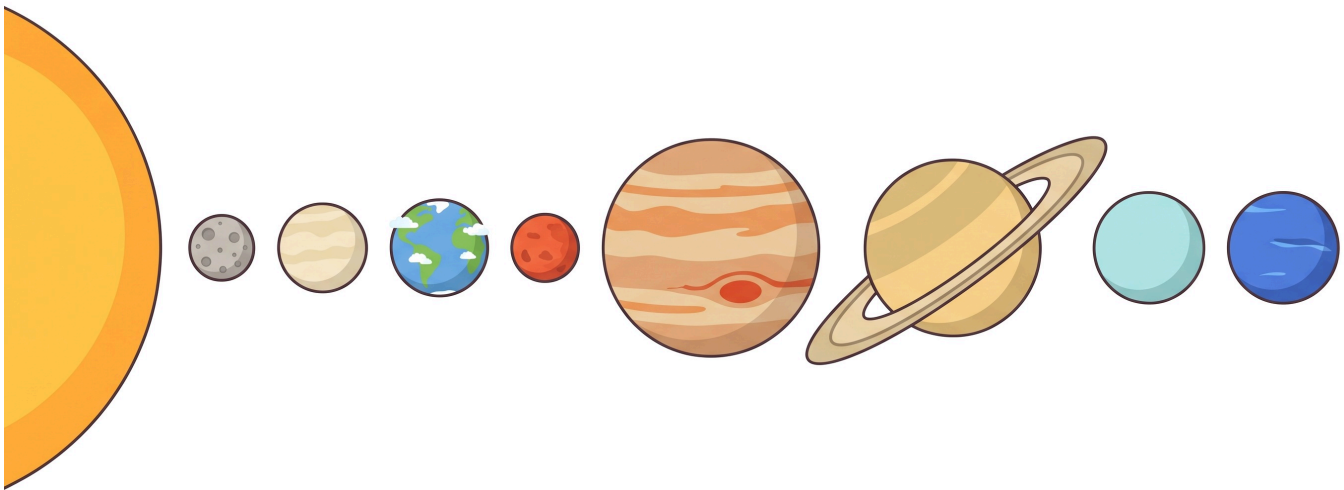


The Solar System

The Sun and the eight planets



7

printable sheets

17

pages

All

answer keys included

The Solar System Teaching Pack

The Sun and the eight planets

How to use this pack. The sheets are in a suggested teaching order: show the labeled diagram, have students label the blank one, then work through the practice sheets and finish with the quiz. Use them all over a week or pick the ones you need. The answer keys are together at the back.

What is inside

1. Teach

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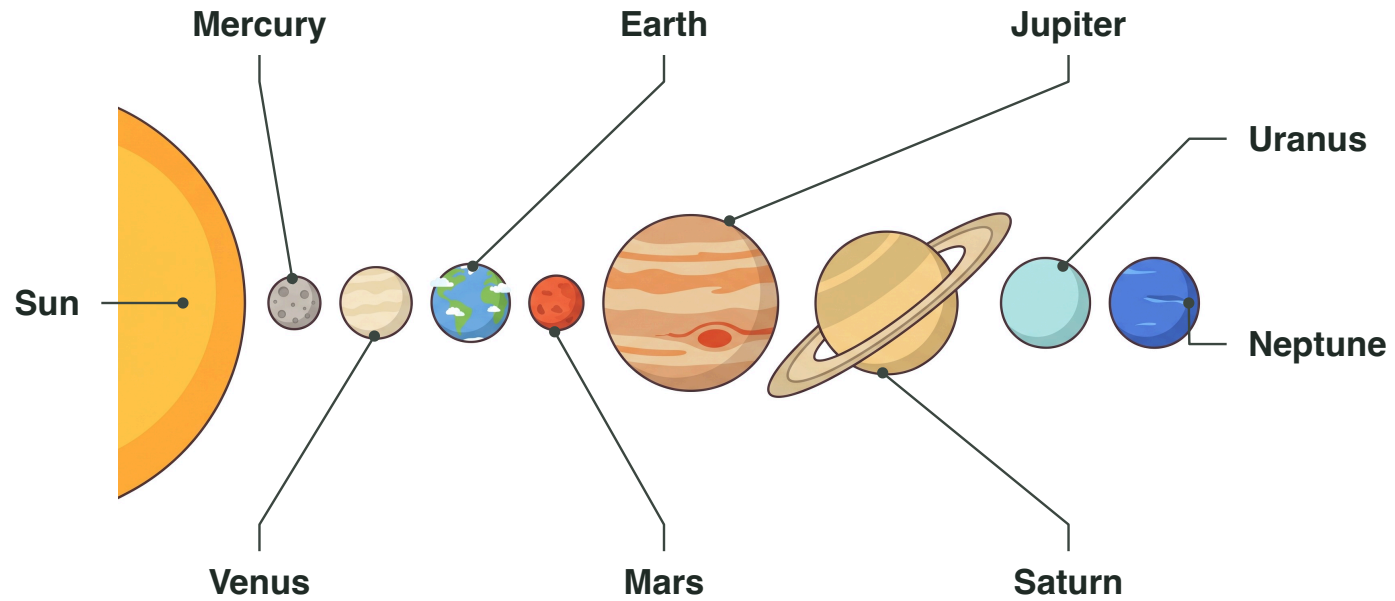
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Answer keys

