Early Childhood AUSTRALIA INC.
... voice for young children

Everyday learning about

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maths

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About Early Childhood Australia

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Contents

The *Everyday learning* series has been developed to focus attention on the everyday ways in which children can be supported in their growth and development. It is for all those who are involved in children's development and learning, including people caring for young children in their own or others' homes, such as parents, grandparents and those with an ongoing responsibility for young children.

The first years of life are the foundation for all later growth, development and learning.

- Early experiences set the pattern for all later learning.
- Early experiences and relationships affect how children feel about themselves, how they get on with other people and how they join in and enjoy life.
- Every experience has an impact. Babies and young children are learning all the time, regardless of whether we think we are 'teaching' them.

Research has shown that a strong foundation in these years starts children on the pathway to:

- being able to relate confidently and effectively with others;
- mental and emotional health; and
- making the most of each child's abilities in education.

Adults provide responsive and sensitive care, a safe and interesting place to be and follow children's lead in providing things they like to do ... children and adults learn together.

Babies and young children are learning all the time.

This research also shows us what kinds of experiences and relationships babies and young children need, to get the best start for living and learning.

What matters is how they are learning and what they are learning. Learning takes place in relationships. If the earliest relationships are warm and loving, babies and young children have the best chance to make the most of the opportunities in their worlds.

To learn best they need parents and carers (their first teachers) who:

- are warm and caring;
- know each baby or child very well and appreciate what is special about them;
- take time to understand the child's messages (cues) and to respond to them with encouragement, praise, comfort, independence and rest as needed; and
- are able to see, share and celebrate the big and small joys and achievements of the children in their care.

There is no set list of things to teach babies and young children.

Living is learning and children learn through living. These books are a guide to how young children learn and how best to help them at the different stages of early childhood. All children and babies have their own abilities and interests.

Adults watch and listen and provide opportunities and support to build on each child's strengths. Babies and children also come from family and cultural backgrounds that are part of the way they are and need to be included in their experiences.

Introduction

Mathematics, or 'maths' as it is often known, plays an important part in our everyday lives.

We use maths when we read a bus timetable, find our favourite TV program, weigh out ingredients for cooking, check our money at the supermarket, or set the table for dinner.

Maths isn't just about numbers and counting. It involves measuring, knowing about space and shape, noticing patterns of colour, shape and size, and being able to understand graphs and charts that give us information in the form of numbers and symbols.

As children grow and develop, they begin to see maths used in the world. They see signs, numbers on cars and buses, things being weighed and measured, and money being paid for goods and services.

When we use maths in practical ways like these, it's called 'numeracy'.

The adults who spend time with children draw attention to the numeracy around them and help them to think about mathematical ideas and problems.

Why is numeracy important?

Numeracy (knowing about maths) helps us to manage our everyday lives more efficiently. It gives us the knowledge to make choices—'Will I use this frypan or that one to cook the fish?' It helps us to plan ahead—'It's Wendy's birthday on Friday, so I'd better buy her present today so she gets it on time.' Because we are numerate, we can compare the prices of goods in catalogues and choose the best value; because we are numerate, we know approximately how much paint to buy.

Maths and numeracy are also very important to children's success as they go through school. They need to understand mathematical ideas to do well at science and technology, as well as at maths itself. To talk about history, they need to understand time. To study people and places, they need to interpret and compare numbers, graphs and charts.

The ideas of maths and numeracy provide a 'tool kit' for thinking, generally. To think in clever ways, children need to be curious, thoughtful problem-solvers. They need to be asking questions all the time: 'How many?' 'How big is it?' 'Is it likely to happen?' 'Will there be enough?'

How do children learn numeracy?

Children learn numeracy through moving about in the world with other children, their family, and members of their community. They watch and listen as the people around them count, measure, weigh, estimate, match objects and numbers, tell the time, and use words about mathematical ideas—long, short, high, low, near, far, heavy, light …

Families can help by:

- listening to children's ideas;
- talking to them about the numbers, shapes and sizes of things;
- asking questions such as: 'What might happen if we fill the bath to the top?';
- pointing out numbers in magazines, signs, prices, streets …;
- looking for opportunities for children to use their mathematical knowledge.

