

PREREADING ACTIVITIES



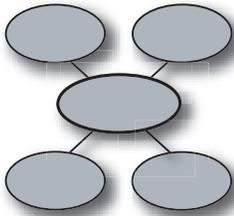
Before distributing **KIDS DISCOVER *Solar System***, activate students' prior knowledge and set a purpose for reading with these activities.

Discussion

To get students thinking about how this topic relates to their interests and lives, ask:

- ✓ *Have you ever visited a planetarium or space museum? What did you see there?*
- ✓ *What do you want to learn about the solar system?*

Concept map



Explain to students that they will be reading *Solar System*. Ask: *What are some words that are related to the solar system?* List students' responses on the board. (See box below for some terms they may suggest.) After creating a list, ask students to group the words into categories, such as **Planets** or **Other Space Objects**.

Create a concept map by writing *Solar System* on the board and circling it. Write the categories around the circle and draw lines between the ideas to show connections. Then write the words from the list around the appropriate categories. Encourage students to add more words to the concept map as they read *Solar System*.

KEY TERMS

- | | |
|-----------|------------|
| ✓ Mercury | ✓ Uranus |
| ✓ Venus | ✓ Neptune |
| ✓ Earth | ✓ Pluto |
| ✓ Mars | ✓ asteroid |
| ✓ Jupiter | ✓ meteor |
| ✓ Saturn | ✓ comet |

Get Set to Read (Anticipation Guide)



Copy and distribute the **Get Set to Read** blackline master (page 3 of this Teacher's Guide). Explain to students that this **Anticipation Guide** will help them find out what they know and what misconceptions they have about the topic. **Get Set to Read** is a list of statements—some true, some false. Ask students to write whether they think each statement is true or false in the **Before Reading** column. Be sure to tell students that it is not a test and they will not be graded on their answers. The activity can be completed in a variety of ways for differentiated instruction:

- ◆ **Have students** work on their own or in small groups to complete the entire page.
- ◆ **Assign pairs** of students to focus on two statements and to become "experts" on these topics.
- ◆ **Ask students** to complete the **Before Reading** column on their own, and then tabulate the class's answers on the chalkboard, on an overhead transparency, or on your classroom computer.
- ◆ **Review the statements** orally with the entire class.

If you predict that students will need assistance finding the answers, complete the **Page Number** column before copying **Get Set to Read**.

Preview

Distribute *Solar System* and model how to preview it. Examine **titles, headings, words in bold-face type, pictures, charts, and captions**. Then have students add new information to the **Concept Map**. If students will only be reading a few pages at one sitting, preview only the selected pages.

BE WORD WISE WITH POWER VOCABULARY!

You have exclusive access to additional resources including Power Vocabulary blackline masters for every available KIDS DISCOVER title! These activities introduce students to 15 specialized and general-use vocabulary words from each KIDS DISCOVER title. Working with both types of words helps students develop vocabulary, improve comprehension, and read fluently. Follow the links from your Teacher's Toolbox CD-ROM and find your title to access these valuable resources:

- ◆ Vocabulary cards
- ◆ Crossword puzzle
- ◆ Word find
- ◆ Matching
- ◆ Cloze sentences
- ◆ Dictionary list



Name _____ Date _____

Get Set to Read

What do you know about our solar system? In **Before Reading**, write *true* if you think the statement is true. Write *false* if you think the statement is not true. Then read **KIDS DISCOVER Solar System**. Check back to find out if you were correct. Write the correct answer and the page number where you found it.

CHALLENGE: Rewrite each false sentence in a way that makes it true.