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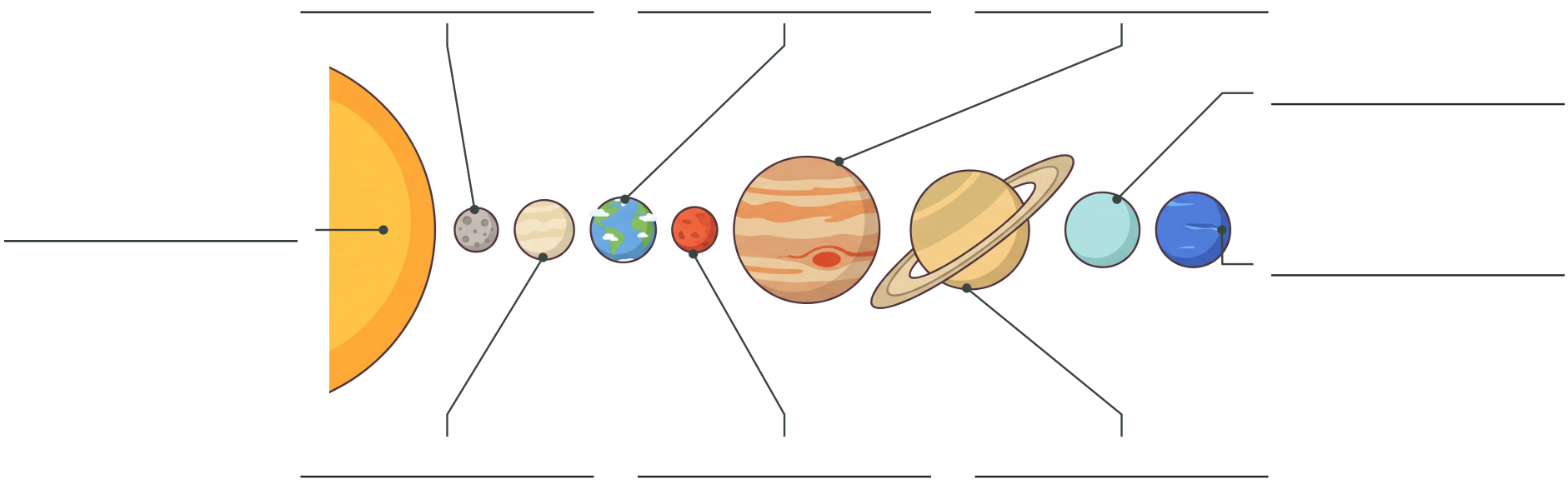
The Solar System



The Solar System

Name: _____

Write the name of each part on its line. Use the word bank.



Word bank Earth Jupiter Mars Mercury Neptune Saturn Sun Uranus Venus

The Sun and the Planets

Use the labeled solar system diagram to help you.

Part A. Write the name that fits each description.

Word bank

Earth

Jupiter

Mars

Mercury

Neptune

Saturn

Sun

Uranus

Venus

1. The largest planet. It is a giant ball of gas with a Great Red Spot. _____

2. The red planet. Its soil is rusty and rich in iron. _____

3. An ice giant that spins on its side. _____

4. The star at the center of the solar system. Its gravity holds the planets in orbit. _____

5. The hottest planet. Its thick, cloudy air traps heat. _____

6. The farthest planet from the Sun. A cold, windy ice giant. _____

7. Our home. It is the only planet known to have life. _____

8. A gas giant famous for its bright, wide rings of ice and rock. _____

9. The smallest planet and the closest to the Sun. _____

Part B. Answer the questions.

