets.



p.10

gravity

A solar system has three key elements: a sun, gravity, and planets.

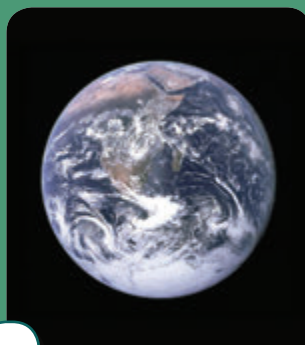
Photo NASA



p.11

proximity

The number next to each planet is the planet's proximity to the sun, in millions of miles.



p.12

terrestrial

Earth is a terrestrial planet, which means that it has a solid surface.

Credit: NASA



Building Background Knowledge



Introduce Vocabulary *(Only introduce vocabulary words appearing in the day's lesson. Page numbers are noted for each word on the facing page.)*

Pronounce

Look at the first word. Listen to me say the word. Let's say it together.
Say it one more time by yourself.

Define and Explain

To **detect** (verb) means to discover or notice the existence of something.

Look at the image.

The satellite is used to detect other solar systems and galaxies.

Read Sentence

Read the sentence with students.

Connect

What connection can you make with the word?

Repeat the sequence with galaxy, revolve, satellite.

A **galaxy** (noun) is an assembly of stars, gas, and dust.

Look at the image.

We live in the Milky Way galaxy.

To **revolve** (verb) means to move in a circular orbit.

Look at the image.

The earth revolves around the sun.

A **satellite** (noun) is an object or moon that orbits around a planet.

Look at the image.

There are many satellites that orbit Earth.

VOCABULARY

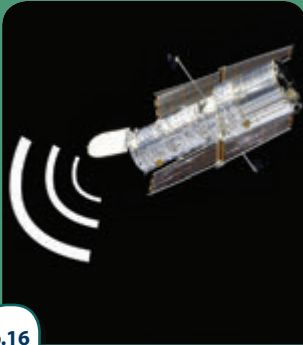


Photo: NASA/Johnson Space Center

p.16

detect

Scientists use satellites, space probes, and telescopes to detect other solar systems and galaxies.



p.16

galaxy

Within the universe, there are numerous galaxies of stars.

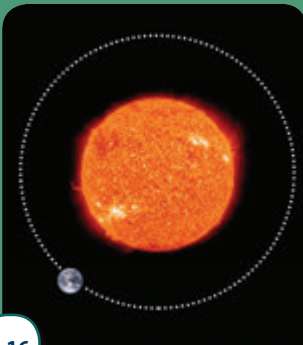


Photo: NASA/SDO (AIA)

p.16

revolve

These potential suns may have their own systems of planets revolving around them just like our planets revolve around our sun.



Photo: NASA/Johnson Space Center

p.14

satellite

An object that orbits a larger object is called a satellite.



Building Background Knowledge

VI

TF

Introduce Diagram

While reading today, you will learn about the planets in our solar system and the sun, which is the center of our solar system.

Explore Diagram

Locate the title of the diagram, and note the major features.

Explain the purpose of each. *Pause.*

Learn

Name the seven planets other than Earth.

The seven other planets are Mercury, Venus, Mars, Jupiter, Saturn, Uranus, and Neptune.

Explain the location of the asteroid belt.

The asteroid belt orbits the sun between the orbit of Mars and the orbit of Jupiter.

Scavenger Hunt

What is the largest object in our solar system?

The sun is the largest object in our solar system.

