Vocational Pathways

Colloquium with Eisenhower Fellow

Wellington, June 8, 2016

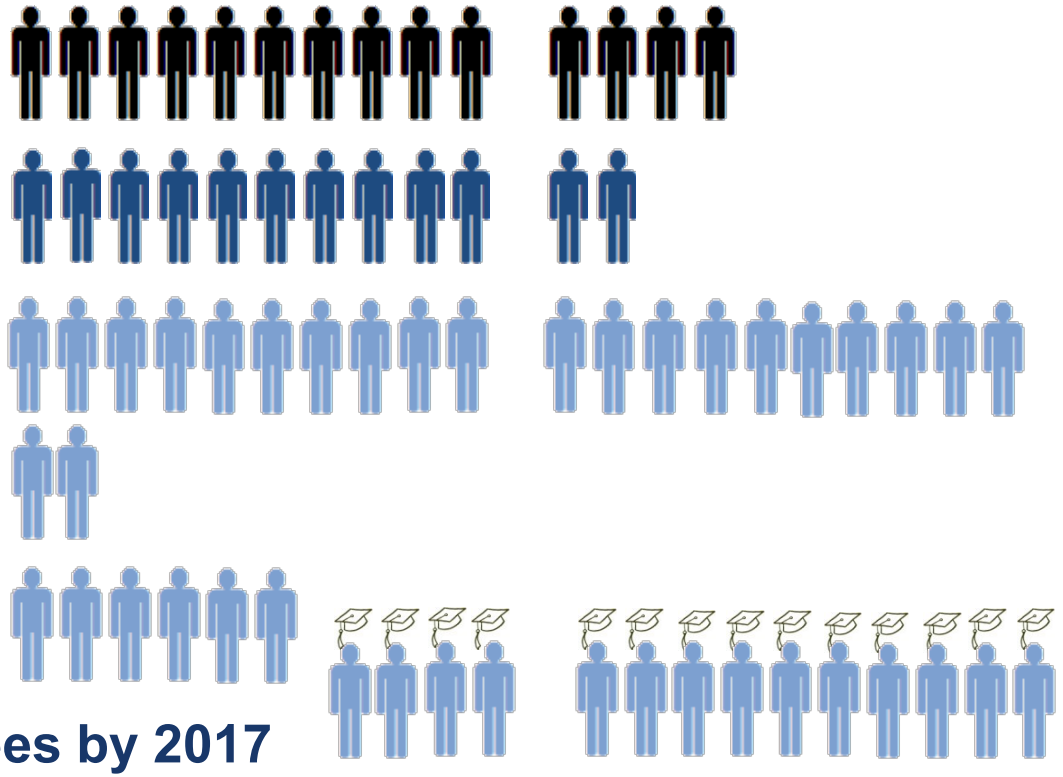
Let's talk about school leavers.

Year 9 of 2007… Where are they now?

