Achievement Standard

Subject Reference	Science 1.13				
Title	Demonstrate understanding of the formation of surface features in New Zealand				
Level	1	**Credits**	4	**Assessment**	Internal
Subfield	Science				
Domain	Science - Core				
Status	Registered	**Status date**	30 November 2010		
Planned review date	31 December 2016	**Date version published**	12 December 2013		

This achievement standard involves demonstrating understanding of the formation of surface features in New Zealand.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of the formation of surface features in New Zealand.	• Demonstrate in-depth understanding of the formation of surface features in New Zealand.	• Demonstrate comprehensive understanding of the formation of surface features in New Zealand.

Explanatory Notes

Version 1 of this achievement standard was republished to amend the range in explanatory note 5. 'River features and valleys' had been accidentally omitted, and this has now been included.

1 This achievement standard is derived from *The New Zealand Curriculum,* Learning Media, Ministry of Education, 2007, Level 6. It is aligned with the Earth Systems achievement objective of the Planet Earth and Beyond strand and the Nature of Science strand, 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.

2 *Demonstrate understanding* involves describing selected external and/or internal processes and the formation of surface features in New Zealand using information, visual representations and data.

3 *Demonstrate in-depth understanding* involves explaining selected external and/or internal processes and the formation of surface features in New Zealand using information, visual representations and data.

4 *Demonstrate comprehensive understanding* involves explaining thoroughly links between selected external and/or internal processes and the formation of surface features in New Zealand using information, visual representations and data. It may involve elaborating, applying, justifying, relating, evaluating, comparing and contrasting, and analysing.

5 *Surface features* may include one or more local and/or national features such as:
- volcanoes and/or volcanic features
- limestone formations such as caves, sink holes
- sand dunes and dune lakes
- landslides
- glacial features and valleys
- river features and valleys
- fiords, drowned river valleys
- mountain ranges such as the Southern Alps, Kaikoura Mountains, Tararua Ranges
- the Alpine Fault and other major fault lines.

6 External processes may be selected from:
- erosion and weathering as caused by wind, ice, water, animal and plant action, human action, sea level changes.

7 Internal processes may be selected from:
- formation of volcanoes or mountains due to collisions between the Pacific plate and Australian plates
- lateral movement along tectonic plate boundaries
- formation of volcanoes by hot spots
- movement along fault lines, folding, faulting, and uplift
- land movement due to earthquakes.

8 Conditions of Assessment related to this achievement standard can be found at www.tki.org.nz/e/community/ncea/conditions-assessment.php.

Replacement Information
This achievement standard replaced unit standard 6358.

Quality Assurance

1 Providers and Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against achievement standards.

2 Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.

Accreditation and Moderation Action Plan (AMAP) reference 0233