MINISTRY OF EDUCATION
*Te Tāhuhu o te Mātauranga*

These national newsletters are produced by the Secondary Student Achievement national facilitation team, as part of supplementary PLD support for schools, from the University of Auckland and Mau ki te Ako project partners (University of Canterbury, University of Otago and Ngāi Tahu).

# National Newsletter: Technology

Information and resources for middle leaders in secondary schools | Term 4 2015

Kia ora koutou, greetings to you all.

Term four is a time to reflect on the year that was and plan ahead for next year. As you reflect and plan, think about the quote below from Sir Paul Callaghan (who has been an advocate for developing New Zealand's capability in science and technology), and reflect on what you are doing to foster curiosity and creativity in your technology programme:
"*You don't need to teach a child curiosity. Curiosity is innate. You just have to be careful not to quash it. This is the challenge for the teacher - to foster and guide that curiosity*."
Sir Paul Callaghan http://www.curiousminds.nz/

In this issue we cover:

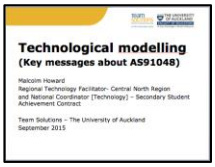


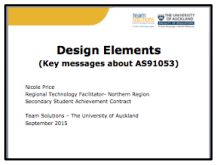
Ngā mihi nui
Malcolm and Cheryl, National Co-ordinators – Technology

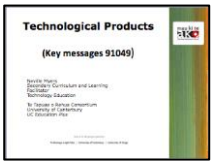
## Latest news

### New resources for the externally assessed standards

A series of screencasts on some of the externally assessed standards has just been published. See the feature on page four of this newsletter.




### External assessment – submission information

See the NZQA newsletter "Information supporting external assessment of Education for Sustainability, Design and Visual Communication, Technology, and Dance A2015/027 - 22 Jul 2015", available at http://www.nzqa.govt.nz/about-us/publications/newsletters-and-circulars/assessment-matters/

### Level 6 teaching and learning guide for technology now published

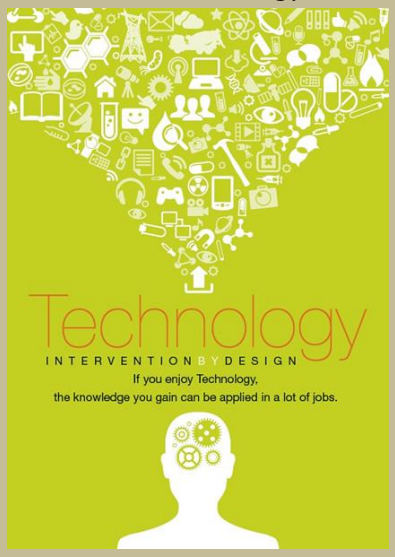
The level 6 guide for technology was published late in term three this year. That means the technology guides are now available for levels 6, 7, and 8. These guides are essential reading for all teachers using any achievement standards from the technology matrix in senior secondary.


http://seniorsecondary.tki.org.nz/index.php/Technology/Achievement-and-learning-objectives

## Resources

### Posters and brochures

Have you checked lately to see what new brochures, leaflets and posters are available to support technology? See our feature on Futureintech on page 2 of this newsletter for details. The example below is a brochure for year 7 – 10 students about technology careers.




### PLD opportunity for 2016

The free SSA national technology workshops will happen again in the first half of 2016. So now might be an appropriate time to talk to the PLD coordinator at your school and ensure teacher relief is available for the HOF, HOD, TICs to attend. More details will follow next year.

### Technology Online newsletters

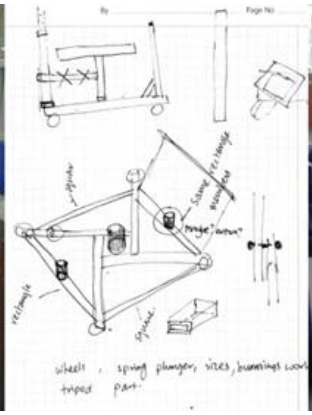
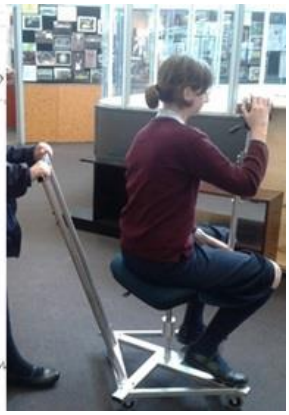
Keep up to date with what's new on Technology Online with their newsletter available at http://technology.tki.org.nz/Resources/Technology-Online-newsletters