2009: left after Y11

2010: left after Y12

2011: left after Y13



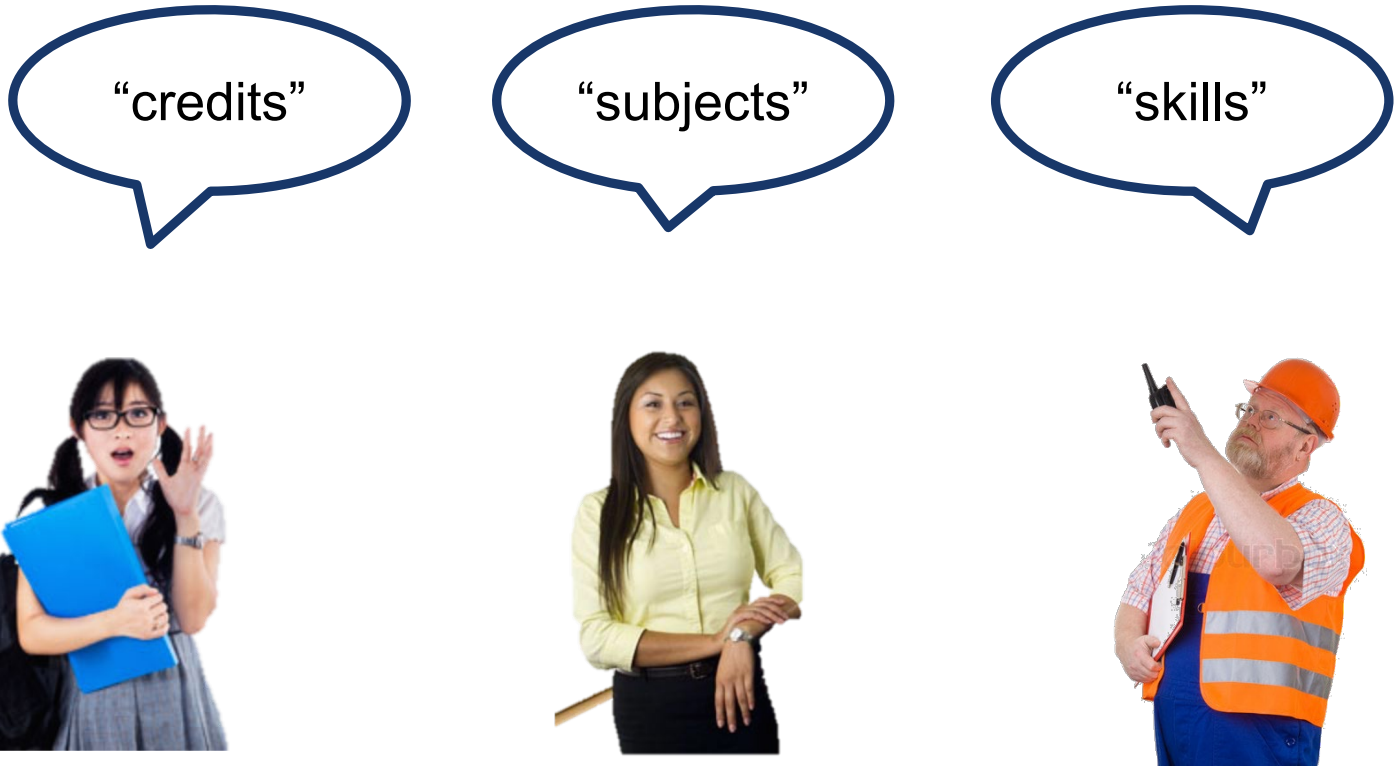
enrolled in degrees 2012

bachelors degrees by 2017

3 out of 10 go to university… **10** out of 10 go to <u>work</u>.

"Employers, education providers, and youth live in parallel universes… they have fundamentally different understandings of the same situation."

– *Education to Employment: Designing A System That Works* McKinsey 2012

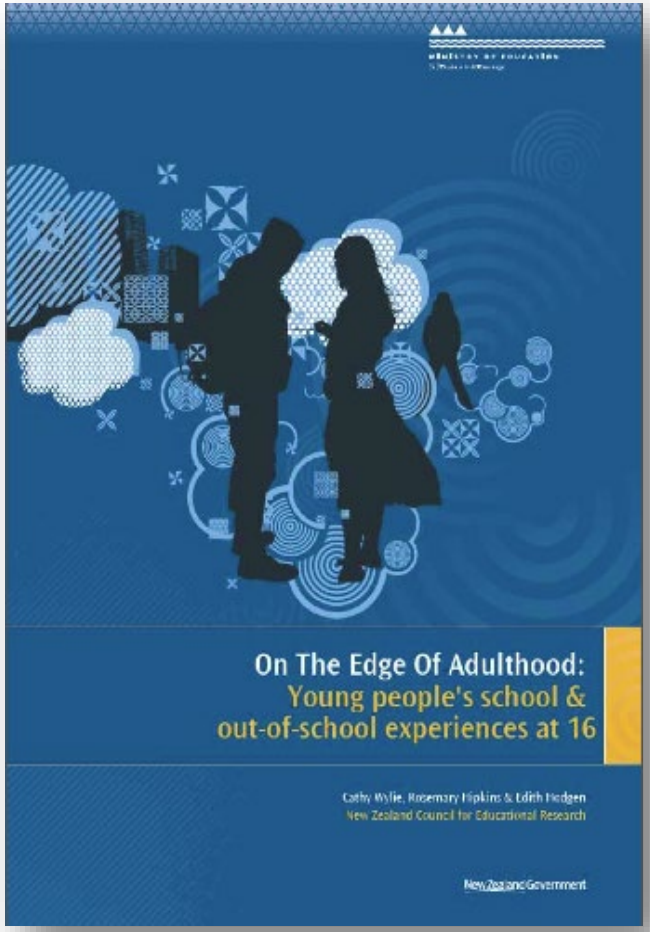


Vocational Pathways

Let’s talk about the National Certificate of Educational Achievement.

