

## Achievement Standard

<b>Subject Reference</b>	Earth and Space Science 2.6		
<b>Title</b>	Demonstrate understanding of stars and planetary systems		
<b>Level</b>	2	<b>Credits</b>	4
		<b>Assessment</b>	External
<b>Subfield</b>	Science		
<b>Domain</b>	Earth and Space Science		
<b>Status</b>	Registered	<b>Status date</b>	17 November 2011
<b>Planned review date</b>	31 December 2019	<b>Date version published</b>	20 November 2014

This achievement standard involves demonstrating understanding of stars and planetary systems.

### Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
<ul style="list-style-type: none"> <li>Demonstrate understanding of stars and planetary systems.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate in-depth understanding of stars and planetary systems.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate comprehensive understanding of stars and planetary systems.</li> </ul>

### Explanatory Notes

- This achievement standard is derived from *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007, Level 7 Planet Earth and Beyond achievement objective: Astronomical Systems, and Nature of Science achievement objectives: Understanding about Science and Communicating in Science; and is related to the material in the *Teaching and Learning Guide for Science*, Ministry of Education, 2010 at <http://seniorsecondary.tki.org.nz>.

This standard is also derived from Te Marautanga o Aotearoa. For details of Te Marautanga o Aotearoa achievement objectives to which this standard relates, see the [Papa Whakaako](#) for the relevant learning area.

- Demonstrate understanding* involves describing:
  - characteristics of stars
  - the position of stars on the Hertzsprung-Russel (HR) diagram
  - stages in the birth, life and death of stars
  - characteristics of planetary systems
  - stages in the formation of planets and moons.

*Demonstrate in-depth understanding* involves explaining:

- how the characteristics of stars are linked to their position on the Hertzsprung-Russel (HR) diagram
- stages of the birth, life and death of stars
- stages in the formation of planets and moons.

*Demonstrate comprehensive understanding* involves explaining in detail:

- how characteristics of stars are linked to their position on the Hertzsprung-Russel (HR) diagram with reference to all stages in the life cycles of stars
- stages in the birth, life and death of stars with reference to energy changes
- stages in the formation of planets and moons with reference to changes in temperature.

3 A planetary system refers to one star, its orbiting planets and associated moons.

4 Assessment Specifications for this achievement standard can be accessed through the Science Resources page found at <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/ncea-subject-resources/>.

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### Replacement Information

This achievement standard replaced AS90764.

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### Quality Assurance

- 1 Providers and Industry Training Organisations must have been granted consent to assess by NZQA before they can register credits from assessment against achievement standards.
- 2 Organisations with consent to assess and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Consent and Moderation Requirements (CMR) reference

0233