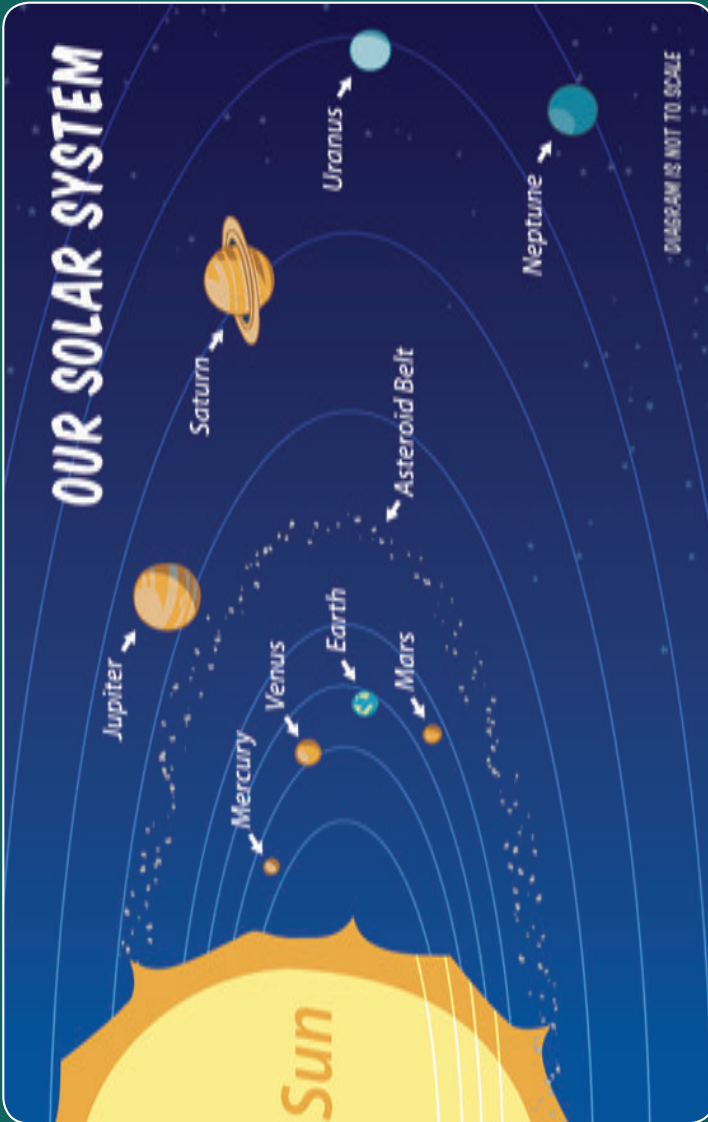
What is the smallest object visible in the diagram?

The smallest object visible in the diagram is an asteroid.

What is the smallest planet in the diagram?

The smallest planet in the diagram is Mercury.

MAPS AND STUFF



TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TC

Read

Read the text to learn what objects are part of our solar system.

DT

If you finish reading before others, read the text again.

CD

Discuss

Turn to your partner and discuss what objects are part of our solar system. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

TF

Pur

Reread paragraph 1 and the Fun Fact.

Why do you think the author chose to describe the Alpha Centauri star as part of the introduction to this book? Quote details from the text to support your answer.

The author chose to describe the Alpha Centauri as part of the introduction to illustrate just how vast the universe is compared to Earth. The author states, "The star is considered very close to Earth but it is 4 light-years away." The Fun Fact also notes the "Alpha Centauri is actually three stars... about a trillion miles apart, but they look like a single star from Earth."

DT

Reread paragraph 2.

What are you going to read about in the rest of the text?

We are going to read about planets, asteroids, comets, and a special star.

Introduction

FUN FACT

Alpha Centauri is actually three stars. They are about a trillion miles apart, but they look like a single star from Earth.

View of Alpha Centauri from the Digitized Sky Survey 2

Credit: ESO/DSS 2

Imagine looking up at the night sky. Think about the stars twinkling back at you. Those stars are up in outer space, and they are very far away. Take Alpha Centauri (pronounced AL-fuh sen-TAW-ree) for example. That star is considered very close to Earth, but it is 4 light-years away. This means that even light, which travels extremely fast, takes 4 years to get from Alpha Centauri to us! ¹

However, space holds many wonders that are much closer ² to us. Even closer than Alpha Centauri, there are planets, asteroids, comets, and one special star. Let's take a look at what makes up our solar system.

TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TS

Teach

Writers use text structure to organize information. This author uses a compare and contrast text structure. Look for these signal words: unlike, however, like.

TC

Read

Now you are ready to read. Read the text on the page to learn what makes our sun powerful. Be prepared to describe the similarities and differences between our solar system and other solar systems. If you finish reading before others, then read the text again.