1. Which two planets are ice giants?

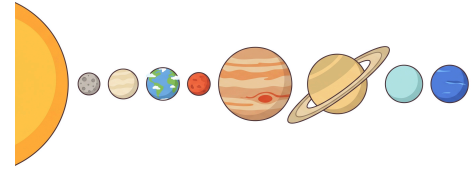
2. Mercury is closer to the Sun than Venus is. Why is Venus hotter?

3. The diagram does not show the true sizes of the Sun and planets or the true distances between them. Why do you think that is?

Our Solar System

Read the text. Then answer the questions on the next page.

- 1 The **solar system** is the Sun and everything that travels around it. That includes eight planets, their moons, and many smaller objects such as asteroids and comets. The Sun is a **star**. It is by far the largest object in the solar system. It gives off the light and heat that reach every planet.
- 2 Each planet moves around the Sun on a path called an **orbit**. The Sun's **gravity** holds the planets in their orbits. Without that pull, they would fly off into space. One trip around the Sun is a planet's year. Planets that are farther from the Sun have longer trips and move more slowly, so their years are longer.
- 3 In order from the Sun, the four closest planets are Mercury, Venus, Earth and Mars. They are the **inner planets**. They are small and made mostly of rock, with a solid surface. Mercury is the smallest planet. Venus is the hottest, because its thick air traps heat. Earth is the only planet known to have life. Mars looks red because of the rusty iron in its soil.
- 4 Next come the four **outer planets**: Jupiter, Saturn, Uranus and Neptune. They are much larger. Jupiter and Saturn are **gas giants**, made mostly of hydrogen and helium. Jupiter is the largest planet of all. Uranus and Neptune are usually called **ice giants**. All four outer planets have rings, but Saturn's are the brightest. None of the four has a solid surface to land on.
- 5 A picture cannot show the true size of the solar system. The planets are far smaller than the Sun and very far apart. If the Sun were as tall as a front door, Earth would be about the size of a penny. Beyond Neptune are many small, icy worlds. One of them is Pluto, which is classed as a **dwarf planet**.



The Sun and the eight planets. Sizes and distances are not to scale.

Our Solar System: Questions

Go back to the text to find each answer. The paragraphs are numbered to help you.

1. What is this text mostly about?

- ☐ How astronauts travel in space
- ☐ Why Mars looks red
- ☐ The Sun and the planets that orbit it
- ☐ How stars are born

2. What holds the planets in their orbits?

- ☐ The planets' rings
- ☐ The Sun's gravity
- ☐ The Sun's light
- ☐ The planets' moons