Before Reading		After Reading	Page Number
_____	1. The Sun contains a huge percentage of the solar system's matter.	_____	_____
_____	2. The Sun is a yellow star.	_____	_____
_____	3. 25 miles beneath the surface of the Earth is hot, melted rock.	_____	_____
_____	4. The greenhouse effect keeps Earth's temperatures moderate.	_____	_____
_____	5. Venus has mild temperatures similar to those on Earth.	_____	_____
_____	6. Jupiter is colorful because of chemicals in the gases of its atmosphere.	_____	_____
_____	7. Saturn's rings are made up of rocks.	_____	_____
_____	8. Scientists have found very few meteorites on Earth.	_____	_____
_____	9. Saturn is the largest planet.	_____	_____



Use the following questions as oral discussion starters or for journaling. For additional in-class discussion and writing questions, adapt the questions on the reading comprehension blackline masters on pages 5 and 6.

All pages

Some people feel that life exists on planets other than Earth. Ask:

- ✓ *Do you think that life can exist on other planets? What makes you come to this conclusion? What form(s) might that life take?*

Pages 2–3

Sometimes you can see other planets and objects in the night sky, such as Venus. Ask:

- ✓ *Has anyone every pointed out a planet to you in the sky?*
- ✓ *How would you describe the night sky to someone who has never seen it?*

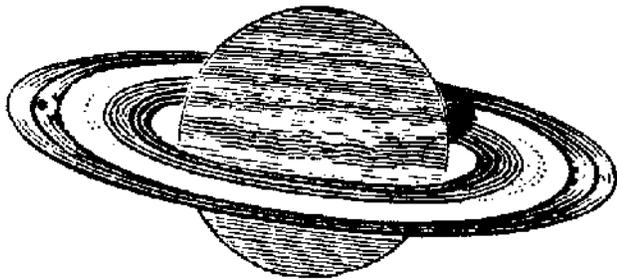
Pages 4–5

- ✓ *What do you think people could learn by studying the Sun?*
- ✓ *What are some different ways that people use the Sun?*

Pages 6–7

Twelve human beings have set foot on the Moon. Ask:

- ✓ *Why do you think some people want to become astronauts?*
- ✓ *If you were given the chance to be an astronaut and to train for a mission to the Moon, would you do it? Why or why not?*
- ✓ *What qualities do you think an astronaut should have?*



Pages 6–7

One day, it might be possible to live on the Moon. Have students imagine that they are among the first to take up residence on the Moon. They will live there for one year before others are permitted to come. Each student can bring along five friends or relatives and one book. Ask:

- ✓ *Which people would you like to live on the Moon with you? Why did you choose these people? Which one book would you like to have with you? Why?*

Pages 8–9 and 12–13

- ✓ *Of the planets described on pages 8–9 and 12–13, which do you think is most intriguing or fascinating? Why?*

Pages 10–11

The quote on page 10 describes the solar system as a “cosmic ballet.” Ask:

- ✓ *Why do you think the writer compared the solar system to a ballet? Do you agree with the comparison? Why? What else could you compare to the solar system?*

Pages 14–15

- ✓ *Have you ever seen a comet or a meteor shower? If so, what did it look like?*
- ✓ *Would you like to be a scientist who studies planets, comets, asteroids, meteors, and other things in our solar system? Why or why not?*

Pages 16–17

Most of the nine planets in our solar system are named for Roman gods or goddesses. Ask:

- ✓ *If you discovered a planetary system with nine planets in it, what names would you give the planets?*

Suggest that the planets’ names be based on a theme, such as Roman mythology, music, literature, and so on.



**Read
KIDS
DISCOVER
aloud
to demonstrate
fluency, expressive
reading, and
how to read
nonfiction texts.**



Name _____ Date _____

It's in the Reading

After reading **KIDS DISCOVER Solar System**, choose the best answer for each question.
Fill in the circle.



Find your answers on the pages shown in the book icon next to each question.

