



Prime NUMBERS

With mathematics now confirmed as a ‘specific’ area of learning within the revised EYFS framework, **Judith Stevens** looks at what this means for practitioners...

The long-awaited revised Early Years Foundation Stage statutory framework has now been published and, as expected, it identifies three prime areas of learning: personal, social and emotional development; communication and language; and physical development. The framework states that these three areas are “particularly crucial for igniting children’s curiosity and enthusiasm for learning, and for building their

capacity to learn, form relationships and thrive.” It goes on to say that “practitioners working with the youngest children are expected to focus strongly on the three prime areas, which are the basis for successful learning in the other four specific areas.”

Mathematics has been identified as one of these specific areas of learning, alongside expressive arts and design, literacy, and understanding the world. Together, the seven

areas of learning and development should shape educational programmes in early years settings, and all areas of learning and development are important and interconnected.

Practitioners need to be clear that although there may be a focus on the prime areas, maths learning doesn’t begin at age three! However, children need to hear maths talk and have lots of opportunities to explore in a

mathematical way from the very earliest months. Development Matters in the Early Years Foundation Stage (EYFS), the non-statutory guidance material that supports practitioners in implementing the statutory requirements of the EYFS (2012), provides lots of helpful information about working with children from birth until the end of the Reception year. There are suggestions for:

- **A unique child:** observing what a child is learning
- **Positive relationships:** what adults could do
- **Enabling environments:** what adults could provide.

When planning to support mathematics, leaders, managers and practitioners need to reflect on the ways in which children learn and ensure both provision and practice are informed by this. The revised framework emphasises the three characteristics of effective teaching and learning first identified in the principles into practice cards 4.1- 4.3 of the Statutory Framework (2008):

- **playing and exploring** - children investigate and experience things, and 'have a go'
- **active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements
- **creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things.

So, when we are planning for maths, we need to ensure this is through active learning as children are playing and exploring, and that as children grow, the experiences we provide support them to develop their own ideas. The revised framework clearly states that each area of learning and development must be implemented through planned, purposeful play and a mix of adult-led and child-initiated



activity; the challenge is to provide a stimulating environment for our youngest children, which supports their continuing development as confident mathematicians.

The numbers game

Children's understanding of number starts from birth and develops gradually. Babies as young as five months are aware of quantities, and notice changes in amounts of objects. Before the age of one year, children develop an awareness of number names, and with the right support from the adults around them, use these in their speech as soon as they talk. Children hear conversation all around them and they are introduced to number through opportunities that occur in everyday life.

Numbers are all around us, and in the same way that we draw children's attention to letters

and words in the environment, we need to talk about numbers with them too.

Make the most of everyday routines to talk about the quantity of children who are in the room, playing in the sand, listening to the story. Talk about how many slices of apple or roast potatoes there are on the plate at lunchtime, or wheeled toys in the shed. Children need familiarity with number names before they use numbers spontaneously in their play.

Children learn number names in order by saying them in order, through counting along with an adult and joining in with rhymes and songs. As they gain confidence, they move from saying number sequences to five, on to 10 and beyond. Watch out for these potential difficulties:

- Not separating number names – creating a string

try

Mixing it up

If possible, make collections of different sorts of toy ducks, frogs, aliens and so on, that children can explore together. It is much more fun for children to manipulate assorted puppets, stuffed toys, plastic and wooden items, than to use five identical plastic ducks or frog finger puppets.

These collections also offer so many opportunities to introduce and model the use of mathematical vocabulary: talk about things that are 'the same as' and 'different from', use number names and discuss how many there are 'altogether'. Support children's use of descriptive and comparative vocabulary as they talk about size, shape, colour and pattern.

Space travel

As babies and young toddlers play and explore, they need lots of opportunity to interact with interesting objects that stimulate and inspire them and support their curiosity. Treasure baskets are an effective way for practitioners and very young children to explore

objects with differing textures, patterns and weights together. Think about developing a basket of spherical objects – children need to find out that all spheres roll, but that they don't all bounce! What happens when they try to roll a cylinder?

