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We bring you a 'potted' version of the latest early years news and national consultations, along with some resource gems we've found.

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We take a journey to 'Numberland', a playful mathematics concept born from a research project in Germany. Barbara Schindelbauer shares her ideas and describes how, during the research, she found that: *"Within only ten weeks, children of all backgrounds joining a Numberland project gained the knowledge of one entire year."*

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This month, we look at a range of ideas for exploring 2D shapes with young children. Dig out those matchsticks and let their creative mathematical juices flow!

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Maths to share – CPD for you and your colleagues

This month, our CPD section looks at Foundation Stage data. We explore the statutory requirements and the data available nationally before considering how this might be used in individual schools and settings.



Editor's Entrée

The last NCETM Early Years magazine of 2011, yet again full of useful information, facts and ideas for you to use in your quest to inspire those young minds...Merry Christmas!



Latest guidance...

The [Assessment and Reporting Arrangements \(ARA\)](#) and Teacher Assessment and Reporting Arrangements (TARA) 2012 for FKS have recently been released. They cover topics such as administering tests, access arrangements, teacher assessment and reporting pupils' achievements to parents.

Many schools make use of the 'eProfile' which provides an electronic means of building a record of assessment outcomes throughout the reception year to support the making of final judgements for EYFS profile. An updated version of the [EYFS eProfile \(version 3.3\)](#) is now available for download. Data held in earlier versions will be compatible, but schools should always make a back-up of their current and past work to an external device before upgrading. The new version makes improvements to print options as well as the useful 'Year 1 Continuation Mode', enabling the software to be used by Year 1 colleagues as a means of updating the assessment picture for children who continue to be assessed in relation to EYFS profile into Year 1.



Resources spotted...

The Communication Trust's booklet [Small Talk](#), produced with the support of BT, is aimed at parents and provides information about what helps children up to the age of five learn to talk and listen. It explores whether they are on the right developmental track and what to do if parents have concerns about their child's language development. The later stages of the booklet encourage the use of board games to help children listen and learn to take turns...not to mention the wealth of mathematics skills they will immerse themselves in along the way!

[Listen Up: It's not just talking](#) is one of many free resources being developed by [Hello](#), the 2011 national year of communication campaign to increase understanding of how important it is for children to develop good communication skills. The resources include a card game with fun activities and advice on how parents can use the resource.



Primary Magazine

As ever, the latest editions of the NCETM Primary Magazine are packed with inspiration and ideas that can easily be adapted for the early years classroom. [Issue 40](#) features banks and banking, the art of Theo van Doesburg, houses and homes - and we continue with one of the themes of [Issue 39](#), the Vikings.



Seeking your views...again!

Professor Cathy Nutbrown has been asked by the Minister of State for Children and Families, Sarah Teather MP, to conduct an [independent review](#) into qualifications in the early education and childcare sector. As a first step in her review, Professor Nutbrown would like to hear the views of parents and families, and all those involved in the delivery of early education and childcare. You can read the [consultation document](#) and then [respond with your views](#) by **23 December** at the latest, when the consultation period closes. Why not encourage colleagues and parents of the children you teach to do the same?

Your views are also being sought on the proposed changes to the 'Entitlement to Free Early Education and Childcare Sufficiency'. This consultation sets out proposals on the new entitlement for two-year-olds from September 2013, including which children will be eligible. It also includes proposals on the quality and flexibility of the entitlement for two-, three- and four-year-olds. Read the [consultation document](#) and [respond with your views](#) by **3 February 2012** when the consultation closes.



Focus on...Numberland

A recent flurry of activity in the [Early Years Forum](#) focused on [Using stories to inspire mathematical learning in the early years](#). Barbara Schindelbauer wrote about her work on [Numberland](#). What follows is a brief outline of Numberland and the rationale behind it. There are several interesting ideas which could easily be used in any classroom or setting - for more information go to the [Numberland website](#).

The core idea of Numberland is that children travel to an imaginative land, where the numbers one to ten live. Once there, children have a multi-sensory experience of numbers as they play. This tangible experience of what is essentially abstract mathematics, helps the children to develop a deep and lasting understanding of number which they can build on. Numberland is not a scheme of work but a theme, which can therefore be adapted to the needs of any particular group of children.



Number Lane shows the way to Numberland. Essentially, this is a simple numberline, easily created from numbered floor tiles. Number Town is a circular arrangement of Number Gardens, corresponding to each number. Number 1 lives in a circle. This is explained as being because the circle has 'one centre point'. Number 2's garden is an ellipse 'because the ellipse is constructed around two points'. Number 3's garden is a triangle and so on until Number 10, who lives in a decagon. Linking the shapes to the numbers is a useful idea, but perhaps a semicircle would have been easier to explain than an ellipse.