The best thing about NCEA is its flexibility.
The worst thing about NCEA is its flexibility.

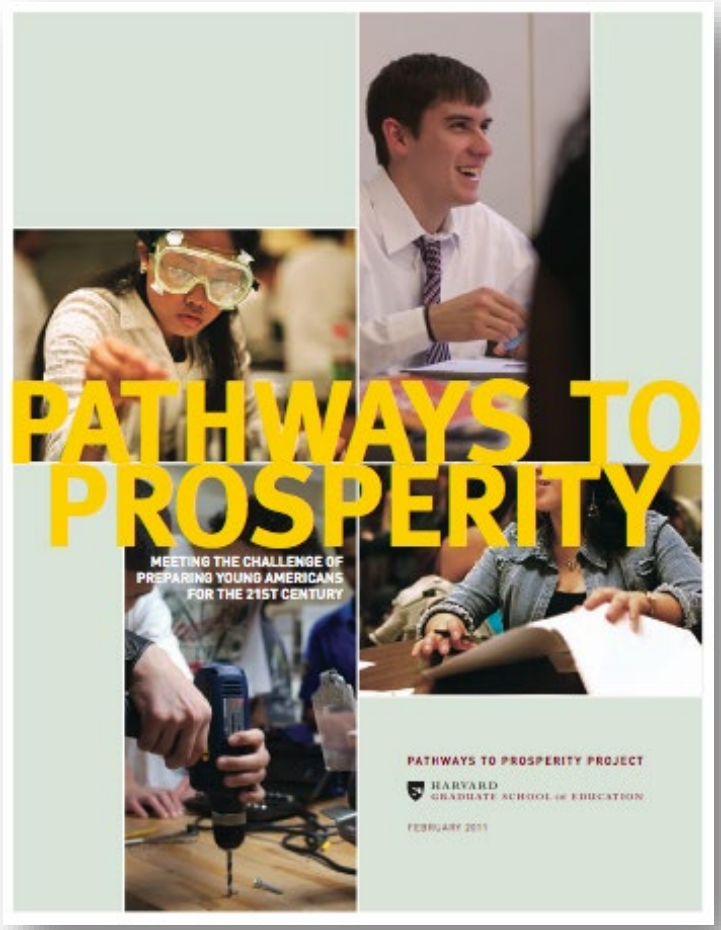
National Certificate of Educational Achievement



"A specific intention of the NCEA was to open up **multiple pathways** through the senior secondary school, providing more flexibility in the subject combinations available to students with different learning needs and different beyond-school pathways in mind."