3. Why is a year longer on a planet that is farther from the Sun?

4. Number these planets 1, 2 and 3. Start with the one closest to the Sun (paragraph 3).

☐

Mars

☐

Mercury

☐

Earth

5. Which planet is the hottest?

- ☐ Mercury
- ☐ Venus
- ☐ Mars
- ☐ Jupiter

6. Which two planets are gas giants?

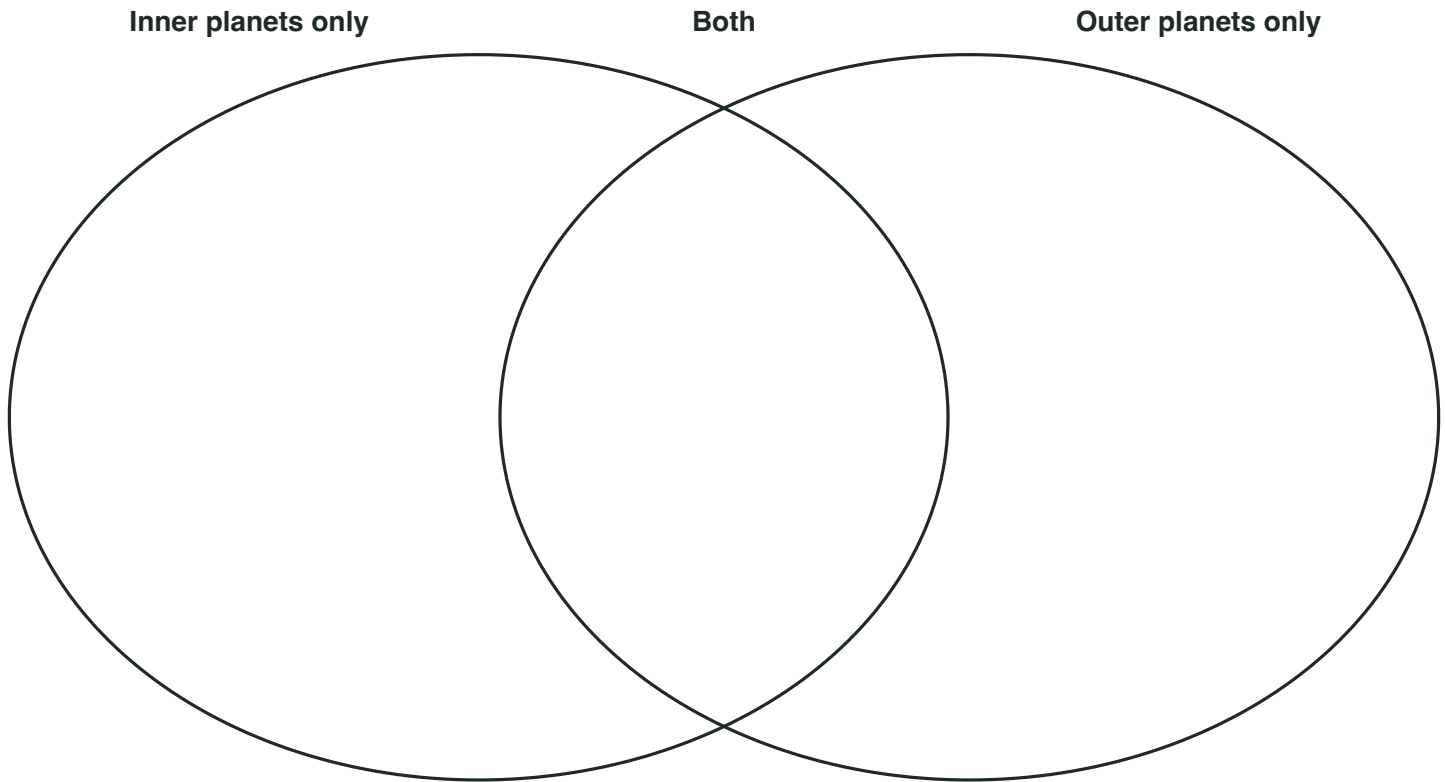
- ☐ Earth and Mars
- ☐ Uranus and Neptune
- ☐ Mercury and Venus
- ☐ Jupiter and Saturn

7. Give two ways the outer planets are different from the inner planets.

8. Why can a picture not show the true size of the solar system?

Inner Planets or Outer Planets?

The inner planets are the four closest to the Sun. The outer planets are the other four. Write each item from the word bank in the part of the diagram where it belongs.

**Word bank**

Closer to the Sun

Farther from the Sun

Gas or ice giants

Get light from the Sun

Have rings

Made mostly of rock

Mars

Mercury

Much larger

Neptune

Orbit the Sun

Saturn

Shaped like a ball

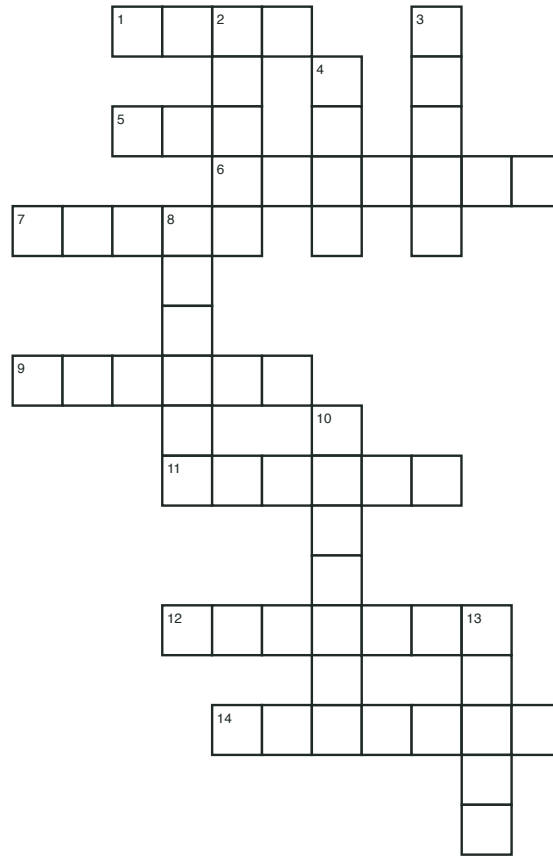
Smaller

Solid surface

Astronomers find a new planet orbiting a far-off star. The planet is small and rocky, with a solid surface. Is it more like an inner planet or an outer planet? How do you know?