Rel

CD

Discuss

Turn to your partner and discuss the similarities and differences between our solar system and other solar systems. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

DT

Reread paragraph 3.

What are the three key elements that make up a solar system? *The three key elements that make up a solar system are: a sun, gravity, and planets.*

DT

Reread paragraph 4.

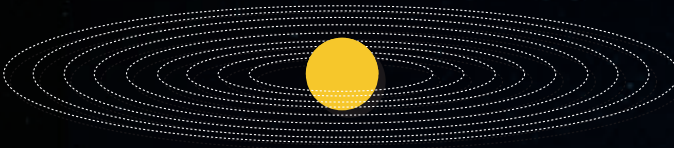
What is the main idea of this section of text?

What details support this idea?

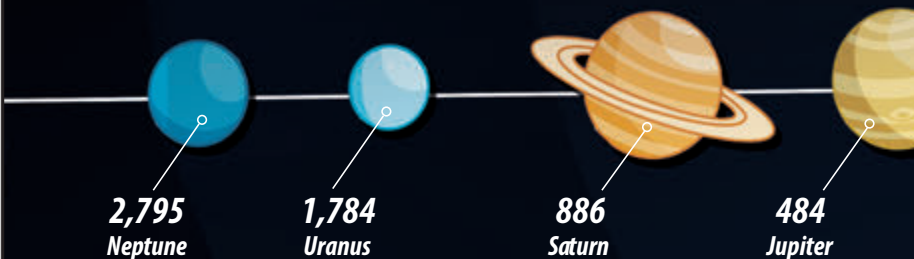
The main idea of this section of text is gravity controls a solar system. Both the sun and the planets have gravity of their own. "However, the planets are less powerful," and therefore, "the sun is the dominant player."

What is a Solar System?

- ³ A solar system has three key elements: a sun, gravity, and planets. Each solar system has one or more suns. Unlike many solar systems, ours only has one sun. However, ours is big, bright, and powerful. What makes it so powerful? Gravity makes it powerful. The larger the object is, the more gravity that it has to pull on other objects.



- ⁴ Think of gravity like a game of tug-of-war. The sun is a dominant player compared to the planets. Like the sun, each planet has gravity of its own. However, the planets are less powerful. While each planet tries to tug against the sun, the sun tugs back. It is this tug-of-war that keeps the planets within our solar system. They are tethered to the sun. As the planets pull against the sun, they also move in orbit around it. The orbit is an oval shape called an ellipse.



TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TF

Teach

Writers use text features to add content information and support comprehension. On this page, you see a diagram. This diagram extends your understanding of the planets and their distance from the sun.

TC

Read

Read the text to learn how the diagram your understanding of the planets and their distance from the sun. Be prepared to identify how the diagram adds to your understanding of the text. If you finish reading before others, read the text again.

TF

CD

Discuss

Turn to your partner and discuss how the diagram extends your understanding of the planets and their distance from the sun. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

DT

Reread paragraph 5.

If the sun is a star, why does the sun appear so large compared to other stars? *The sun appears so large compared to other stars because the closer a planet is to the sun, the larger it looks. The sun is our nearest star.*

TF

Study the diagram.

What planet is closest to Earth? *Venus is the planet closest to Earth.*

Our Sun and Planets

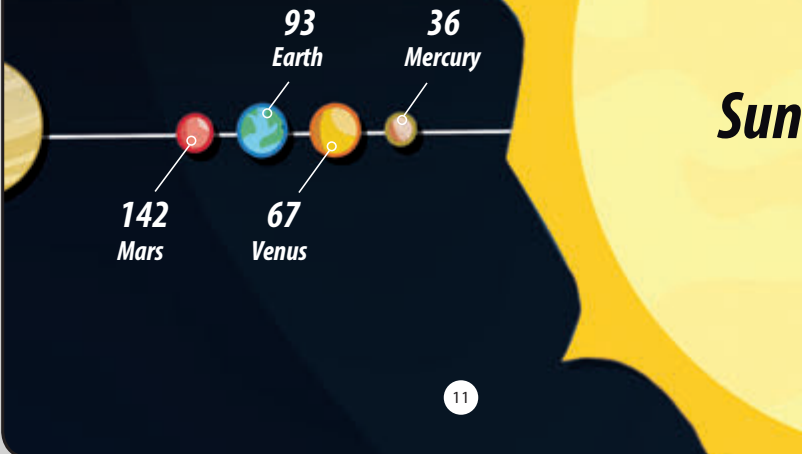
The sun is actually a star. Like other stars, it is made of gas that burns so brightly that it illuminates the entire solar system. If our sun is a star, why does it look gigantic compared to other stars? It's all about location. The closer you are to the sun, the larger it looks.