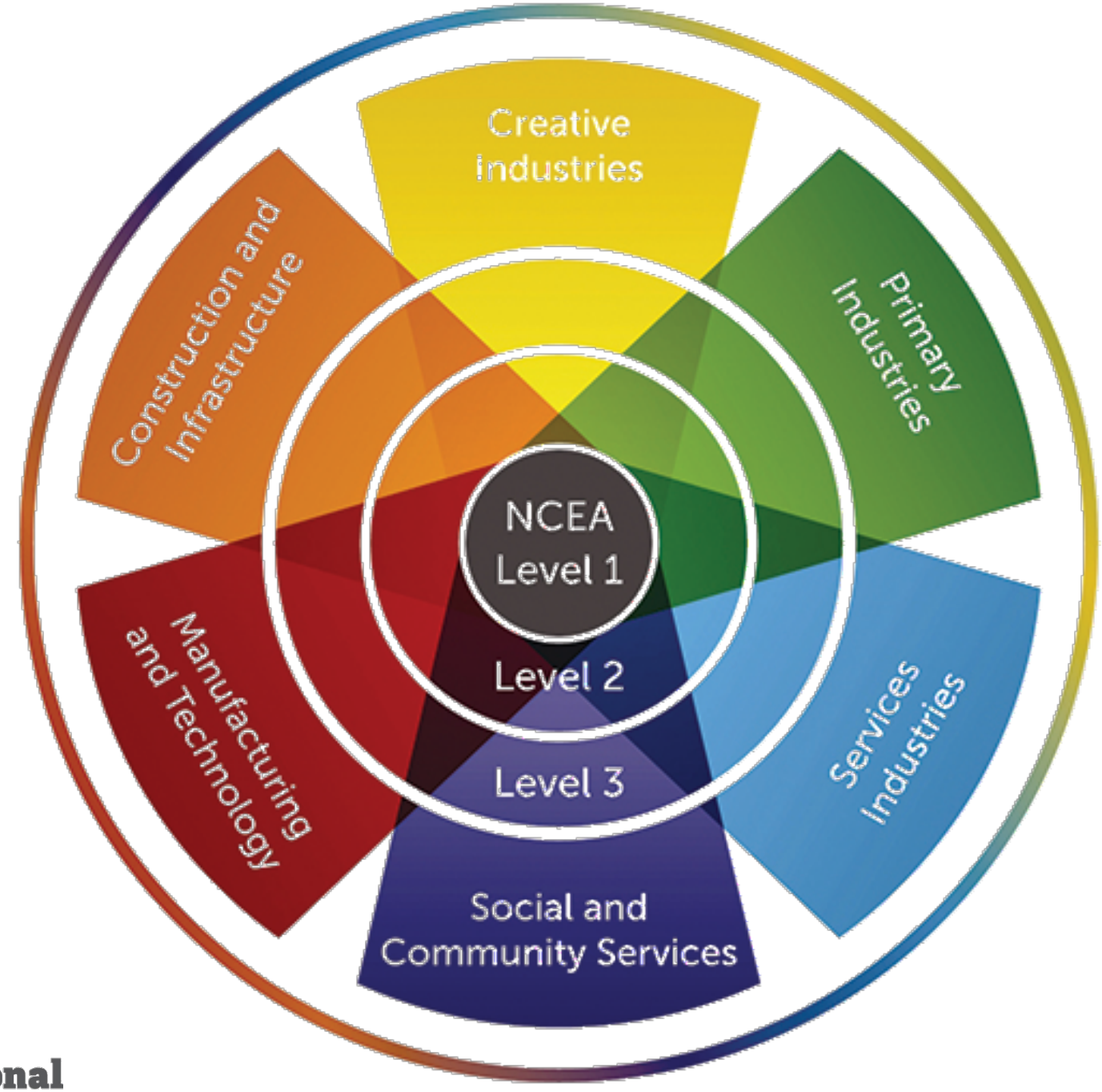
Vocational Pathways

Transitions



"It is long past time that we broaden the range of high quality pathways that we offer to our young people, beginning in high school. The lessons from other countries strongly suggests that this might be the single most promising strategy for increasing the percentage of young adults who earn a post-secondary degree or credential that prepares them to embark on a meaningful career."

Pathways to Prosperity, Harvard University, Feb 2011



Vocational Pathways

Achievement Standard

Subject Reference	Chemistry 1.5				
Title	Demonstrate understanding of aspects of chemical reactions				
Level	1	**Credits**	4	**Assessment**	External
Subfield	Science				
Domain	Chemistry				
Status	Registered	**Status date**	30 November 2010		
Planned review date	31 December 2014	**Date version published**	17 December 2010		

This achievement standard involves demonstrating understanding of aspects of chemical reactions.

Mutual exclusion exists between this standard and AS90947.

