

Orbiting the Sun

The eight planets of our solar system orbit or travel around the Sun at different distances, and take different lengths of time to complete one orbit. The amount of time a planet takes to orbit the Sun is called its orbital length or year. The time a planet takes to rotate on its axis once is called its rotation period or day.

Planets of the solar system

Fill in the name of each planet on this solar system diagram. Use the model in *Fast Facts: The Solar System* to help you.

2. Name:
Day: 59 Earth days
Year: 88 Earth days

1. Name:
Day: 16.11 Earth hours
Year: 164.9 Earth years

4. Name:
Day: 23.93 Earth hours
Year: 365.26 Earth days

3. Name:
Day: 10.66 Earth hours
Year: 29.46 Earth years

Planet puzzles

Complete the sentences by circling the correct words. Use the information on this page to help you.

1. The planet with the longest year is **Earth / Mercury / Neptune**.
2. A year on Uranus lasts **84 Earth years / 84 Earth days / 11.86 Earth days**.
3. A day on Mercury lasts **59 Earth days / 59 Earth hours / 5.9 Earth hours**.
4. Two planets have shorter years than Earth. They are **Uranus and Neptune / Mercury and Venus / Jupiter and Saturn**.

Earth time teasers

It takes one day for the Earth to spin around once on its axis.
It takes one year for the Earth to orbit the Sun.

1 day = 1 spin
1 year = 1 orbit

- How many spins are there in a week?
- How many orbits are there in a century?
- How many spins are there until your next birthday?
- How many orbits and spins old is your best friend?

spins

orbits

spins

orbits spins

5. Name:
Day: 17.24 Earth hours
Year: 84 Earth years

6. Name:
Day: 243 Earth days
Year: 224.7 Earth days

7. Name:
Day: 9.93 Earth hours
Year: 11.86 Earth years

8. Name:
Day: 24.63 Earth hours
Year: 687 Earth days

Did you know?
As they orbit the Sun, planets nearer the center of the solar system travel through space faster than planets farther away.

Seeing the solar system to scale

The diagram of the solar system on this page is not drawn to scale because this paper is not wide enough to show you the solar system's vast scale. Try making a diagram that gives you an idea of how far each planet is from the Sun.

1 Draw pictures of each planet and the Sun. Color them in and cut them out.

3 Measure the following distances from the Sun to stick down the eight planets:

2 Find a long strip of wallpaper or other paper, about 15 ft (5 m) long. Stick the Sun at one end of the paper.

- | | |
|-----------------------|-----------------------------|
| Mercury: 2½ in (6 cm) | Jupiter: 2 ft 7 in (78 cm) |
| Venus: 4½ in (11 cm) | Saturn: 4 ft 7 in (1.4 m) |
| Earth: 6 in (15 cm) | Uranus: 9 ft 6 in (2.9 m) |
| Mars: 9 in (23 cm) | Neptune: 14 ft 9 in (4.5 m) |

4 Look in an encyclopedia to find out how far each planet is from the Sun. Label each planet with its name and distance.



Activity Answers

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Planets of the solar system

- 1 Neptune
- 2 Mercury
- 3 Saturn
- 4 Earth
- 5 Uranus
- 6 Venus
- 7 Jupiter
- 8 Mars

Planet puzzles

- 1 Neptune
- 2 84 Earth years
- 3 59 Earth days
- 4 Mercury and Venus

Earth time teasers

- 1 7
- 2 100
- 3 Answers will vary.
- 4 Answers will vary.