Solar System Crossword

Read each clue. Write the answer in the puzzle, one letter in each box. Use the word bank if you get stuck.



ACROSS

1. The red planet.
5. The star at the center of the solar system.
6. The pull that holds the planets in their paths.
7. The hottest planet.
9. A large, round world that travels around a star.
11. The gas giant with the brightest rings.
12. The planet farthest from the Sun.
14. The smallest planet.

DOWN

2. All four outer planets have these around them.
3. The path a planet follows around the Sun.
4. A huge ball of hot gas that gives off its own light and heat.
8. An ice giant that spins on its side.
10. The largest planet.
13. The only planet known to have life.

Word bank

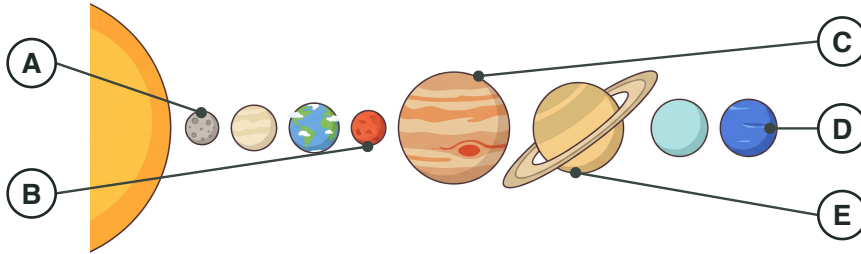
Earth gravity Jupiter Mars Mercury Neptune orbit planet rings
Saturn star Sun Uranus Venus

Solar System Quiz

Score _____ / 13

The Sun is at the left of the picture. Sizes and distances are not to scale.

Part A. This is the solar system. Write the name of each planet.



- A _____
B _____
C _____
D _____
E _____

Jupiter · Mars · Mercury · Neptune · Saturn

Part B. Choose the best answer.

1. What is the Sun?

- ☐ A planet
- ☐ A star
- ☐ A moon
- ☐ A comet

2. Which planet is the hottest?

- ☐ Mercury
- ☐ Venus
- ☐ Earth
- ☐ Mars

3. What holds the planets in their orbits?

- ☐ The Sun's gravity
- ☐ The Sun's light
- ☐ Their rings
- ☐ Their moons

4. Which planet is the only one known to have life?

- ☐ Venus
- ☐ Mars
- ☐ Earth
- ☐ Saturn

5. Which two planets are usually called ice giants?

- ☐ Jupiter and Saturn
- ☐ Mercury and Mars
- ☐ Venus and Earth
- ☐ Uranus and Neptune

6. What are the inner planets mostly made of?

- ☐ Gas
- ☐ Ice
- ☐ Rock
- ☐ Water

Part C. Write your answer.

