



Welcome to another edition of our Primary Magazine. This magazine has been serving primary practitioners for 65 editions with a varied collection of articles related to maths education and maths professional development.

We are taking a break from our usual structure for this edition to provide you with a more relaxed focus on primary maths as you enjoy your summer holidays.

In this edition we have four sections:

- [News](#)
- [Mathematical holiday entertainment](#)
- [Primary Maths hidden gems on the NCETM site](#)
- [Thinking ahead to the new term.](#)

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News



Sample test materials

On 14 July, the Department for Education (DfE) published some sample test materials for KS1 and KS2 maths for the 2016+ tests. You can view and download these from the [DfE website](#). The materials are in draft form and intended for information only at this stage until they have been piloted with a small group of pupils to determine the validity of them as test items.



Maths Hubs

Pairs of primary teachers are preparing to visit China for two weeks at the start of the autumn term, in the first phase of a research project being undertaken by the [32 Maths Hubs](#) announced in July. The teachers - one pair from each hub - will travel to Shanghai in September, and host their counterparts when they visit English schools later in the school year. [Read more about the England-China research project](#).



Royal Society's Vision for science and mathematics education

In June the Royal Society published its [Vision for Science and Mathematics Education](#). The report, looking ahead towards 2030, addresses six sets of vision statements and recommendations relevant to the 5-18 age range and these are:

- All young people study mathematics and science up to the age of 18.
- Curricula and their assessment are stabilised and support excellent teaching and learning.
- Teachers have high professional status and there is a strong supply of science and mathematics specialists.
- Students understand the significance of STEM through better careers awareness and guidance.
- The success of students, teachers and education systems is judged through appropriate and broadly based assessment and accountability measures.
- Education policy and practice are better informed by evidence.



Performance Indicators in Primary Schools: A comparison of performance on entry to school and the progress made in the first year in England and four other jurisdictions

In June, the DfE published [the findings](#) of some analysis of attainment and progress of pupils starting school in England, Scotland, New Zealand and two different parts of Australia, using the Performance Indicators in Primary Schools (PIPS) On-entry Baseline and Follow-up Assessments. One area included in the PIPS is Early Mathematics.

The baseline assessments revealed that, of the five jurisdictions, children starting school in England had the lowest overall scores when they started school. However, age for age the English children were in line with children from Scotland and New Zealand for maths but significantly behind their peers from Australia.

The follow-up assessments showed that progress in early reading and early maths during the first year at school varied widely from pupil to pupil and from school to school. The study confirmed previous research (including studies using PIPS, for example Tymms, Jones, Albone and Henderson, 2009) which found that children's progress is much greater during one year at this age than at any other age during their school career.

This highlights the importance of getting the end of Foundation Stage experiences right for all young learners. The NCETM's [Early Years CPD Modules](#) are a suite of online self-study module focusing on numbers and counting in the early years to support effective practice in the Foundation Stage.



National Curriculum Support

Have you explored the [National Curriculum Planning Tool](#) yet? This interactive tool will support you in the following ways: your subject knowledge; making connections within and across the primary curriculum; suggest helpful papers, pupil activities, exemplification of expectations and links to the [NCETM suite of videos](#). There are also newly added sections on the [Bar Model](#), [Teaching Fractions](#), [Progression in Reasoning](#), and [Developing a Scheme of Work](#) - these are also accessible via buttons on our main [National Curriculum information page](#).



Mathematics CPD

Don't forget to use our [Professional Development Directory](#) if you are looking for high quality providers of maths CPD in the next academic year. Look for CPD Standard Holders (gold rosette) and/or Accredited Professional Development Leads (purple rosette).

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Mathematical holiday entertainment

You will no doubt be enjoying a break from the intensity of planning, preparation and marking that consumes your working week, but we thought you might like some relaxing mathematical/educational suggestions to entertain you this holiday.

A little light reading



If you are looking for some interesting and easy reads over the summer you may find *Creating Learning without Limits* by Swann et al, something to pick up on the beach. This book tells the story of how one primary school was turned around as a result of the leadership of Dame Alison Peacock with a culture of removing the potentially damaging effects of 'fixed ability teaching'. A worthwhile read as one mulls over the impact of level-free assessment. Another enjoyable and accessible read is Professor Jo Boaler's *Elephant in the Classroom – Helping Children Learn and Love Maths* which explores the impact that differing maths experiences can have on an entire generation of learners, and how the notion of accepting that it is OK not to like or be good at maths can begin to be overcome. Also don't forget to read your [subject association](#) journals that will inspire you with ideas for the classroom.