Each Number Garden has a house with windows in the dice and domino pattern arrangement. After five, there are two houses on each plot, a five house and a one house for six. This is said to correspond directly to the children's hands and shows that numbers can be split.

The children 'furnish' the gardens themselves. Items are limited according to the number of the garden. So a horse could be placed in Number 4's garden, as could four buttons, four bricks or indeed four of anything. The horse could also be placed in Number 1's garden, since it is one horse. Children discuss where each item should go. The Numberland booklet tells the story of a boy in charge of Number 5's garden. He wanted the horse for his garden and justified it by telling the others that "The horse has four legs and one tail so that makes five!" Having convinced the rest of the group, he was allowed to place the horse in Number 5's garden.



Hodeypodgery the Goblin is a popular figure because he messes things up. He swaps house numbers or mats and so on. Children enjoy finding out what is wrong in any particular garden and correcting it. Forgetmenot, the Fairy of the Numbers, can be called with a spell to help put things right again. You could use puppets, children or just imagination for these characters.

Number towers, puppets, stories and songs continue the theme. When Number 4 is ill, a drink is made from four parts of four different herbs from her square herb garden. After four minutes brewing time, four spoons of honey are added and stirred four times, curing Number 4 immediately.

Numberland aims to combine findings from brain research and developmental psychology as well as current research into how children learn mathematics. It considers how young children view the world and builds on what they know and understand. The magical element appeals to children, echoing their

belief that everything around them is alive. They become absorbed and transfer the ideas to their own imaginative play.



A research project in 2002 - 2004 showed that in settings which have adopted the theme of Numberland, children aged three to six have made one year of progress in mathematics in ten weeks. A similar outcome was seen for language development. A second study between 2005 and 2009 confirmed the findings. This all-embracing development of the children makes the theme widely accepted in Germany, where it is often used with children who have special educational needs. Numberland is currently finding its way to the USA, Poland, Romania, Thailand, India and other countries.

Although it is possible to buy a Numberland booklet for more ideas and some specific resources to create Numberland, the concept is open enough for practitioners to create Numberland in their own way, using resources already in the setting or easily made at very little cost. Many practitioners will already use stories and songs for each number, the concept of Numberland just takes this a little further. If you decide to have a go at creating Numberland with your children and then using it in some of the ways suggested, [let us know](#) how you get on. Barbara Schindelbauer would also be interested – post to the [forum](#) or [contact her direct](#).



Research for You Supporting families in the foundation years

The Government has set out its vision for the services that should be on offer for parents, children and families in the foundation years in its recently published document, [Supporting Families in the Foundation Years](#). Developed jointly by the Department for Education (DfE) and the Department of Health with advice from a range of experienced professionals, the document summarises the Government's vision for the foundation years and describes the system of services that supports them.

The document explains why it is important to focus on child development and how parents and families should be placed at the heart of services. It also sets out the importance of intervening early and the role of different services, working together to ensure that children, their mothers and fathers and other key areas receive early help where needed.

Supporting Families in the Foundation Years also provides the Government's response to three reviews:

- [The Foundation Years: Preventing poor children becoming poor adults](#), the report of the independent review on poverty and life chances by the Rt Hon Frank Field MP;
- [Early intervention: the next steps - an independent report to Her Majesty's Government](#) and [Early Intervention: Smart Investment, Massive Savings, the second independent report to Her Majesty's Government](#) by Graham Allen MP; and
- The Early Years: Foundations for Life, Health and Learning, an independent report on the Early Years Foundation Stage to Her Majesty's Government by Dame Clare Tickell.

One of the key themes in the document is children's development, so that by the age of five children are ready to take full advantage of the next stage of learning and have laid down foundations for good health in adult life. Others include supporting families, early intervention and workforce development.

A full evidence pack, downloaded from the same page details evidence from [Effective Provision of Pre-School Education \(EPPE\) Project](#) and the [Early Education Pilot for Two Year Old Children](#). These studies show how important it is for children to be attending early education and childcare that is of good quality if it is to have a significant effect on their cognitive development and attainment. Details of further reading is offered on several pages and in many cases there is a direct link to the suggested material, making it easy to follow up on areas that interest you. We may well follow up on some of these in future issues. Although the evidence pack runs to 47 pages and is quite wordy, it could be adapted to form a powerpoint-type presentation to update colleagues.

In conjunction with this document, a new website, [Foundation Years](#), has been launched. The Foundation Years website comes from Foundations for the Future - a voluntary and community partnership (Foundations for the Future is the DfE's early years strategic partner aiming to bring the early years and childcare sector together to improve quality, influence government policy and promote best practice). As its front page says:



"This website is for all those who work in the foundation years delivering services for children and families going through pregnancy or who have children between the ages of 0 and 5.

