

March 11, 2023

This Dwarf Planet Hosts an Odd Ring

Student Comprehension Worksheet

Directions: Please read the online *Science News* article "[The Kuiper Belt's dwarf planet Quaoar hosts an impossible ring](#)" and answer the following questions. A version of the article, "This dwarf planet hosts an odd ring," appears in the March 11, 2023 issue of *Science News*.

- 1. What and where is Quaoar? Can you also name the galaxy in which it resides?**
- 2. Explain when "stellar occultation" occurs and why scientists use the phenomenon to study planets and other objects in space.**
- 3. What did scientists studying Quaoar discover using stellar occultation?**
- 4. If a planet has a ring, where is the ring supposed to be relative to the planet, according to current scientific thinking? What makes the Quaoar discovery extraordinary?**
- 5. In current scientific thinking, what would scientists expect to happen in rings that are far beyond a planet's Roche limit? How is the ring around Quaoar unusual?**
- 6. What has this recent discovery done to scientists' thinking about rings around planets, and what will they need to look for to better understand the Quaoar ring finding?**