Year 11 Science: Moon phases and eclipses, seen from New Zealand

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. In the orbit diagram, which phase is seen from Earth at position 7?

2. Why does it take 29.5 days, not 27.3, to go from one new moon to the next?

3. On 3 March 2026 (Universal Time) there was a total lunar eclipse. What phase was the Moon in?

4. A full moon happens about every 29.5 days. Explain why there is not a lunar eclipse every month.

5. In New Zealand, a crescent Moon is seen in the western sky just after sunset. Which side of it is lit, and is it waxing or waning?

Exam-style question: the Christmas Eve super full moon

On 24 December 2026 a full moon happens 7 hours before the Moon reaches perigee, its closest point to Earth, 356 650 km away. Two weeks earlier, at apogee, it was 406 421 km away. Use the orbit diagram and the tables in this lesson.

6. Describe where the Sun, Earth and Moon are at full moon, and how often a full moon comes round.

7. Explain why viewers in New Zealand see the Moon go through phases over a month, and how a waxing Moon looks different here from in the Northern Hemisphere.

8. Discuss why a super full moon is seen only one to three times a year, rather than every month.

Fix the mistake

9. Correct this statement: "The phases happen because Earth's shadow covers part of the Moon."

10. Correct this statement: "A solar eclipse happens at full moon."

11. Correct this statement: "There should be an eclipse every month because there is a new moon every month."

12. Correct this statement: "The waxing crescent in New Zealand is lit on the right, like the pictures in most books."