1. A body in the solar system that has a bright tail made of gas and dust is _____.

- A. an asteroid
- B. a meteor
- C. a comet
- D. a satellite



2. People on Earth do not need to fear solar flares because _____.

- A. they are very rare
- B. they are not harmful
- C. they only occur during a solar eclipse
- D. Earth's atmosphere shields people from them



3. A part of the sun visible only during a solar eclipse is _____.

- A. the chromosphere
- B. the photosphere
- C. the core
- D. a sunspot



4. One feature that is not responsible for supporting life on Earth is _____.

- A. its water
- B. its temperature
- C. its distance from the sun
- D. its weak gravity



5. One way the Earth and the moon are alike is that _____.

- A. they have rocks with similar elements
- B. they both have strong gravity
- C. they both have an atmosphere
- D. they were formed in the same way



6. Venus is very hot because _____.

- A. it is the closest planet to the Sun
- B. it has a very thick atmosphere
- C. it has a very thin atmosphere
- D. it has a soft rocky crust



7. One way Jupiter and Neptune are alike is that ____.

- A. they are both small planets
- B. they have a thin atmosphere
- C. they have tiny cores
- D. they have some parts that spin faster than others



8. The storm that causes the Great Red Spot of Jupiter has been raging ____.

- A. since 1655
- B. forever
- C. since 1984
- D. for an unknown length of time



9. One possible result of a crashing meteorite is ____.

- A. a meteor shower
- B. a crater
- C. an asteroid
- D. an explosion of hot gas



10. The mass of Jupiter is ____.

- A. about the same as that of Saturn
- B. twice that of the Earth
- C. small because of its huge clouds of gases
- D. more than twice that of all the other planets put together



11. A generalization supported by the naming of planets and constellations is that ____.

- A. people have always been religious
- B. people have not always taken the solar system seriously
- C. the solar system has always appealed to people's imaginations
- D. the past is not relevant to people living today



12. Suppose you were an astronomer and could study any part of our solar system. Tell what you would study and what you would want to find out about it.



Name _____ Date _____

Everything Visual

A diagram can show how the various parts of something relate to one another. It uses pictures and labels to provide facts about the parts. Study the diagram of the solar system on pages 16–17. Then answer the questions.

1. How do the sizes of the planets in the diagram relate to their sizes in reality?
Explain why this helps you understand the planets better or not.

2. What are the two smallest planets? In what positions of the solar system are they located?

3. What are the two largest planets? In what positions of the solar system are they located?

4. Which planet is closest to Earth? How does its size compare to that of Earth?

5. What is the difference in diameter between the largest planet and the smallest planet?

6. If the planets were ranked according to size, which rank would Earth have?

7. What does the road sign above Jupiter mean?



Name **ANSWER KEY** _____ Date _____

Get Set to Read

What do you know about our solar system? In Before Reading, write *true* if you think the statement is true. Write *false* if you think the statement is not true. Then read **KIDS DISCOVER Solar System**. Check back to find out if you were correct. Write the correct answer and the page number where you found it.

CHALLENGE: Rewrite each false sentence in a way that makes it true.

Before Reading		After Reading	Page Number
_____	1. The Sun contains a huge percentage of the solar system's matter.	<i>True</i>	<i>p. 2</i>
_____	2. The Sun is a yellow white star.	<i>False</i>	<i>p. 4</i>
_____	3. 25 miles beneath the surface of the Earth is hot, melted rock.	<i>True</i>	<i>p. 6</i>
_____	4. The greenhouse effect keeps Earth's temperatures moderate.	<i>True</i>	<i>p. 8</i>
_____	5. Venus has mild temperatures similar to those on much higher temperatures than Earth.	<i>False</i>	<i>p. 8</i>
_____	6. Jupiter is colorful because of chemicals in the gases of its atmosphere.	<i>True</i>	<i>p. 12</i>
_____	7. Saturn's rings are made up of rocks tiny bits of ice and metal .	<i>False</i>	<i>p. 13</i>
_____	8. Scientists have found very few many meteorites on Earth.	<i>False</i>	<i>p. 15</i>
_____	9. Saturn Jupiter is the largest planet.	<i>False</i>	<i>p. 16</i>



Name **ANSWER KEY** _____ Date _____

It's in the Reading

After reading **KIDS DISCOVER Solar System**, choose the best answer for each question.
Fill in the circle.



