How Big is Space?

When we look up at the night sky, it is easy to imagine that space is simply a dark, empty backdrop scattered with twinkling stars. However, space is far more vast and complex than it first appears. Scientists often say that space is *so large* that the human mind struggles to fully understand it. Even the distances between planets are measured in millions of kilometres, and the gaps between stars reach trillions.

Earth is part of a system called the solar system, which includes eight planets orbiting the Sun. Although this might seem enormous, the solar system itself is only a tiny part of the Milky Way galaxy. The Milky Way contains hundreds of billions of stars, each potentially surrounded by planets of its own. Yet the Milky Way is not alone. It is just one of countless galaxies spread across what astronomers call the universe.

To help understand the scale of space, scientists use the term light-year—the distance light travels in one year. Light moves extraordinarily fast, much faster than anything on Earth. Even so, reaching the nearest star beyond our Sun would take

over four years if you were travelling at the speed of light. Travelling by ordinary spacecraft would take tens of thousands of years.

Although these distances may seem overwhelming, curiosity continues to drive exploration. Telescopes, satellites, and robotic probes have allowed us to observe regions of space we could never reach ourselves. These tools reveal swirling clouds of gas, exploding stars, and mysterious black holes that appear to swallow everything nearby. Every discovery raises new questions, reminding us that space is not merely large—it may be limitless.

And so, when we gaze up at the sky, we are really looking into a place without an obvious edge or end. Space stretches on further than we can currently measure or imagine. It remains one of humanity’s greatest wonders: a vast, silent ocean of stars waiting to be explored.

Comprehension Questions

1. **Why does the author say that the human mind struggles to understand the size of space?**

   A. Because space is not real

   B. Because the distances involved are unimaginably large

   C. Because scientists refuse to measure it

   D. Because stars are too small to observe

2. **Which of the following best describes the relationship between the solar system and the Milky Way?**

   A. The solar system contains the Milky Way

   B. The Milky Way is smaller than the solar system

   C. They are exactly the same size

   D. The solar system is just one tiny part of the Milky Way

3. **What is a light-year used to measure?**

   A. Time taken to travel around the Sun

   B. The brightness of stars

   C. The distance light travels in a year

   D. The weight of planets

4. **What does the author suggest about travelling to distant stars?**

   A. It is easily achieved using modern spacecraft

   B. It would currently take far longer than a human lifetime

   C. It is not possible even at the speed of light

   D. It has already been done many times

5. **What is the effect of describing space as “a vast, silent ocean of stars”?**

   A. It suggests space is full of dangerous storms

   B. It emphasises the calm, endless, and mysterious nature of space

   C. It implies that stars are made of water

   D. It warns readers not to travel into space

6. **Which statement best summarises the final message of the passage?**

A. Space will soon be fully explored and understood

B. Space is shrinking over time

C. Space is enormous and full of unanswered questions

D. Space is too frightening to study further

Answers

1. **B** — The text explains that space is so enormous that it is difficult for humans to fully grasp.

2. **D** — The solar system is described as only a tiny part of the Milky Way.

3. **C** — A light-year measures distance, specifically how far light travels in one year.

4. **B** — At current speeds, travelling to distant stars would take thousands of years.

5. **B** — The metaphor highlights space’s vastness and mysterious calmness.

6. **C** — The ending emphasises the immense scale of space and the many unknowns that remain.