

# Mathematics Links

NSW Department of Education and Training

Curriculum K-12 Directorate

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## Email Alert

Welcome to *Mathematics Links* August 2007

*Mathematics Links* is an electronic update for mathematics faculty leaders and mathematics teachers informing on the latest additions to the *Curriculum Support* website, professional learning opportunities and links to relevant resources.

### Curriculum Support updates

- Have you thought about evaluating your **7-10 teaching program** this year? The current syllabus has been in place now officially since 2004. Perhaps it is time to reflect on how effectively it is meeting your schools' needs. Has your current program been catering well for all students? Are students in the 5.3 pathway in year 10 completing all the content? Do you need to start these students on Stage 5 work earlier – say in year 8? For some ideas and thoughts about programs you may like to revisit Pendle Hill High School and Strathfield Girls High School initial programming plans which have just been republished on the web at

[http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/years7\\_10/programming/pendle\\_hill\\_hs/res.htm](http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/years7_10/programming/pendle_hill_hs/res.htm)

[http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/years7\\_10/programming/strathgirls\\_hs/res.htm](http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/years7_10/programming/strathgirls_hs/res.htm)

The resources include quality units of work on **chance NS3.5, integers NS4.2** (Pendle Hill HS), **fractions NS3.4, NS4.3** and **area MS3.2, MS4.1** (Strathfield Girls HS).

- Are you teaching **fractions** currently? Have you ever used **pattern blocks** to assist teaching deep understanding of the concept of a fraction? This new material on the site is all about using pattern blocks to teach fractions. Click on the following link and scroll down  
[http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/years7\\_10/teaching/frac.htm](http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/years7_10/teaching/frac.htm)
- **National numeracy testing update** – If you haven't already

received or seen the two fact sheets about National testing for 2008 then you need to look here on the DET website

<https://www.det.nsw.edu.au/>

### Professional learning opportunities

- Hurry – don't miss out on the **Supporting New Scheme mathematics teachers'** workshop in Sydney on Friday 17 August. For more details about the workshop go to [http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/prolearn/newscheme\\_workshop.htm](http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/prolearn/newscheme_workshop.htm)

To register for the workshop go to

[http://www.curriculumsupport.education.nsw.gov.au/prolearn07/semester1/s\\_mathematics.htm](http://www.curriculumsupport.education.nsw.gov.au/prolearn07/semester1/s_mathematics.htm)

- Are you a mathematics **head teacher** or aspiring to be a head teacher? There are numerous two day workshops available this semester in a range of venues. For more information go to [http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/prolearn/pl\\_activity.htm](http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/prolearn/pl_activity.htm)

- Did you know that the **Counting On** program for the middle years has been updated, modified and learning activities on decimals from the latest research out of the University of Melbourne have been added? Revitalising Counting On is a workshop that looks at the changes and how your school could be involved. For more information go to [http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/prolearn/pl\\_activity.htm](http://www.curriculumsupport.education.nsw.gov.au/secondary/mathematics/prolearn/pl_activity.htm)

- **Curriculum Corporation's 14th Annual Conference**

#### **21st Century Curriculum: Taking Bearings**

**Monday 12 and Tuesday 13 November 2007**

Hilton Sydney, 488 George Street, Sydney

#### **About the conference: 21st Century Curriculum**

Globalisation, the evolution of advanced technologies and greater national consistency in the curriculum will be the context for education in the 21<sup>st</sup> century.

Join leading national and international educationalists, researchers, policy makers and practitioners as they investigate how innovative curricula can unlock the potential of all young people to shape the 21<sup>st</sup> century.

The thematic strands of the Conference that will be explored by keynote speakers and in workshops include:

- Key values and ideas that shape the curriculum
- Learning in an interconnected world
- Characteristics of a successful learner in the 21<sup>st</sup> century

- Excellence and equity in the curriculum
  - 21<sup>st</sup> century expectations of schools and the profession
- Registration is now open. Early bird registration will close on Monday 1<sup>st</sup> October 2007. The full program and registration form is accessible by visiting <http://www.curriculum.edu.au/conference/2007/> or by contacting National Curriculum Services by phone 03 9417 3555 or email [ncs@ncsonline.com.au](mailto:ncs@ncsonline.com.au)

### Free online mathematics resources

- [GeoGebra](#)  
A powerful, free, dual platform software download with most of the capabilities of the expensive dynamic geometry software programs. GeoGebra brings together dynamic geometry and coordinate geometry. Read more about GeoGebra in the Term 3 edition of Curriculum Support for 7-12 mathematics teachers. For an instant play with this great find go to <http://www.geogebra.org/cms/>

- **What is Podcasting?**

The word "podcast" is a combination of the words iPod and broadcast. The underlying technology used for podcasts, called RSS (Really Simple Syndication), is capable of containing any type of media including audio, video, graphics and more.

Podcasting is a way of publishing podcasts to the Web, allowing people to subscribe to a podcast and receive new "episodes" automatically through an RSS feed.

Podcasting can be listened to with any computer connected to the Internet and able to play standard MP3 audio files.

The **Education Podcast Network** website has some interesting podcasts to use with students, particularly the gifted and talented. There are also examples of student created podcasts on mathematics. A podcast could be a presentation choice for an assessment task for students. To listen to some try this site

[http://www.epnweb.org/index.php?request\\_id=411&openpod=7#anchor7](http://www.epnweb.org/index.php?request_id=411&openpod=7#anchor7)

- **Straight lines and Parabolas**

The Centre for Learning Innovation (CLI) has recently released Straight lines and Parabolas. Straight lines and Parabolas are two web-based, multimedia resources with interactive activities designed to enhance student learning in the area of linear relationships (Stage 4) and coordinate geometry (Stage 5). The use of graphics calculators and online tools to enhance learning is encouraged. Special features include:

- carefully constructed tasks and feedback which help students learn basic and advanced ideas
- text content that can be printed to reinforce learning
- downloadable spreadsheet to simulate changes in the equation  $y$

$$= mx + b$$

- the ability for students to change the values of the variables  $a$ ,  $b$  and  $c$  in the equation of the parabola  $y = ax^2 + bx + c$  to visualise the effects on the graphs shape.

**Straight lines and Parabolas** can be accessed online from **TaLe** ([www.tale.edu.au](http://www.tale.edu.au)) for DET schools. CD-ROM copies can be requested through the NSW DET Centre for Learning Innovation ([www.cli.edu.au](http://www.cli.edu.au)).

### New scheme teachers

- Are you a new scheme teacher? Are you teaching in the Sydney metropolitan area? If you have answered yes to these two questions then you should be registering for the **Supporting new scheme mathematics teachers** workshop on Friday 17 August 2007 at Rooty Hill. See the professional learning opportunities section of this email for more information.

### Discussion

- **Secondary Teachers' Responses to the New Mathematics Syllabus (2006)** by Michael Cavanagh, Centre for Research in Mathematics & Science Education, Macquarie University

Cavanagh's research focused on three key questions:

1. What do teachers think about the new syllabus and its implementation?
2. How do teachers interpret working mathematically?
3. What impact is the new syllabus having in the classroom?

The questionnaire was given in April 2005, not long after the initial mandatory implementation in 2004. I have attached the *PowerPoint* presentation (pdf) that Michael Cavanagh presented at the 2006 MANSW Conference. Please take the time to have a read and compare your faculty syllabus implementation with the results of this initial research. Have we made progress? What are the key messages from this research we need to work on?

Until next month!

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