Find your answers on the pages shown in the book icon next to each question.

1. A body in the solar system that has a bright tail made of gas and dust is _____.

- A. an asteroid
- B. a meteor
- C. a comet (*details*)
- D. a satellite



2. People on Earth do not need to fear solar flares because _____.

- A. they are very rare
- B. they are not harmful
- C. they only occur during a solar eclipse
- D. Earth's atmosphere shields people from them (*cause and effect*)



3. A part of the sun visible only during a solar eclipse is _____.

- A. the chromosphere (*details*)
- B. the photosphere
- C. the core
- D. a sunspot



4. One feature that is not responsible for supporting life on Earth is _____.

- A. its water
- B. its temperature
- C. its distance from the sun
- D. its weak gravity (*cause and effect*)



5. One way the Earth and the moon are alike is that _____.

- A. they have rocks with similar elements (*comparison*)
- B. they both have strong gravity
- C. they both have an atmosphere
- D. they were formed in the same way



6. Venus is very hot because _____.

- A. it is the closest planet to the Sun
- B. it has a very thick atmosphere (*cause and effect*)
- C. it has a very thin atmosphere
- D. it has a soft rocky crust



7. One way Jupiter and Neptune are alike is that _____.

- A. they are both small planets
- B. they have a thin atmosphere
- C. they have tiny cores (*comparison*)
- D. they have some parts that spin faster than others



8. The storm that causes the Great Red Spot of Jupiter has been raging _____.

- A. since 1655
- B. forever
- C. since 1984
- D. for an unknown length of time (*draw conclusions*)



9. One possible result of a crashing meteorite is _____.

- A. a meteor shower
- B. a crater (*cause and effect*)
- C. an asteroid
- D. an explosion of hot gas



10. The mass of Jupiter is _____.

- A. about the same as that of Saturn
- B. twice that of the Earth
- C. small because of its huge clouds of gases
- D. more than twice that of all the other planets put together (*details*)



11. A generalization supported by the naming of planets and constellations is that _____.

- A. people have always been religious
- B. people have not always taken the solar system seriously
- C. the solar system has always appealed to people's imaginations (*generalization*)
- D. the past is not relevant to people living today



12. Suppose you were an astronomer and could study any part of our solar system. Tell what you would study and what you would want to find out about it.

Answers will vary. Students should support their opinion with facts.



Name **ANSWER KEY** _____ Date _____

Everything Visual

A diagram can show how the various parts of something relate to one another. It uses pictures and labels to provide facts about the parts. Study the diagram of the solar system on pages 16–17. Then answer the questions.

1. How do the sizes of the planets in the diagram relate to their sizes in reality?

Explain why this helps you understand the planets better or not.

The diagram shows approximately how the sizes of the planets relate to one another. This is helpful. For example, it helps readers visualize that Jupiter and Saturn are similarly sized and that they are enormously bigger than the smaller planets.

2. What are the two smallest planets? In what positions of the solar system are they located?

The two smallest planets are Mercury and Pluto. One is the closest and the other is farthest from the sun.

3. What are the two largest planets? In what positions of the solar system are they located?

The two largest planets are Jupiter and Saturn. They are in about the middle positions of the planets of the solar system.

4. Which planet is closest to Earth? How does its size compare to that of Earth?

Venus is closest to Earth. It is a similar size, the closest in size of all the planets.

5. What is the difference in diameter between the largest planet and the smallest planet?

The difference in diameter between Jupiter and Pluto is 87,925 miles.

6. If the planets were ranked according to size, which rank would Earth have?

Earth is the 5th largest planet; it is exactly in the middle according to size.

7. What does the road sign above Jupiter mean?

“Watch out for falling stars!”