Babies

We used to think that the only things babies needed were food, a dry nappy and a warm, safe place to sleep. Now we know that their brains need 'food' too.

Research tells us that babies begin learning at least from the moment of birth. They take on more new learning in the first three–four years than they do for the rest of their lives. Parents and family members help this learning by talking about numeracy ideas such as space and time, using everyday mathematical language, and pointing out numbers and signs in the environment.

Babies are 'learning about numeracy' as they move their arms and legs to explore the space around them, to follow people's actions with their eyes, and begin to reach out to touch mum, sister, uncle, or their favourite toy. The adults say helpful things such as: 'You're a big girl now'; 'that's right, reach up to mummy'; 'up, up, up we go'; 'two yellow boats in the bath …'

Even in their first year of life, babies love an adult to say rhymes and sing songs.

They 'tune in' to the voices of their special people and gurgle in anticipation when the adult says *'Round and round the garden, like a teddy bear'*. They may not remember yet how the rhyme ends, but they associate it with laughter and closeness. Many of the rhymes we chant with our children involve numeracy ideas:

'One step, two steps, tickle under there…'

Later they will remember and chant the rhyme themselves, learning about numbers in a fun way.

Well before they know what a number means, babies enjoy adults playing counting games with them—counting buttons as they dress the baby, counting steps as they help them to go 'Up, up, up' and 'Down, down, down'. They giggle when we count their fingers and toes … 'This little piggy went to market, this little piggy stayed home …'

Exploring a bigger space

When they begin crawling, babies' worlds become much bigger and more exciting. They can move around, finding out if their body will fit in that space, what size box teddy needs for a bed, and how far it seems to be to crawl to the laundry—they are learning 'numeracy' about space, size and distance.

The adults around them build understanding about space by asking questions and making comments such as: 'Can you fit in that basket? I think you're too big and it's too small.' 'Let's get teddy a longer box, so he'll be comfortable …' The adults talk about things being 'heavy or light', 'thick or thin', and use mathematical terms such as circle, square, triangle when they work around the house, or wrap a present or line a cake tin.

Number Rhymes:

Three jellyfish

One, two, three four five, once I caught a fish alive

Baa baa black sheep

One, two, buckle my shoe

Two little dicky birds, sitting on a wall

Books are a numeracy event

Storybook time quickly becomes one of baby's favourites because it means being held close and warm by their special adult. Many familiar stories, rhymes and songs bring baby into contact with numeracy ideas: Rub a dub dub, three men in a tub; Hickory Dickory Dock; Rock a bye baby in the tree top …

With a very young child, we just get them involved in the action and the pleasure of the pictures, sounds and experience.

Books with lots of pictures, rhymes and repeated phrases draw young children into the story and encourage them to join in the actions: The wheels on the bus go round and round, round and round…

Later, we will introduce counting books and draw attention to the numbers and shapes in familiar stories.

Research tells us that adults reading books to babies and young children and talking about the ideas in them helps their literacy, numeracy and general learning when they go to school (Wade & Moore, 1998).

Toddlers

Once children can walk, or even 'toddle' around, they can explore the much bigger spaces of their house, garden, playgroup or crèche, and the wider outside environment as they are taken for a walk or a drive. Their bodies are now on a level with many objects around them, and they can reach for, touch, hold and play with all kinds of different things—that's why we're always having to move sharp objects out of their reach, tie drawers up, and say 'hot, that burns, don't touch!'

This mobility, though, gives them much more scope to learn about numeracy in their world. As they play, every day, children are solving problems, noticing shapes and numbers and how they are used, watching adults measure when they're cooking or gardening, talking about time and how it passes, and using the language of mathematics and numeracy.

Toddlers learn about numeracy when we:

- count things;
- look for shapes;
- use words about weights and measures (heavy/light/long/short);
- talk about how much sugar is in the jar (volume) and whether the cake tin will be big enough for the mixture (capacity);
- discuss time (how long till; how long since);
- estimate and use words about number and distance such as near/far; approximately/more than; not as many …;
- divide up food and talk about 'equal pieces'.