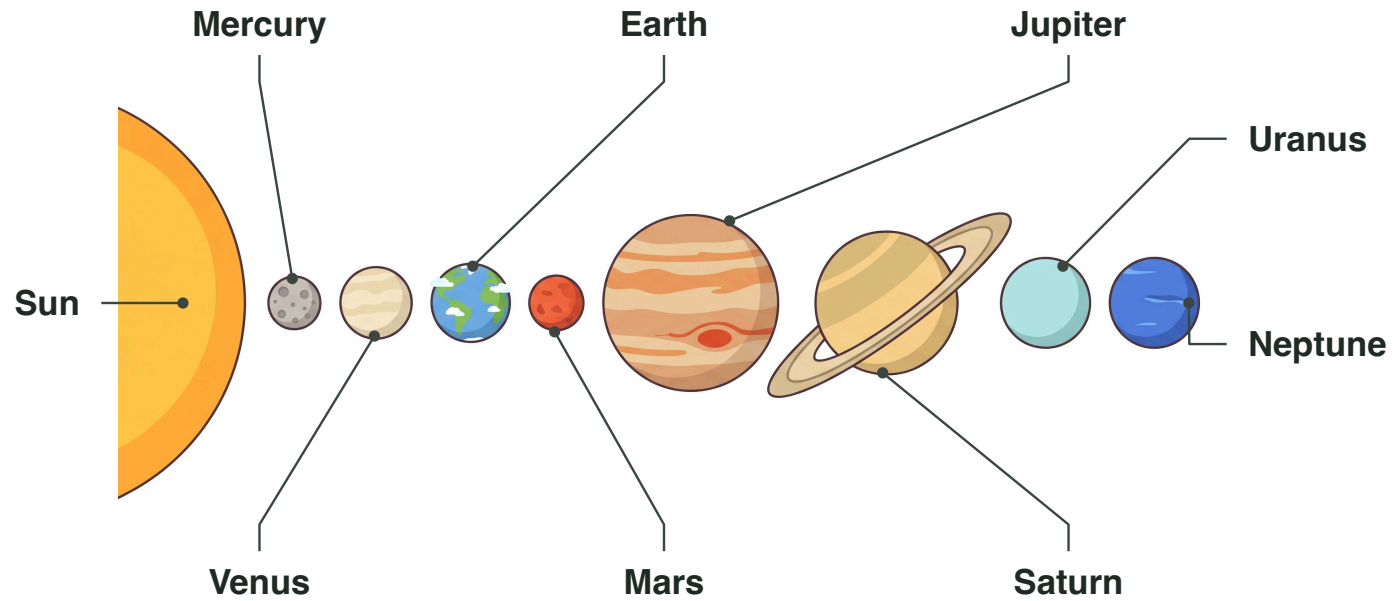
7. Name the four inner planets, starting with the one closest to the Sun.

8. Give two ways the outer planets are different from the inner planets.

Answer Keys

In the same order as the sheets.

The Solar System: Answer Key



The Sun and the Planets: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. Write the name that fits each description.

Word bank Earth Jupiter Mars Mercury Neptune Saturn Sun Uranus Venus

- | | |
|--|----------------|
| 1. The largest planet. It is a giant ball of gas with a Great Red Spot. | Jupiter |
| 2. The red planet. Its soil is rusty and rich in iron. | Mars |
| 3. An ice giant that spins on its side. | Uranus |
| 4. The star at the center of the solar system. Its gravity holds the planets in orbit. | Sun |
| 5. The hottest planet. Its thick, cloudy air traps heat. | Venus |
| 6. The farthest planet from the Sun. A cold, windy ice giant. | Neptune |
| 7. Our home. It is the only planet known to have life. | Earth |
| 8. A gas giant famous for its bright, wide rings of ice and rock. | Saturn |
| 9. The smallest planet and the closest to the Sun. | Mercury |

Part B. Answer the questions.

- Which two planets are ice giants?
Uranus and Neptune.
- Mercury is closer to the Sun than Venus is. Why is Venus hotter?
Venus has thick, cloudy air that traps heat.
- The diagram does not show the true sizes of the Sun and planets or the true distances between them. Why do you think that is?
The Sun is far bigger than the planets, and the planets are very far apart. A picture with the true sizes and distances would not fit on a page.

Our Solar System: Answer Key

Answers are in green. Written answers will vary; these are examples.

1. What is this text mostly about?

- ☐ How astronauts travel in space
- ☐ Why Mars looks red
- ☒ **The Sun and the planets that orbit it**
- ☐ How stars are born

2. What holds the planets in their orbits?

- ☐ The planets' rings
- ☒ **The Sun's gravity**
- ☐ The Sun's light
- ☐ The planets' moons

3. Why is a year longer on a planet that is farther from the Sun?

The planet has a longer trip around the Sun, and it moves more slowly.