It's important that children can actively explore and experience shape, space and position as part of everyday play – they need lots of opportunities to move themselves and to manipulate objects. They can find out what it is like being under, over or behind things as they crawl beneath tables, climb on boxes, hide behind blankets and jump off logs. They will find out a lot more about shape and space by walking, hopping, skipping, jumping and running in straight lines or in circles than by looking at pictures of circles in books or 'matching' line drawings.

Young children need time to handle and play with lots of different types of shapes and begin to appreciate their properties. They require space to pile up empty cardboard boxes

and knock them down and as they grow, move on to building dens with boxes, fabric and blankets.

With your support children will begin to know and be able to use the specific vocabulary of shape. The experiences that you offer them should give them the opportunity to describe and discuss shapes and patterns and use simple everyday words to describe the position of objects.

Messy measuring

As children explore messy play, sand and water, ensure you provide a range of objects that they can empty, fill and make marks with. Introduce and model the use of measures as you play with children.

Finally...

- When you are working with the youngest children, remember to include mathematical talk as you play together.
- Make collections of interesting objects, which children can explore together and with adults.
- Give children daily opportunities to play with number rhymes and finger plays.

First Steps

Maths conversation is a key focus in the 'First Steps with Numicon in the Nursery' kit. Its teaching guide contains innovative early years activities, organised into groups such as water play, outdoor play, table-top play and messy play. Call 01536 452610 or visit www.numicon.com



Marvellous Mosaics



Build jewelled houses and castles with this beautiful wooden mosaic collection

from TTS (£99.95). There are squares, rectangles and triangles to make patterns, shapes and sequences. The 26 tiles have rounded corners and store neatly into a wooden box. Suitable from birth. Visit tts-shopping.com/earlyyears or call 0800 318 686.

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Judith Stevens is an author, consultant and trainer specialising in communication and language and mathematics. Her latest book, written with Carole Skinner, *Foundations of Mathematics – An active approach to number, shape and measures in the Early Years (Continuum)*, will be published this Autumn. Visit earlylearningconsultancy.co.uk

- Missing out number names
- Repeating number names
- Using correct names, but in the wrong order
- Using number names in the correct order when starting from one or zero, but not when starting from another point
- Confusing 'teen' words and 'ty' words, e.g. fifteen and fifty
- Extending three and five to 'threeteen' and 'fiveteen' rather than 'thirteen' and 'fifteen'.

Chants of success

Rhymes are a wonderful way to make numbers fun for children. Build on children's love of traditional favourites such as *Twinkle Twinkle Little Star* and *Incey Wincey Spider* by introducing some popular number rhymes. For example:

*Two little dicky birds sitting on a wall
One named Peter,
One named Paul
Fly away Peter
Fly away Paul
Come back Peter
Come Back Paul.*

As the children become familiar with the words, change 'Peter' and 'Paul' to include their own names – it doesn't matter that they won't rhyme! Act out the lines using simple bird finger puppets (ones made from the fingers of gloves are ideal). Remember to count the 'birds' while wiggling your index finger 'one, two'.

As the children get a little older, introduce some rhymes that use numbers 1-3, or 1-5:

- *Five little ducks went swimming one day*
- *Five little speckled frogs*
- *Five aliens in a flying saucer*
- *Five currant buns in a Baker's shop*
- *Five little monkeys jumping on the bed*
- *Five in a bed (increase to 10 as children develop)*

Give the children lots of opportunities to move as they count – pretending to be frogs jumping or ducks swimming. Touch each child as you count together "1,2,3,4,5". If some children are joining in by counting using their fingers, make sure they have time to move one digit as they change down from five to four, etc – it can be tricky for some children. For some, it is easiest actually to move one finger down using the other hand to help.