Scientists recognize eight planets in our solar system, including Earth. Other objects exist, but they behave differently. They do not qualify as planets.

Below are the eight planets. The number next to each planet is the planet's **proximity** to the sun, in millions of miles.

Distances from the Sun

in millions of miles



TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

Teach

Good readers use comprehension strategies to help them understand what they read. Questioning is one of these strategies. Good readers ask questions to help them understand what the author is trying to say. Before reading, they ask themselves what they know about the topic or what they want to know. During reading, good readers ask questions about the author's statements.

After reading, they ask questions about what else they would like to know about the topic.

TC

Read

Read the text. Use the questioning strategy to help you understand the author's words. If you finish reading before others, read the text again.

DT

CD

Discuss

Turn to your partner and discuss how using the questioning strategy helped you understand the text better. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

Rel

Reread paragraph 8.

Explain the difference between terrestrial and gas planets.

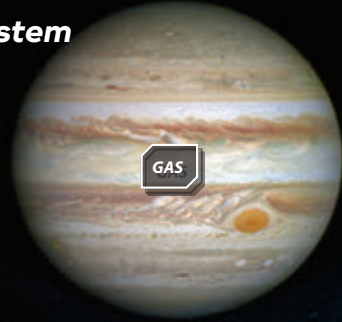
Terrestrial planets have a solid surface, while gas planets are made up of gas and liquids.

DT

Reread paragraphs 9-11.

What are some conditions that scientists believe are needed to support life on a planet? *Scientists believe that planets must be terrestrial, have air and water, and have the right temperature in order to support life.*

Earth's Place in the Solar System



- 8 Out of the eight planets, Earth is the third planet from the sun. Our solar system has two types of planets: **terrestrial** and gas. Earth is a terrestrial planet, which means that it has a solid surface. Gas planets are made of swirling gases and liquids.
- 9 Earth is the only known planet that has life. Scientists believe that terrestrial planets are most likely to support life. Could a living thing stand up or move around on a gas planet like Jupiter?
- 10 We also need air and water to survive. A planet like Mars is terrestrial, but it does not have liquid water or breathable air.
- 11 Life also requires the right temperature. Planets closest to the sun, like Mercury, are too hot to support life. Planets farthest away, like Neptune, are too cold. Earth's distance and temperature are considered just right.

TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TC

Read

Read the text to learn about other objects in our solar system.

DT

If you finish reading before others, read the text again.

CD

Discuss

Turn to your partner and discuss other objects in our solar system. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

DT

Reread paragraph 12.

What happens to most asteroids that approach the Earth?

Most asteroids that approach the Earth are so small that they burn up when they enter our atmosphere.

Rel

Reread paragraph 13.

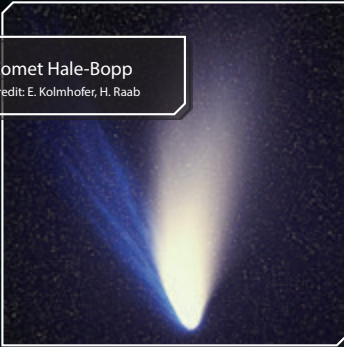
Explain the difference between a comet and an asteroid.

Rocks of all shapes and sizes make up the asteroid belt, but Comets have an icy core that is covered in space dust. As the ice melts, it creates a gas and dust tail.