Achievement Criteria

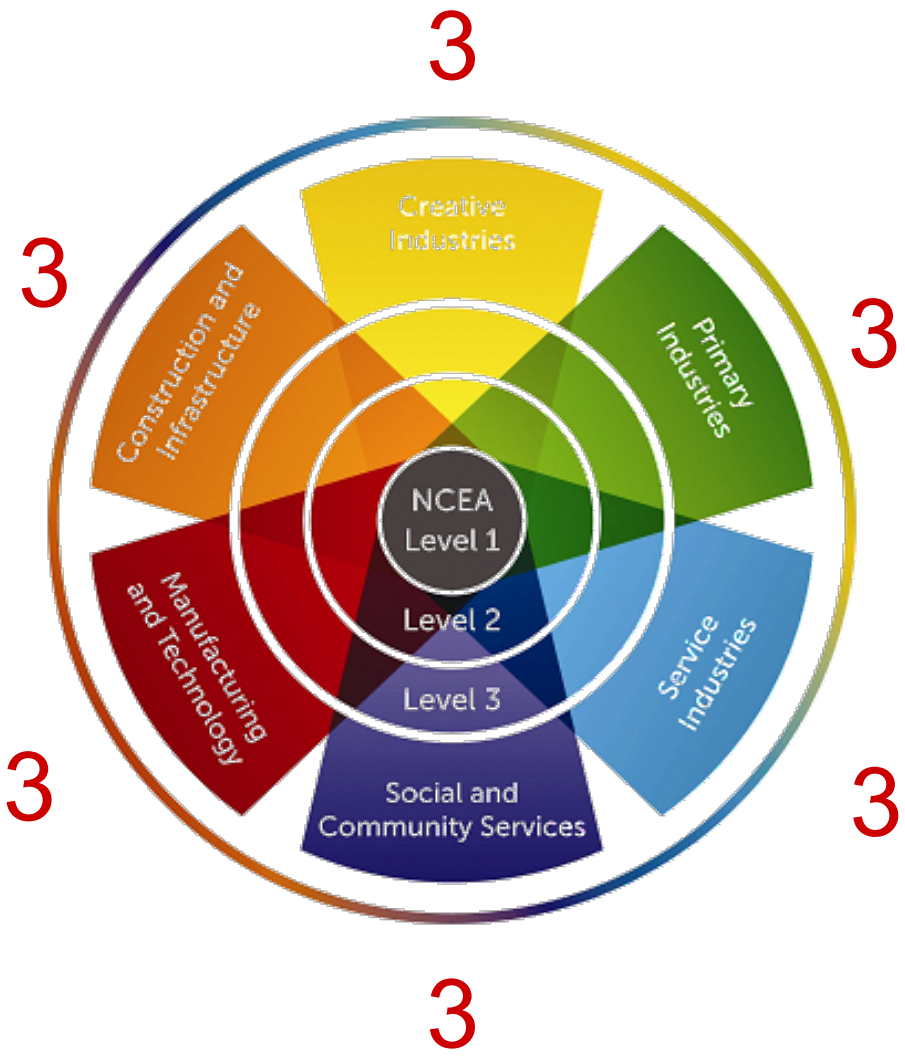
Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate understanding of aspects of chemical reactions.	• Demonstrate in-depth understanding of aspects of chemical reactions.	• Demonstrate comprehensive understanding of aspects of chemical reactions.

Explanatory Notes

Version 1 of this achievement standard was republished to correct an error in the exchange/precipitation reactions in explanatory note 5.

1 This achievement standard is derived from *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007, Level 6. It is aligned with the Material World strand, and is related to the material in the *Teaching and Learning Guide for Chemistry*, Ministry of Education, 2010 at http://seniorsecondary.tki.org.nz.

2 *Demonstrate understanding* typically involves describing, identifying, naming, drawing, giving an account of, and classifying chemical reactions. This typically requires the use of chemistry vocabulary, symbols and conventions (including names and formulae), and completing word equations.



Achievement Standard

Subject Reference	Mathematics and Statistics 1.5				
Title	Apply measurement in solving problems				
Level	1	**Credits**	3	**Assessment**	Internal
Subfield	Mathematics				
Domain	Measurement				
Status	Registered	**Status date**	9 December 2010		
Planned review date	31 December 2014	**Date version published**	9 December 2010		

This achievement standard involves applying measurement in solving problems.