Technology Online

# A feature on Futureintech

**Introduction**
Most technology teachers will know about Futureintech but we thought it was timely to remind everyone of the range of resources and services available from Futureintech http://www.futureintech.org.nz/
Explore the 'For schools' and 'For students' sections of the website to see the range of services offered. A few are featured below.

**Futureintech Ambassadors**
Futureintech ambassadors are people working in technology, engineering and science-based industries who have volunteered their time to visit schools. See examples of how ambassadors can support the various different technology areas at
http://schools.futureintech.org.nz/what-we-do/default.cfm

Book a Futureintech ambassador online at
http://schools.futureintech.org.nz/request_ambassador.cfm

**Leaflets, brochures, and posters**
You can order free leaflets and brochures about technology related careers on the Futureintech website at
http://schools.futureintech.org.nz/order-form.cfm?m=7


Or print your own digital, science, and engineering pathway posters at
http://schools.futureintech.org.nz/print-posters.cfm

**Futureintech newsletter for schools**
Subscribe to the newsletter "enews for schools" that comes out every two months. View the current and past issues or sign up here
http://schools.futureintech.org.nz/enews/schools/

enewsforschools
An update on Futureintech and other education initiatives in technology, engineering and science

## 'For students' section of the Futureintech website

http://www.futureintech.org.nz/index.cfm

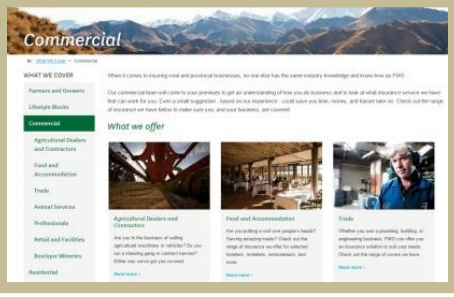
**Ask someone**
A feature where students can ask questions or view previous questions and answers about pathways and careers.


http://www.futureintech.org.nz/ask_someone/

**Subject pages**
Pages for each technology subject so students can explore where that subject can take them.


http://www.futureintech.org.nz/careers.cfm?categoryid=32&type=subjects

**Case studies for students**
Case studies about various technological outcomes that students could use as a resource to help their project work. For example see this case study about developing a new website.
http://www.futureintech.org.nz/careers.cfm?categoryid=9&type=CaseStudy



# Technological literacy

**'Technological literacy' and 'literacy support in technology'**
As technology teachers we need to be clear about these two similar phrases with very different meanings.

**Technological literacy**
The aim of technology education is for students to develop a broad technological literacy that will equip them to participate in society as informed citizens and give them access to technology-related careers (from the NZC p32).

Each of the three strands contributes to the 'whole' of technological literacy. The Technological Practice strand enables students to undertake their own practice within a particular setting and to reflect on the technological practice of others. The Nature of Technology strand provides students with an ability to develop critical understanding of technology as an intervening force in the world, and that technological developments are inevitably influenced by historical, social and cultural events. The technological Knowledge strand provides students with a basis for the development of key generic concepts underpinning technological development and resulting technological outcomes. (from the Technology Curriculum support material, October 2010, p15).

This idea of the three strands contributing to the 'whole' of technological literacy is summarised on this diagram from Technology Online at http://technology.tki.org.nz/Technology-in-the-NZC


**Literacy support in technology**
This is about the literacy demands of the subject and providing the necessary support to help students achieve in technology. This includes such things as developing vocabulary, supporting reading and understanding technology texts, or providing writing support for the externally assessed technology standards. Further information can be found on our PLD wikis or at Secondary Literacy Online at http://literacyonline.tki.org.nz/Literacy-Online/Secondary-Literacy

**Reflection questions**
At this stage of the year as you reflect on 2015 and think ahead to next year we invite you to ask yourself these questions:

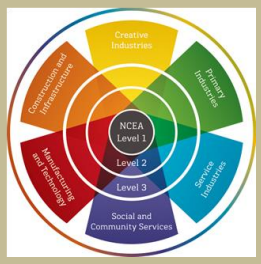
- What are we currently doing to support students to develop a broad technological literacy? And what else could we do?
- What are we currently doing to provide literacy support in technology? And what else could we do?