A little websurfing



On an evening when the weather prevents you from enjoying the outdoors why not enjoy catching up on some maths related TV programmes and clips? If you missed any of the series of Dara Ó Briain's [School of Hard Sums](#), then why not catch up on those that are available online? This is a light-hearted and entertaining quiz show, co-hosted with Professor Marcus du Sautoy, with accessible mathematical challenges for various guest comedians competing against maths undergraduates. You can also see clips from Marcus du Sautoy's own BBC4 series, [The Story of Maths](#).

A little social networking



While you are off you may wish to add some mathematical Tweeters to your account to follow. Aside from the obvious [@NCETM](#) and [@mathscpdchat](#) (where you can catch up on the Twitter chat sessions we run each Tuesday, resuming on 2 September) - there are a number of other interesting Tweeters to follow.

Check out some of these:

- [NRICH](#) include latest additions to their website and reminders of favourite interesting tasks already there
- [ATM](#) and [MA](#) offer latest news from both associations and interesting problems or puzzles
- [MathsWorldUK](#) has interesting and whimsical things mathematical
- [The Aperiodical](#) is a maths magazine/blog for people interested in mathematics, with News, Videos, Features, Columns
- [Numberphile](#) has mathematical entertainment
- [Rob Eastaway](#) gives his reflections on maths
- [Matt Parker](#) has mathematics and comedy - sometimes simultaneously

Don't forget to look at who all these Tweeters follow to find even more maths Tweeters.

Mathematical days out



If you are planning some days out this summer why not consider a mathematical part to your day. The [Science Museum](#) in London is home to a mathematical gallery including instruments and equipment used by mathematicians. The mathematics room takes approximately 30 minutes to view.

If you happen to be in London with your own children you may wish to visit the [Maths in the City](#) website before you go. Why not gather a few friends who are interested in maths and try out a few of the suggested activities? Also in London there is an interesting maths trail in the Russell Square area. You can download the tour and workbook to take with you. Also in London there is an interesting maths trail in the Russell Square area. You can download the [tour and workbook](#) to take with you.

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Primary Maths hidden gems on the NCETM site

With a little more time on your hands, you may want to explore some of these areas of the NCETM website that might have been lost in the wealth of all its other materials. Here are some starting points - and don't forget if you find other hidden gems for primary, to share them in the [Primary Forum](#).

[Maximising Opportunities for Mathematical Learning Across the Curriculum](#)

This microsite presents some case studies of what schools have done to include mathematics in a meaningful way across different subjects in the curriculum. Although written a few years ago the processes and outcomes are unlikely to differ with the new curriculum.

[Supporting Teachers to Implement Effective Mathematics Interventions](#)

With the new curriculum aiming to achieve mastery for all pupils it is going to be essential that teachers respond immediately to any pupils they consider to be falling behind so that their attainment gap does not widen. This microsite provides case studies for how different schools have addressed mathematics interventions in order raise attainment for different groups of children.

[What Makes a Good Resource?](#)

If you are looking for some interesting approaches to teaching mathematics or looking for fresh ideas then visit this microsite with suggestions for both primary and early years.

[SLE Toolkit](#)

Have you recently become a Specialist Leader in Education (SLE) for mathematics and wondering how your role might develop? Our microsite for SLEs will provide you some useful tools to evaluate and plan your work as an SLE.

If you are an established SLE in your school, you may wish your school to apply to become an [NCETM CPD Standard holder](#), adding further credibility and recognition of the work you are doing to improve standards in maths.

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Thinking ahead to the new term

Don't forget to take your camera or phone out with you to capture lots of interesting mathematical but everyday images. For example, arrays feature heavily in the new curriculum - and how better to use them than in real situations to help make them meaningful. Look out for them in cafés (eg cups arranged on a tray), or supermarkets (eg tins arranged on a shelf).

The NCETM understands the massive task that schools have been left to do in translating the new curriculum into a manageable scheme of work. You may find our [Scheme of Work pages](#) helpful in getting started with an example of templates and areas to cover.

Schools will also be considering how pupils are assessed and tracked in the coming year. Hertfordshire Grid for Learning has published [some suggestions](#) for a system to adopt.

The DfE has also promised to publish the Assessment Detailed Criteria in the autumn, so keep a look out on our [News pages](#). The Primary Magazine will bring you news of this when it is published.

The Primary Magazine will be back next month in its established new format with news and more ideas for teaching maths in the new curriculum, and for CPD staff meetings. In the meantime have a great summer break!

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