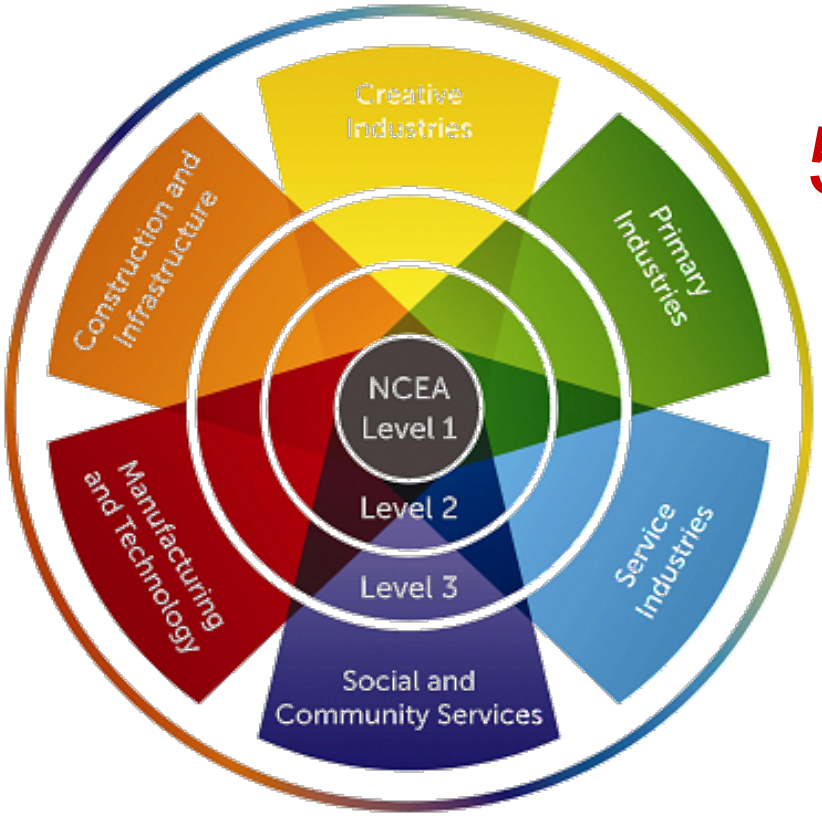
Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Apply measurement in solving problems.	• Apply measurement, using relational thinking, in solving problems.	• Apply measurement, using extended abstract thinking, in solving problems.

Explanatory Notes

1 This achievement standard is derived from Level 6 of *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007, and is related to the material in the *Teaching and Learning Guide for Mathematics and Statistics*, Ministry of Education, 2010 at http://seniorsecondary.tki.org.nz. The following achievement objectives taken from the Measurement thread of the Mathematics and Statistics learning area are related to this standard:

- convert between metric units, using decimals
- deduce and use formulae to find the perimeters and areas of polygons, and volumes of prisms
- find the perimeters and areas of circles and composite shapes and the volumes of prisms, including cylinders
- apply the relationships between units in the metric system, including the units for measuring different attributes and derived measures
- calculate volumes, including prisms, pyramids, cones, and spheres, using formulae.



5

Achievement Standard

Subject Reference	Agricultural and Horticultural Science 1.10				
Title	Demonstrate knowledge of horticultural plant management practices and related plant physiology				
Level	1	**Credits**	5	**Assessment**	External
Subfield	Science				
Domain	Agricultural and Horticultural Science				
Status	Registered	**Status date**	17 December 2010		
Planned review date	31 December 2014	**Date version published**	17 December 2010		

This achievement standard involves demonstrating knowledge of horticultural plant management practices and related plant physiology.

Achievement Criteria

Achievement	Achievement with Merit	Achievement with Excellence
• Demonstrate knowledge of horticultural plant management practices and related plant physiology.	• Demonstrate in-depth knowledge of horticultural plant management practices and related plant physiology.	• Demonstrate comprehensive knowledge of horticultural plant management practices and related plant physiology.

Explanatory Notes

1 This achievement standard is derived from *The New Zealand Curriculum*, Learning Media, Ministry of Education, 2007, and based on the outcomes in the *Teaching and Learning Guide for Agricultural and Horticultural Science*, Ministry of Education, 2010 at http://seniorsecondary.tki.org.nz/.