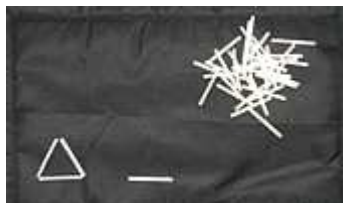
The broad range of information accessible on this site was developed by government, professionals and the voluntary and community sector, and aims to:

- *set out the direction of travel for all those who work in the foundation years;*

- answer any questions you have – specific or general; and
- direct you to other resources which can help you.

The website will evolve over the coming months as you add to it by sharing case studies and examples of what works well, and participating in discussion groups; as well as through resources that are co-produced being added to the site."

So this is your opportunity to have a say on what you would like to see on the website - either email foundations@4Children.org.uk or go to the website's [contact page](#).



Games

Although young children can tell curved from straight lines and begin to recognise some 2D shapes, they find it difficult to draw them. Research shows that many children simply see an enclosed space, so a drawing of a triangle may well look more like a circle. Many children will find it easier to construct shapes using matchsticks rather than draw them.



It's a good idea to provide each child with a piece of fabric to work on - otherwise, when the table is knocked or the child is jostled, the matchsticks move about very easily; an old table mat or a piece of felt is ideal. If you really need to keep a record, take a photograph, or work on paper and glue them in place. However, it is good to get the children used to using them and simply putting them back in the container when finished. If the children would like to use some elsewhere, that should be fine.

Handling the matchsticks and placing them appropriately is useful fine motor skills practice. There will also be plenty of opportunity to talk with the children about what they are doing, to count, use positional language, measure with matchsticks and so much more.

Some activity ideas - you will think of many more:

- match the edges of geometric shapes and count the sides, but make the distinction between counting the sides and counting the matchsticks
- match the edges of shadows or prints of shapes and count the sides
- test if a line is curved by placing a matchstick alongside
- create geometric shapes
- create and copy pictures and patterns - explore what is the same/different
- use for measuring and making comparisons
- explore what can be made with a particular number of matchsticks
- estimate how many matchsticks you will need to...
- counting activities...

Many model and toy shops sell bags of matchsticks (without the match heads) for just a couple of pounds. They're even cheaper from educational suppliers. You can also buy coloured ones. Just add them to your general collection of manipulatives and you'll soon find many uses for them.



Case Study

Dacre Braithwaite CE Primary School

Dacre Braithwaite CE Primary School is a small rural school in North Yorkshire. Smaller than the average-sized primary school, it is situated in a remote rural setting, four miles from the nearest village. The school is one of Ofsted's [Good Practice in Early Years and Childcare](#) examples.



Outdoor provision area

As a small school, practitioners need to work with mixed age classes. Ten children of Foundation age are admitted in the September of the year in which they are five, initially on a part-time basis. A key concern has been ensuring the correct balance of activities and level of challenge for Reception children and Year 1 pupils working together in the same classroom. The staff firmly believe that by standing back, taking stock and having the confidence to do what feels right for the school and the children within it, that balance can be achieved.

The mixed Reception and Year 1 classroom at the school is set up as an Early Years Foundation Stage (EYFS) unit with a variety of continuous indoor and outdoor provision areas that are enhanced regularly to meet the needs of all children. Children are taught largely through play-based topics and may be grouped according to ability for different tasks. Planning for this mixed-age class is initially based upon the Year 1 curriculum with constant cross-references being made to the EYFS curriculum. Staff are prepared to be flexible with their planning and are not afraid to 'go with the flow' to meet the needs of the children. As long as the learning objectives are kept in mind for both year groups at all times, having the confidence to follow the children's lead can be very rewarding.



Independently taking care of plants outdoors

Provision within each area is planned for at the end of each week based on observations and assessments made during the week. Sometimes areas within the classroom are not planned in detail to allow independence and imagination to develop through the children's own selection of resources.

Topics and themes are mapped out with the children whenever possible to encourage ownership of learning. Lessons are planned according to particular interests or questions raised, which helps to keep the children engaged and motivated in their learning. Children work extremely well in partnership with one another and the younger pupils benefit from the learning skills of those in

Year 1. 'Talking partner' and 'buddy' sessions are used for children to develop their speaking and listening and also their creative and thinking skills through discussions and team work. Cooperative working across both year groups provides all children with opportunities to develop negotiation and time management skills, in addition to social skills. There are high aspirations of what children can achieve, which inspires them to want to achieve the best for themselves.

While focus groups are taking place, the rest of the class is encouraged to initiate and develop their learning in continuous provision areas. This approach allows social interactions to take place within and

across year groups. Sometimes challenges linking to a specific area of learning are set up within continuous provision areas, including in the high-quality outdoor areas and the children are encouraged to move their learning forward and reach objectives in specific ways. Modelling by a member of staff is always carried out beforehand.



