



READING PASSAGES · ANSWER KEY

JUPITER

All 3 reading levels · Sample answers shown — accept reasonable variations

Teacher tip: Answers shown are model responses. Many comprehension questions can be correctly answered in multiple ways — the goal is to check that students can pull key ideas from the text in their own words. For Level 1, accept any answer that shows comprehension; phrasing doesn't need to match.

1 EMERGING

AGES 6–8 · 4 QUESTIONS

Jupiter: The Biggest Planet

1. How many Earths could fit inside Jupiter?

A: More than 1,000 Earths could fit inside Jupiter.

2. Why can't you walk on Jupiter?

A: You can't walk on Jupiter because it is made of gas, not rock. There is no ground.

3. What is the Great Red Spot, and how big is it?

A: The Great Red Spot is a giant storm. It is bigger than the whole Earth!

4. What are the names of Jupiter's four biggest moons?

A: Io, Europa, Ganymede, and Callisto.

2 ON-GRADE

AGES 8–10 · 5 QUESTIONS

Jupiter: King of the Planets

1. Why is Jupiter called a "gas giant"?

A: Jupiter is called a gas giant because it is huge and made mostly of hydrogen and helium gas, with no solid surface.

2. What would you find at the very centre of Jupiter?

A: At the very centre of Jupiter is a small rocky core.

3. What is the Great Red Spot, and how is it changing?

A: The Great Red Spot is a giant storm bigger than Earth that has been raging for at least 350 years. It has been slowly shrinking in recent years.

4. What causes the colourful bands in Jupiter's atmosphere?

A: The bands are caused by powerful winds blowing in opposite directions at over 600 km/h.

5. What is so special about Ganymede?

A: Ganymede is the largest moon in the entire solar system — even bigger than the planet Mercury.

3 ADVANCED

AGES 10–12 · 6 QUESTIONS

Jupiter: A Failed Star and Its Family

1. Why is Jupiter sometimes called a "failed star"?

A: If Jupiter had been about 80 times more massive, the pressure at its core would have been great enough to start nuclear fusion — the process that powers real stars. So it is "failed" only in the sense that it didn't quite become a star.

2. What is metallic hydrogen, and why is it important for Jupiter's magnetic field?

A: Metallic hydrogen is hydrogen squeezed so hard (about 21,000 km below Jupiter's cloud tops) that it conducts electricity like a metal. This is what generates Jupiter's enormous magnetic field — the strongest of any planet.

3. How has the Great Red Spot changed over time?

A: The Great Red Spot was once larger than three Earths across, but it has been gradually shrinking and changing colour over recent decades.

4. Compare Io and Europa. What makes each one unique?

A: Io is the most volcanically active body in the solar system, with constant eruptions resurfacing it. Europa is icy, with a global ocean of liquid water hidden beneath its frozen crust — very different from fiery Io.

5. Why is Europa especially interesting to scientists?

A: Europa's hidden ocean of liquid water might be a place where life could exist. Many scientists think it's one of the best places to search for life beyond Earth.

6. What is the goal of NASA's Juno spacecraft?

A: Juno is studying Jupiter's deep interior, magnetic field, and storms — looking beneath the clouds to learn how the planet formed and how it works.