4. Number these planets 1, 2 and 3. Start with the one closest to the Sun (paragraph 3).

- 3** Mars
- 1** Mercury
- 2** Earth

5. Which planet is the hottest?

- ☐ Mercury
- ☒ **Venus**
- ☐ Mars
- ☐ Jupiter

6. Which two planets are gas giants?

- ☐ Earth and Mars
- ☐ Uranus and Neptune
- ☐ Mercury and Venus
- ☒ **Jupiter and Saturn**

7. Give two ways the outer planets are different from the inner planets.

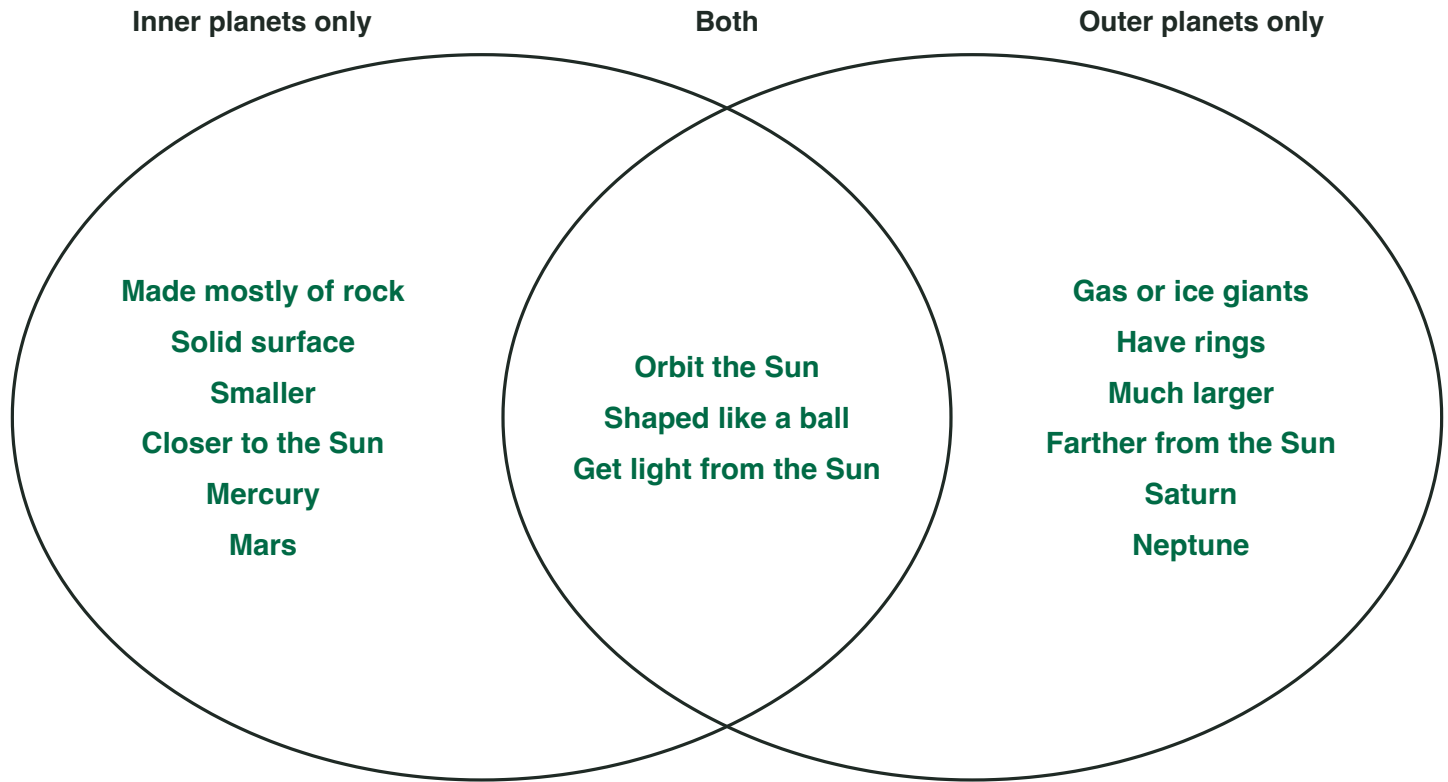
Any two: they are much larger, they have rings, they have no solid surface, they are farther from the Sun.

8. Why can a picture not show the true size of the solar system?

The planets are far smaller than the Sun and very far apart.

Inner Planets or Outer Planets?: Answer Key

Answers are in green.