Sharing 'learning journeys' together on non-school uniform day

The children are happy, confident and motivated to learn. They are encouraged to be resourceful at all times so that they know where to find help and not become too reliant on the teacher. The atmosphere is positive and engaging, and the classroom vibrant and stimulating with examples of the children's own work and photographs on the walls. Children thrive and particularly enjoy having a Reception or Year 1 buddy to work with or turn to when needed. Collaborative working is fantastic when tasks are appropriately challenging and interesting. Working cooperatively with others provides each child with numerous opportunities to revise and consolidate their learning.

As one parent states, 'The children flourish because they are valued as individuals and nurtured to be responsible and loving people. They are constantly encouraged to develop their own interests at school and at home in practical ways. The careful balance of child-initiated learning coupled with high expectations allows all children to find their strengths and thus enables them to be effective learners.'

- [Read the full report](#)

Maths to share - CPD for you and your colleagues

When summarising children's attainment in relation to the stepping stones and the early learning goals in all six areas of learning, early years practitioners use cumulative evidence from children's day to day learning on the basis of their ongoing observations and other relevant evidence. Although there is no national data about children's attainment during the Foundation Stage, there are national datasets at the end of Foundation Stage through the Foundation Stage Profile.

The latest national statistics on [EYFS Profile Results in England for 2010/11](#) produced by the DfE were released recently, containing national and local authority level results for the Early Years Foundation Stage Profile (EYFSP) assessments for 2011. The release includes the percentage of children achieving each point on the 13 EYFSP assessment scales, the percentage working securely in each assessment scale and the percentage achieving a 'good' level of development. The release also includes the percentage of children achieving each individual scale point for each scale of the EYFSP. This data is currently submitted on a voluntary basis by local authorities.

The key points from this release are:

- the majority of children nationally (ranging from 67 per cent to 91 per cent) continue to work securely within (achieving a total of six points or more) the Early Learning Goals, in each of the 13 assessment scales. The percentage of children working securely within all three scales of PSRN has increased compared with 2010
- since the implementation of the statutory EYFS Profile in 2009, there has been an increase in the percentage of children working securely across all scales. In PSRN, the largest increase (seven percentage points) can be seen in *Shape, Space and Measures*, with boys showing slightly more improvement than girls. *Calculating* showed a five percentage point increase, with a two percentage point increase in *Numbers as labels for Counting*
- the assessment scale (out of all 13) with the highest percentage of children working beyond (nine points) the Early Learning Goals was Problem Solving, Reasoning and Numeracy: Numbers as labels and for counting with 15 per cent
- Problem Solving, Reasoning and Numeracy was the second weakest of the six areas of learning (Communication, Language and Literacy showing the lowest achievement)
- girls continue to achieve at a higher level in all assessment scales compared to boys.

% children achieving by points band for each assessment scale											
Numbers as Labels for Counting				Calculating				Shape Space and Measures			
1-3	4-8	9	6+	1-3	4-8	9	6+	1-3	4-8	9	6+
2	82	15	90	7	87	6	78	4	89	7	85

1: a scale score of 1-3 indicates working towards the early learning goals

2: a scale score of 4-8 indicates working within the early learning goals

3: a scale score of 9 indicates working beyond the early learning goals

4: a scale score of 6 or more indicates working securely within the early learning goals.

From [DfE Data, research and statistics](#)

There are [seven data tables](#) available showing figures at national, regional and local authority level. A wide range of factors are included, showing differences in gender, national deprivation status and the achievement gap between the lowest 20% of achieving children and the score of the median child. A further [four data tables](#) provide further detail of the 13 assessment scales across the six areas of learning.

It is important for all schools to reflect on their own pupils' achievement, determining factors, and to consider any steps for the future. Check the results for the local authority in which you work and spend some time comparing your own school data to that provided. Some questions for discussion or consideration might be:

- **Is the national gender gap reflected in the results from your own school?**
 - does this gender pattern continue into Key Stage 1 or beyond?
 - are our resources/activities/experiences better suited to one gender?
- **Which of the three PSRN scales are the strongest/weakest for your pupils?**
 - professionals in Foundation Key Stage are rarely surprised by the lower figures achieved in *Calculating*
 - are expectations high enough?
 - are appropriate/sufficient experiences planned for pupils?
 - is this reflected in your local authority or the national data?
- **Look together with colleagues at the individual scale points for each of *Numbers as labels for counting, Calculating, and Shape, Space & Measures***
 - which are causing difficulties for pupils. Why?
 - are further resources/training needed?
- **Speak to other colleagues in school and find out their professional development needs**
 - are these reflected in the children's assessments?
 - encourage them to make use of the [NCETM Self-evaluation Tools](#) for Early Years to support them in their reflections.