## Other resources

**The Next Black - A film about the Future of Clothing**
'The Next Black' is a documentary film that explores the future of clothing. "Watch as we meet with some of the most innovative companies on the planet to get their opinion on clothing and its future, including: heroes of sustainability, Patagonia; tech-clothing giants, Studio XO; sportswear icon, Adidas; and Biocouture, a consultancy exploring living organisms to grow clothing and accessories".


https://www.youtube.com/watch?v=XCsGLWrfE4Y

**Refined vocational pathways**
Details about the newly released refined vocational pathways at level 1 and 2, and transition arrangements for 2016 are available on the Vocational Pathways website.




http://youthguarantee.net.nz/vocational-pathways/refined-levels-1-and-2

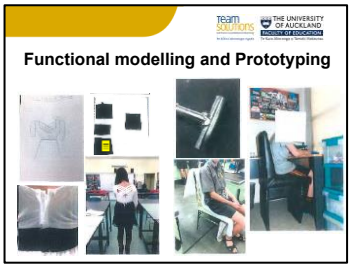
**LEARNZ virtual field trips**
For a range of virtual field trips complete with curriculum links see http://www2.learnz.org.nz/core-fieldtrips.php

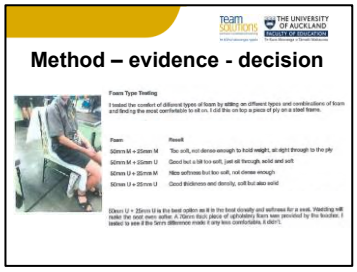
# New resource for the externals

The technology facilitation team has produced some screencasts to support the externally assessed standards. We have worked on level 1 for 2015 and have produced clips on AS91048 (1.5), AS91049 (1.6), and AS91053 (1.10). We aim to extend these in 2016 to a wider range of levels and topics.

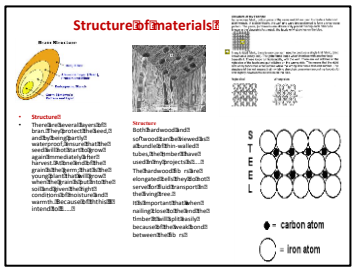
These screencasts are available on our PLD wikis:
Team Solutions Technology Wiki
http://technologynz.wikispaces.com/Screencasts+externally+assessed+standards
Southern Technology Wiki
http://southern-technology.wikispaces.com/

**Technological Modeling at level one (AS91048)**
Malcolm Howard, Technology Facilitator with Team Solutions, University of Auckland, covers technological modeling and specifically some key messages of the level one standard AS91048 (1.5 Demonstrate understanding of how technological modeling supports decision making).



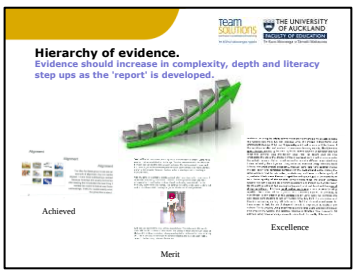




**Technological Products at level one (AS91049)**
Neville Myers, Technology Facilitator with Te Tapuae o Rehua Consortium, University of Canterbury, covers Technological Products and specifically some key messages of the level one standard AS91049 (1.6 Demonstrate understanding of how materials enable technological products to function).





**Knowledge of Design at level one (AS91053)**
Nicole Price, Technology Facilitator with Team Solutions, University of Auckland, covers design elements and specifically some key messages of the level 1 standard AS91053 (1.10 Demonstrate understanding of design elements).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## Technology PLD wikis

Southern Technology Wiki
http://southern-technology.wikispaces.com/

Team Solutions Technology Wiki
technologynz.wikispaces.com/