Year 11 Science: Day and night, and the seasons in New Zealand

Name: _____ Date: _____

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

Practice

1. Which season does New Zealand have when the Southern Hemisphere is tilted towards the Sun?

2. Christchurch is at about 43.5°S. Calculate the height of the midday Sun there on 22 December.

3. Use the sunrise and sunset table: how much longer is Christchurch's day on 22 December than on 21 June?

4. Earth is closest to the Sun on 4 January. Explain why this is not the reason New Zealand has summer then.

5. In which direction does the Sun rise in Auckland on 21 June?

Exam-style question: summer evenings in Invercargill

A student moves from Auckland (37°S) to Invercargill (46°S). In December she notices it is still light at 9:30 pm, but in June it is dark by 5:15 pm. Use the sunrise and sunset table above.

6. Describe why Invercargill has day and night, and why the Sun rises in the east.

7. Explain why Invercargill's days are longer and warmer in December than in June. Refer to Earth's tilt and orbit.

8. Discuss why Invercargill has longer days than Auckland in December, shorter days in June, and almost the same day length in September.

Fix the mistake

9. Correct this statement: "Summer happens because Earth is closer to the Sun."

10. Correct this statement: "Earth's axis tips towards the Sun in summer and away in winter."

11. Correct this statement: "It is hotter in summer because there is more sunlight."

12. Correct this statement: "In summer the Sun is directly overhead in New Zealand at midday."