Objects in the Solar System

Comet Hale-Bopp

Credit: E. Kolmhofer, H. Raab



Other terrestrial objects exist in our solar system besides planets. For instance, a group of asteroids orbits the sun between Mars and Jupiter. Rocks of all shapes and sizes make up the asteroid belt. Some asteroids orbit the sun outside of the belt and even cross paths with

12

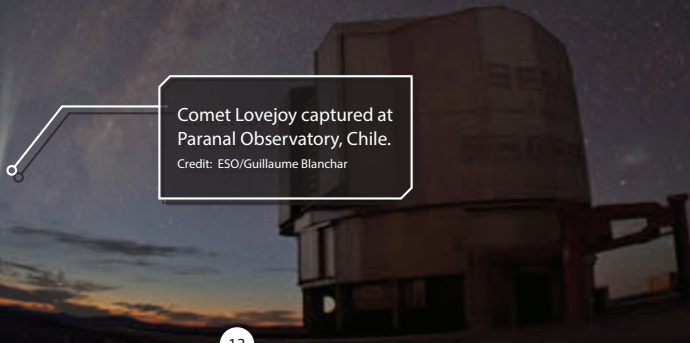
Earth. Some scientists believe that an asteroid hit Earth and wiped out the dinosaurs. However, there is no need to worry about asteroids. Most of the ones that approach Earth are so small that they burn up in our atmosphere.

Comets also visit our solar system. In ancient times, some people thought comets were omens of good or bad events to come. Unlike asteroids, comets are made of an icy core covered in space dust. As a comet orbits the sun, the ice melts and creates a gas tail. In fact, comets have two tails: one made of gas and the other made of dust.

13

Comet Lovejoy captured at
Paranal Observatory, Chile.

Credit: ESO/Guillaume Blanchard



13

TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TC

Read

Read the text to find out why our moon orbits Earth instead of orbiting the sun. If you finish reading before others, read the text again.

DT

CD

Discuss

Turn to your partner and discuss why our moon orbits Earth instead of orbiting the sun. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

DT

Reread paragraphs 14-15.

What two types of satellites orbit Earth? *The two types of satellites that orbit the Earth are our moon and man-made satellites.*

DT

Reread paragraph 16.

Explain why objects on Earth fall down and not up. *Objects on Earth fall down because Earth's gravitational field pulls smaller objects toward it.*

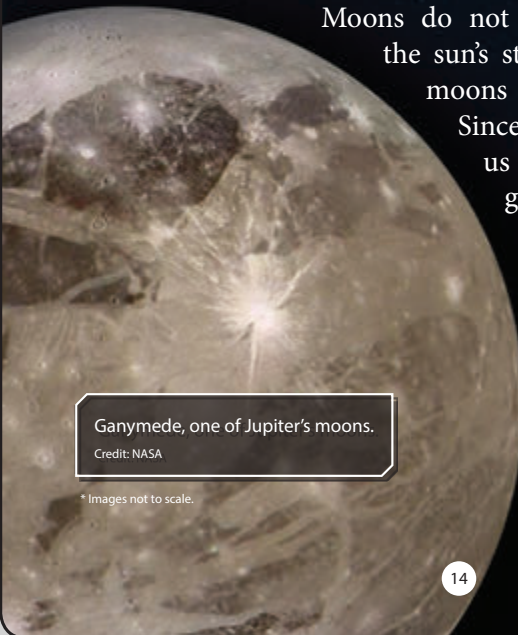
Moons

- 14 An object that orbits a larger object is called a **satellite**. Our moon is a satellite of Earth. Our planet and every planet in the solar system beyond Earth have moons.
- 15 Man-made satellites also orbit Earth, but they are not moons. They send and receive signals, including the ones that cell phones use.
- 16 Large objects like the sun and planets are surrounded by gravitational fields. Earth's gravitational field pulls smaller items toward it. This explains why things on Earth fall down and not up.



The Moon
Credit: NASA

Moons do not orbit the sun. Despite the sun's strong gravitational field, moons are closer to planets. Since our moon is closer to us than the sun, Earth's gravitational field controls the moon's orbit.



Ganymede, one of Jupiter's moons.
Credit: NASA

* Images not to scale.

FUN FACT

Jupiter has 50 moons.
The largest moon is actually bigger than Mercury.

TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TS

Teach

Writers use text structure to organize information. This author uses a compare and contrast text structure. Look for these signal words: on the other hand.

TC

Read

Read the text on the page to learn about ancient and modern stargazers.

Rel

Be prepared to describe how ancient and modern stargazers are similar or different. If you finish reading before others, then read the text again.

CD

Discuss

Turn to your partner and discuss similarities and differences between ancient and modern stargazers. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

TS

Reread paragraphs 18-20.

Explain the sequence of exploration that led up to astronauts walking on the moon in 1969. *Exploration of the solar system began with ancient stargazers that studied the sky with the naked eye. Later, modern stargazers ventured into space. In 1959, the spacecraft Luna 2 landed on the moon. Finally, in 1969, astronauts walked on the moon.*

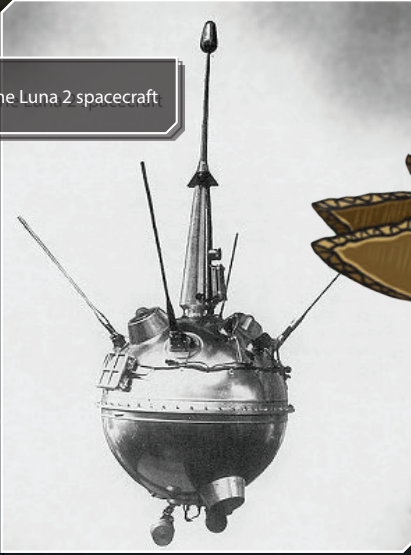
DT

Why have many of the missions to space been unmanned?

Many missions to space have been unmanned because it is easier and safer to send out machines instead of people.

Exploring the Solar System

The Luna 2 spacecraft



People have looked at the sky for thousands of years. With the naked eye, ancient stargazers could see

five planets as well as comets and meteors. Most of the names for planets and moons come from either Greek or Roman mythology.

Modern stargazers, on the other hand, have actually ventured out into space. Both the United States and European countries have led the way. Many missions have been unmanned. It's easier and safer to send out machines instead of people.

In 1959, the unmanned Luna 2 was the first spacecraft on the moon. In 1969, astronauts walked on the moon. Other missions have flown by, orbited, or landed on all the planets. They have sent valuable pictures and information to scientists.

TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TC

Read

Read the text to learn about other solar systems and galaxies.

DT

If you finish reading before others, read the text again.

CD

Discuss

Turn to your partner and discuss other solar systems and galaxies. Cite examples from the text.

Text Dependent Questions

Answer the following questions using evidence from the text to support your answer. *Questions are outlined in either red or blue. If there is textual evidence to support an answer, it is underlined in a corresponding color within the text.*

DT

Reread paragraph 23.

How do scientists detect other solar systems and galaxies?

Scientists detect other solar systems and galaxies by using satellites, space probes, and telescopes.

TF

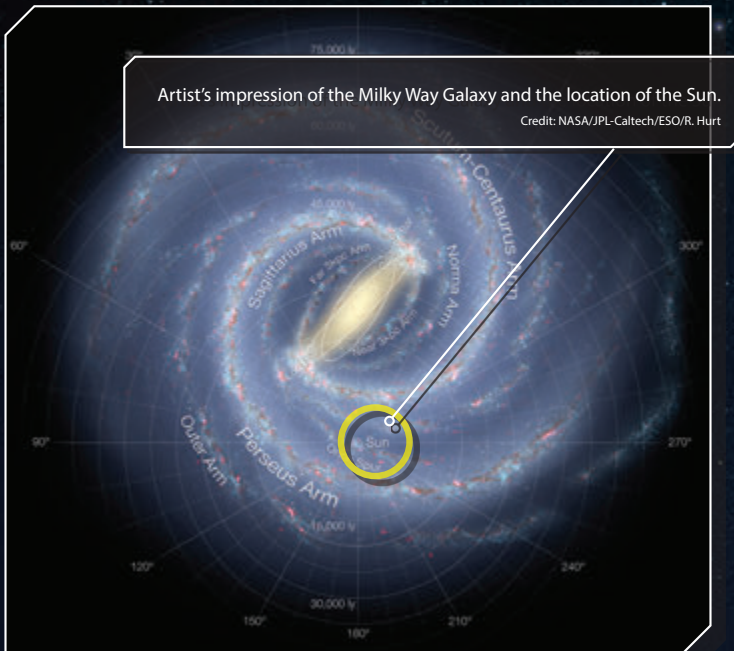
Study the image.

