

Orbit Size Detectives

Compare planet size with distance from the Sun.

6.2.b “planets have different sizes and orbit at different distances from the sun;”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each planet name. Write a number from 1 to 8 beside each name to show its order from closest to farthest from the Sun.

Two Ways to Compare Planets

- ① Imagine a spacecraft leaving the Sun. It would first pass Mercury, then Venus, Earth, and Mars. These four rocky planets travel in the inner part of the solar system. Mercury follows the smallest planetary orbit and is closest to the Sun. Mars follows the widest orbit of the inner planets. An orbit is the curved path a planet follows around the Sun. The order of these planets shows that each one travels at its own distance from the Sun.
- ② Beyond Mars, in order away from the Sun, are Jupiter, Saturn, Uranus, and Neptune. They are much larger than the rocky inner planets, and they orbit farther from the Sun. Jupiter is the largest planet, but it is not farthest from the Sun. Neptune is farther from the Sun than the other seven planets. Saturn is also very large, while Uranus and Neptune are smaller than Jupiter and Saturn. A planet's size does not decide its position in the orbit order.
- ③ Scientists compare planets by keeping two ideas separate: size and distance from the Sun. Earth is larger than Mercury, yet Earth's orbit is farther from the Sun. Saturn is smaller than Jupiter, yet Saturn's orbit is farther from the Sun. These pairs show why a list from smallest to largest would not match a list from closest to farthest. Every planet orbits the same Sun, but the planets do not share one orbit or one size. Careful comparisons use words such as larger, smaller, closer, and farther.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What is the order of all eight planets from closest to farthest from the Sun?

2 How are Jupiter and Neptune different in both size and distance from the Sun?

3 How do Earth and Mercury show that planet size and distance are separate ideas?

4 Why would a list of planets from smallest to largest not match a list from closest to farthest from the Sun?

3 YOUR TURN _____ Your own words

Write three sentences comparing Saturn, Uranus, and Neptune. Include a size comparison, a distance comparison, and a sentence that explains why size and distance are separate facts.

PART 1 • READ AND MARK

Underline each planet name. Write a number from 1 to 8 beside each name to show its order from closest to farthest from the Sun. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What is the order of all eight planets from closest to farthest from the Sun?	Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
2	How are Jupiter and Neptune different in both size and distance from the Sun?	Jupiter is the largest planet, while Neptune is smaller. Jupiter is closer to the Sun, while Neptune is farthest from the Sun.
3	How do Earth and Mercury show that planet size and distance are separate ideas?	Earth is larger than Mercury, but Earth orbits farther from the Sun than Mercury.
4	Why would a list of planets from smallest to largest not match a list from closest to farthest from the Sun?	Planet size does not decide a planet's distance from the Sun. For example, Jupiter is the largest planet but is not farthest from the Sun.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Saturn is larger than Uranus and Neptune. Saturn is closer to the Sun than Uranus and Neptune. These comparisons show that a planet's size and its distance from the Sun are different facts.

Accept equivalent comparison sentences that accurately state Saturn is larger and closer to the Sun than Uranus and Neptune. The final sentence should explain that size does not determine orbit distance.