READING PASSAGE · LEVEL 2 · ON-GRADE

URANUS: THE TIPPED-OVER WORLD

A reading passage for middle-grade students (Ages 8–10)

Uranus is the seventh planet from the Sun and one of two ice giants in our solar system, along with Neptune. Although it is sometimes grouped with the gas giants like Jupiter and Saturn, Uranus contains much more "ice" — actually a slushy mix of water, methane, and ammonia — making up most of its mass.

Uranus is famous for being tipped on its side. While most planets spin like spinning tops, Uranus rotates almost 98 degrees from upright — almost lying down. Scientists think a giant collision with a planet-sized object early in its history may have knocked it over.

Because of this huge tilt, the seasons on Uranus are extreme. Each pole points towards the Sun for about 21 Earth years at a time, then spends 21 years in continuous darkness. Imagine 21 years of summer followed by 21 years of winter night!

Uranus is the coldest planet in the solar system, with cloud-top temperatures dropping to around −224°C — even colder than Neptune, which is farther away. Its blue-green colour comes from methane gas in its atmosphere, which absorbs red light and reflects blue.

Uranus has 13 thin, dark rings and 28 known moons. Only one spacecraft has ever visited — Voyager 2 — and only briefly, when it flew past in 1986. Many scientists think a return mission is long overdue.

★ WORDS TO KNOW 4 TERMS

ice giant
A planet made mostly of icy slush rather than rock or pure gas.

methane
A gas that absorbs red light, making the sky look blue or green.

tilt
The angle at which a spinning object leans to one side.

flyby
A spacecraft passing close to a planet without entering orbit.

★ COMPREHENSION QUESTIONS 5 QUESTIONS

1. How is an "ice giant" like Uranus different from gas giants like Jupiter and Saturn?

2. What is unusual about how Uranus rotates, and what may have caused it?

3. Why are seasons on Uranus so strange?

4. What gives Uranus its blue-green colour?

5. Which spacecraft has visited Uranus, and how recent was the visit?