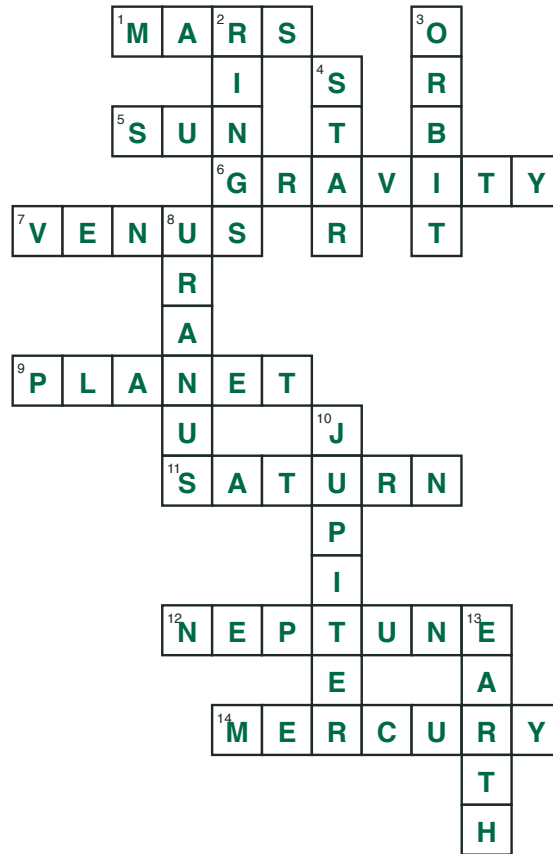
Word bank Closer to the Sun Farther from the Sun Gas or ice giants Get light from the Sun
Have rings Made mostly of rock Mars Mercury Much larger Neptune Orbit the Sun
Saturn Shaped like a ball Smaller Solid surface

Astronomers find a new planet orbiting a far-off star. The planet is small and rocky, with a solid surface. Is it more like an inner planet or an outer planet? How do you know?

It is more like an inner planet. The inner planets are small and rocky with a solid surface. The outer planets are giants with no solid surface.

Solar System Crossword: Answer Key

Answers are in green.



ACROSS

1. The red planet.
5. The star at the center of the solar system.
6. The pull that holds the planets in their paths.
7. The hottest planet.
9. A large, round world that travels around a star.
11. The gas giant with the brightest rings.
12. The planet farthest from the Sun.
14. The smallest planet.

DOWN

2. All four outer planets have these around them.
3. The path a planet follows around the Sun.
4. A huge ball of hot gas that gives off its own light and heat.
8. An ice giant that spins on its side.
10. The largest planet.
13. The only planet known to have life.

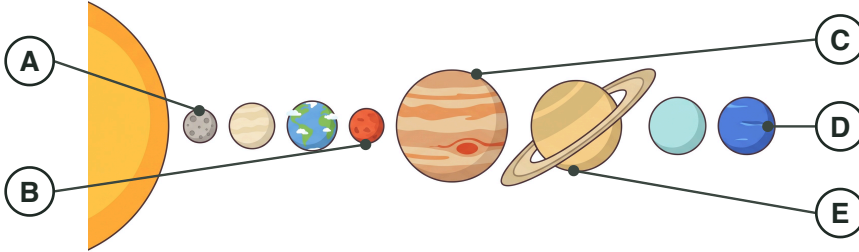
Word bank

Earth gravity Jupiter Mars Mercury Neptune orbit planet rings
Saturn star Sun Uranus Venus

Solar System Quiz: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. This is the solar system. Write the name of each planet.



A **Mercury**

B **Mars**

C **Jupiter**

D **Neptune**

E **Saturn**

Jupiter · Mars · Mercury · Neptune · Saturn

Part B. Choose the best answer.

1. What is the Sun?

- ☐ A planet
- ☒ **A star**
- ☐ A moon
- ☐ A comet

2. Which planet is the hottest?

- ☐ Mercury
- ☒ **Venus**
- ☐ Earth
- ☐ Mars

3. What holds the planets in their orbits?

- ☒ **The Sun's gravity**
- ☐ The Sun's light
- ☐ Their rings
- ☐ Their moons

4. Which planet is the only one known to have life?

- ☐ Venus
- ☐ Mars
- ☒ **Earth**
- ☐ Saturn

5. Which two planets are usually called ice giants?

- ☐ Jupiter and Saturn
- ☐ Mercury and Mars
- ☐ Venus and Earth
- ☒ **Uranus and Neptune**

6. What are the inner planets mostly made of?

- ☐ Gas
- ☐ Ice
- ☒ **Rock**
- ☐ Water

Part C. Write your answer.

7. Name the four inner planets, starting with the one closest to the Sun.

Mercury, Venus, Earth, Mars.

8. Give two ways the outer planets are different from the inner planets.

Any two: they are much larger, they have rings, they have no solid surface, they are farther from the Sun.