How does the image extend your understanding of the text?

The image illustrates how small our own solar system is within the Milky Way Galaxy.

Other Solar Systems

- 21 Our solar system is just one of many in the **universe**. No one knows just how many solar systems exist.
- 22 Within the universe, there are numerous galaxies of stars. Some look like swirling whirlpools in space.
- 23 Scientists use satellites, space probes, and telescopes to **detect** other solar systems and galaxies. They focus on the stars in our night sky to see which stars might also be suns. These potential suns may have their own systems of planets **revolving** around them just like our planets revolve around our sun.



TF

Explore the Text

Identify the text features (headings, photographs, illustrations, captions, maps, etc.). Using the text features, predict what you might learn from reading this passage. *Discuss.*

TC

Read

Read the Conclusion.

If you finish reading before others, read the text again.

CD

Discuss

Turn to your partner and discuss what science has taught us about our solar system. Cite examples from the text.

Teach SKILL

1. Model

In an expository text, the author not only writes facts, but sometimes includes opinions. Facts are things that can be proven. Opinions cannot be proven. Opinions are statements some people believe to be true, but others may disagree.

It is important to know the difference between the two so that you know what is true and what can be argued. For example, if I read in the paper that the temperature outside was 75 degrees yesterday, then that is a fact. It can be proven.

However, if I say yesterday was a beautiful day, then that is an opinion because it is something I believe, but others may disagree. It cannot be proven.

2. Practice

Reread paragraph 26. Let's read the first sentence together. "More space missions are planned for the future." This is a fact because it can be proven.

Now read the second sentence. "They could reveal fascinating things that we have not even imagined." This is an opinion. Some people may think this and others may not. Now with your partner, find one more fact and one more opinion.

3. Discuss

How can knowing the difference between fact and opinion help you as a reader?
Knowing the difference between facts and opinions helps you know what is true and what may not be.

Conclusion



Spiral and elliptical galaxies taken by the Hubble Space Telescope. Credit: NASA

Throughout history, people have looked to the sky with wonder. Some imagined that Mars was home to a vast civilization. Others saw gods and goddesses in the planets and constellations. Sometimes people even call the planets heavenly bodies. ²⁴

Science has taught us plenty about our solar system. It has explained the principle of gravity. It has shown us the difference between terrestrial planets and gas planets. ²⁵

More space missions are planned for the future. They could reveal fascinating things that we have not even imagined. Our knowledge of the universe begins with our own backyard in space: the solar system. ²⁶

Act

EXTENDED ACTIVITIES & ASSESSMENTS

VI
TF

MAP
Martin Luther King Jr. Name _____

Directions:
1. Complete the map of the U.S.
2. Label the states with the names of the states.
3. Label the major cities in the United States.
4. Label the major bodies of water in the United States.

States: _____

Cities: _____

Bodies of Water: _____

Continents: _____

Compass: _____

Legend: _____

Map of the United States

MAP

Students complete the missing elements on the map used during the lesson. They are asked to add a title, a compass, and to label elements such as bodies of water and continents.

Research indicates that skilled readers search for organizational aids as tools for studying.

Wo
Ph

VOCABULARY
Martin Luther King Jr. Name _____

Directions: On each picture, write the word's meaning in a picture or your definition using words in your own words. Then, write a synonym or personal meaning for the word.

Words: _____

Meanings: _____

Synonyms: _____

Personal Meanings: _____

VOCABULARY

Students complete the vocabulary graphic organizer and write a synonym or personal meaning for each word.

Students make a connection to each word with illustrations, word associations, or any other visual cue that will help them remember the meaning. Research indicates effective vocabulary instruction relates new words to the background knowledge of students and includes active involvement with the new word.