2 *Demonstrate knowledge* involves describing horticultural plant management practices and related plant physiology and/or growing conditions.

Demonstrate in-depth knowledge involves explaining why horticultural plant management practices or steps within practices are carried out.

Demonstrate comprehensive knowledge involves applying knowledge of horticultural plant management practices to given situations. This may involve comparing and contrasting or justifying management practices.

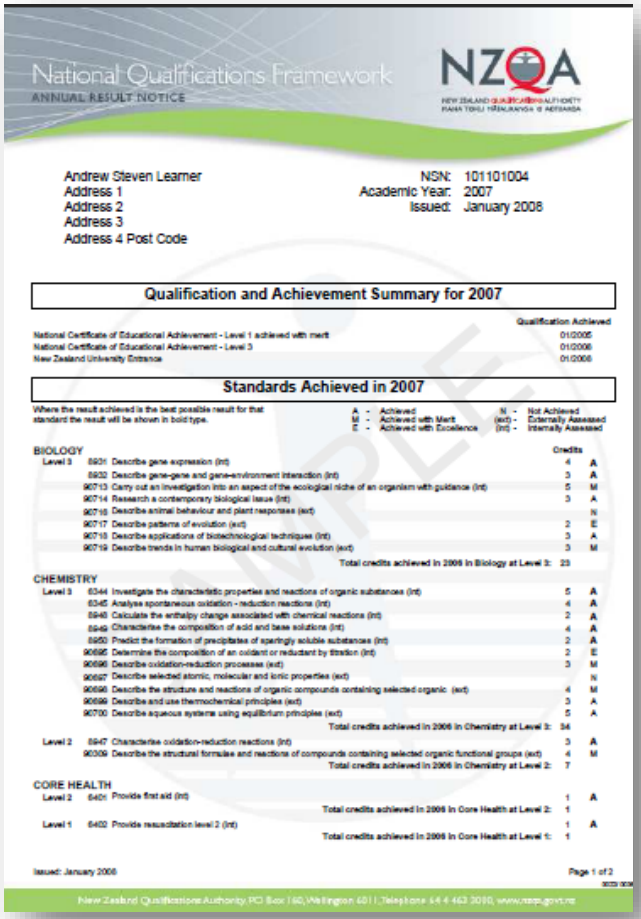
3 *Horticultural plant management practices* are actions carried out by the grower to enhance production. These may include cultivation, training (staking, thinning,

primary industries	social & community services	manufacturing & technology	construction & infrastructure	service industries	creative industries
12	3	3	7	3	7
5 credits	3 credits	3 credits	4 credits	3 credits	4 credits
4 credits			3 credits		3 credits
3 credits					

Ag/Hort 1.10

Chemistry 1.5

Maths 1.5



National Qualifications Framework
ANNUAL RESULT NOTICE

NZQA
NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

Andrew Steven Learner
Address 1
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Address 4 Post Code

NSN: 101101004
Academic Year: 2007
Issued: January 2008

Qualification and Achievement Summary for 2007

	Qualification Achieved
National Certificate of Educational Achievement - Level 1 achieved with merit	01/2005
National Certificate of Educational Achievement - Level 3	01/2006
New Zealand University Entrance	01/2006

Standards Achieved in 2007

Where the result achieved is the best possible result for that standard the result will be shown in bold type.

A - Achieved
M - Achieved with Merit
E - Achieved with Excellence
N - Not Achieved
(ext) - Externally Assessed
(int) - Internally Assessed

			Credits	
BIOLOGY				
Level 3	8931	Describe gene expression (int)	4	A
	8932	Describe gene-gene and gene-environment interaction (int)	3	A
	90713	Carry out an investigation into an aspect of the ecological niche of an organism with guidance (int)	5	M
	90714	Research a contemporary biological issue (int)	3	A
	90715	Describe animal behaviour and plant responses (ext)		N
	90717	Describe patterns of evolution (ext)	2	E
	90718	Describe applications of biotechnological techniques (int)	3	A
	90719	Describe trends in human biological and cultural evolution (ext)	3	M
		Total credits achieved in 2006 in Biology at Level 3:	23	
CHEMISTRY				
Level 3	8944	Investigate the characteristic properties and reactions of organic substances (int)	5	A
	8945	Analyse spontaneous oxidation - reduction reactions (int)	4	A
	8948	Calculate the enthalpy change associated with chemical reactions (int)	2	A
	8949	Characterise the composition of acid and base solutions (int)	4	A
	8950	Predict the formation of precipitates of sparingly soluble substances (int)	2	A
	90695	Determine the composition of an oxidant or reductant by titration (int)	2	E
	90696	Describe oxidation-reduction processes (ext)	3	M
	90697	Describe selected atomic, molecular and ionic properties (ext)		N
	90698	Describe the structure and reactions of organic compounds containing selected organic (ext)	4	M
	90699	Describe and use thermochemical principles (ext)	3	A
	90700	Describe aqueous systems using equilibrium principles (ext)	5	A
		Total credits achieved in 2006 in Chemistry at Level 3:	34	
Level 2	8947	Characterise oxidation-reduction reactions (int)	3	A
	90309	Describe the structural formulae and reactions of compounds containing selected organic functional groups (ext)	4	M
		Total credits achieved in 2006 in Chemistry at Level 2:	7	
CORE HEALTH				
Level 2	6401	Provide first aid (int)	1	A
		Total credits achieved in 2006 in Core Health at Level 2:	1	
Level 1	6402	Provide resuscitation level 2 (int)	1	A
		Total credits achieved in 2006 in Core Health at Level 1:	1	

Issued: January 2008 Page 1 of 2

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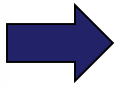

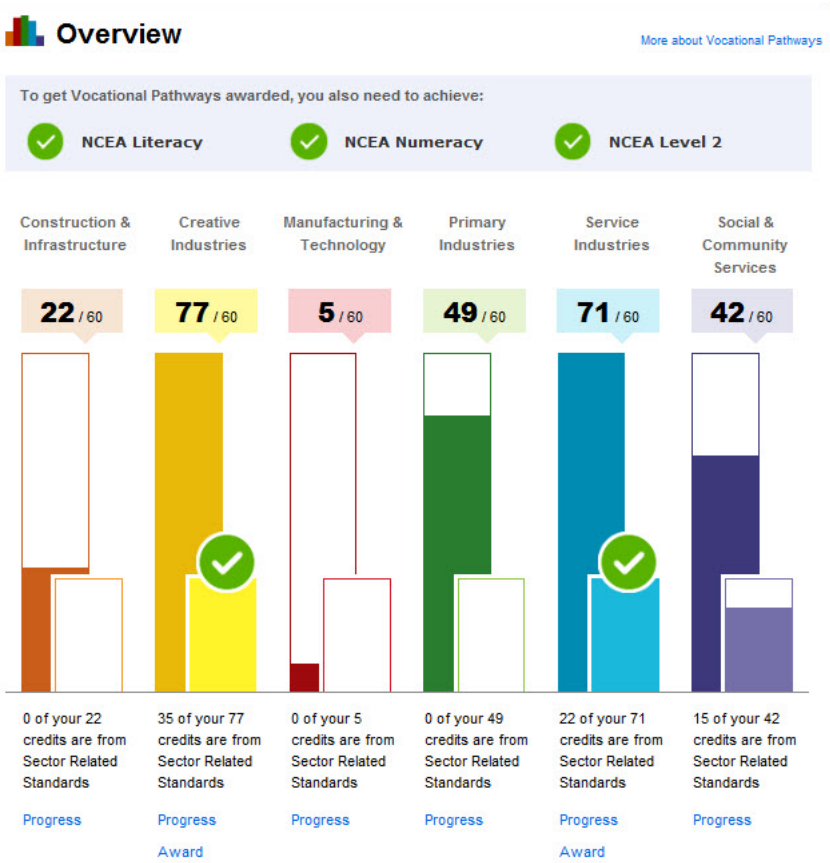

Education is not just about employment…

Education is not just about getting jobs! We teach kids to read and write; think; solve problems; sort and evaluate information; communicate; manage their time; work with others; participate; and become good citizens. We'll do the rest.

…but employment is *always* about education.