TS
WP

TEXT STRUCTURE
Martin Luther King Jr. Name _____

Directions: On each picture, write the word's meaning in a picture or your definition using words in your own words. Then, write a synonym or personal meaning for the word.

Words: _____

Meanings: _____

Synonyms: _____

Personal Meanings: _____

TEXT STRUCTURE

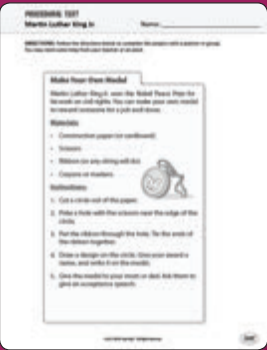
There are two opportunities to teach a specific text structure in each lesson plan. The text structure graphic organizer is provided to support these lessons.

Students complete the graphic organizer either with the teacher during the structured guided reading lesson, or as an independent activity. Research indicates semantic organizers and cognitive maps with a framed outline are highly effective in improving reading comprehension.

Act

EXTENDED ACTIVITIES & ASSESSMENTS

TS
CD



FOLLOWING DIRECTIONS: PROCEDURAL TEXT

The Following Directions activities provide an opportunity for students to read and demonstrate their understanding of procedural text.

If time permits, have students work with a partner or group to complete the project by collecting the needed materials or ingredients, and following the directions as written. Students may need the help of the teacher or an adult.

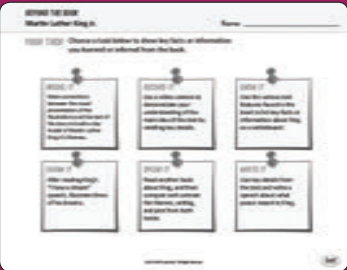
The questions provided below can be used to assess the students' understanding of the steps involved and the materials needed.

Research indicates that students need direct instruction in strategies to help them become independent learners when confronted with procedural text.

SUGGESTED QUESTION STEMS FOR PROCEDURAL TEXT:

- What are the two main components of procedural text?
- What materials (ingredients, tools) are needed for this activity?
- What is the first step, third step, last step, etc... for completing this activity?
- What do you do before (after) you?
- Why do you _____ before (after) _____?

PoI
MM
IE



BEYOND THE BOOK

The Beyond the Book activities allow students to demonstrate their understanding of the text in a manner they choose.

Students may choose to model, record, show, draw, speak, or write about a topic. Research indicates that students must perform using knowledge to convince us that they really understand material that quizzes and short-answer tests only suggest they understand.

COLLEGE AND CAREER READINESS *Standards*

Literary Text

- DT** Details in Text
- Inf** Inference
- CM** Central Message
- Th** Theme
- CSE** Characters, Settings, and Events
- Wo Ph** Words and Phrases
- SS** Story Structure
- TS** Text Structure
- PoV** Point of View
- IS** Illustrations in Stories
- VI** Visual Information
- CC** Compare and Contrast
- TC** Text Complexity

Foundational Skills

- Ph WR** Phonics and Word Recognition
- Fl** Fluency

Speaking and Listening

- CD** Collaborative Discussion
- PoI** Presentation of Information
- MM** Multimedia

Language

- WM** Word Meaning
- FL WR** Figurative Language, Word Relationships

Informational Text

- DT** Details in Text
- Inf** Inference
- MI** Main Idea
- Sum** Summary
- Rel** Relationships in Text
- Wo Ph** Words and Phrases
- TS** Text Structure
- Pur** Purpose
- PoV** Point of View
- VI** Visual Images
- TF** Text Features
- RE** Reasons and Evidence
- CC** Compare and Contrast
- TC** Text Complexity

Writing

- I/E** Informational / Explanatory
- Nar** Narrative
- O/A** Opinion / Argumentative
- CW** Coherent Writing
- WP** Writing Process
- RoW** Range of Writing

LEXILE	GLE*	FP*	DRA*	WORD COUNT
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750	3,4	O,P	38	1106
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**Estimated Level*
GLE: Grade Level Equivalent
FP: Fountas and Pinnell
DRA: Developmental Reading Assessment