We can provide everyday numeracy learning opportunities by:

- asking a toddler to help set the table—'Bring four plastic cups. Now we'll put one for mummy and one for auntie and one for Sam and one for you';
- giving children simple equipment such as cartons to build with, to pile up and to crawl into and hide;
- setting up a paddle pool with water or sand and ordinary plastic kitchen containers to fill and empty;
- asking useful questions, such as: 'Is that one full? Which jug is bigger? Does it hold more than the little jug?';
- helping them do jigsaw puzzles with big pieces by saying: 'I think the green bit goes down the bottom, because it's got a straight side and it's green for the grass.';
- taking them for a walk in the park to do an 'obstacle course': Round the big tree, under the seat, over the little fence and down the slide. Introducing positional language at home by asking them to put something 'under the bed/next to the door/behind the chair';
- on a trip to the shops pointing out things such as: houses have numbers so the postie knows where to take a letter; cars have number plates so we know who they belong to; things we want to buy at the shop have prices on them; we pay money at the checkout;
- asking questions such as: 'How many?' 'Which way will we go?' 'Will there be enough?' 'How long till we get there?';
- making comments such as: 'That's a tall building'; You're getting taller, you'll have to get new jeans, they're too short.'

Children are learning about the numeracy ideas of space, height, weight, balance and shape as they build towers with blocks. They estimate and measure and learn about volume and capacity as they pour water and sand through funnels into containers of different sizes. Adults provide this simple equipment and challenge children's estimation by asking 'How much will fit in this one? Will it hold more than the other one?' (Remember, it takes a while to learn these things, so don't expect your toddler to get it right at first—by talking about it you are helping them to learn.) Children learn about numbers and counting when we count the items from a grocery bag as we put them away; as we count stairs when we go up and down. They learn the number for their age and what it looks like, and later the number of their house and their telephone number. Children are learning about numbers and how items can be put into groups when they help sort the laundry—six pairs of socks, three shirts, seven blue bibs for baby … all the white things go in together.

Pattern

The idea of pattern is very important in mathematics. Our number system is based on patterns: 2 + 2 = 4; 12 + 12 = 24. Children can make patterns with everyday materials such as beads, cotton reels, pasta, or paper plates. When children are around three years old, their fingers are not very coordinated yet, so they need large items with big holes and stiff plastic 'thread' if they are going to make 'necklace patterns'. Often they will make their own patterns with everyday items such as shells, socks and laundry pegs, just while playing. Adults can then model the language of pattern by saying: 'In your pattern there's a long one, then a curly one, then another long one …' As children get older, they create more and more complicated patterns and can explain their reasoning better and better. They can sort objects, looking for what is similar in shape, size or colour and talk about why they have grouped them together.

Later, when they are much older, children will use these understandings about patterns to do algebra and mathematics in secondary school.

Solving everyday problems

Problem solving is an important form of thinking that helps with all other aspects of mathematics. It involves being able to reason logically and follow a train of thought through. Children learn that there is often more than one right answer or solution and that it's best to 'have a go' and try out your idea. Children are naturally curious and enjoy solving everyday problems—How will all their toys fit back in the box? What happens if you put a smaller block inside a bigger one? What if we put the big teddies on the back shelf and the little ones in front? Encouraging children to ask questions, and to suggest a solution and talk through our thinking, helps young children to see how we solve problems and to become good problem solvers themselves.

Time

Very young children won't understand the idea of time, but they begin to learn about it when we talk about how their day is divided up: 'It's breakfast time and then we go to playgroup. We'll take fruit for morning tea.' 'After lunch we'll visit nanna.' 'It's nearly bath time, so get your ducks. Then it will be sleep time …' Later, children will understand more abstract ideas about tomorrow/today/yesterday/three more sleeps till your birthday.

Preschoolers

In the preschool years, between the ages of three and five, children are naturally curious and ask lots of questions. These might include ‘Are we there yet?’ ‘How long until my birthday?’ ‘How old is nanny?’ ‘What does that number say?’

Preschoolers are beginning to notice numbers and to understand their purpose. Often, they first recognise numbers which are important to them—‘that’s on our house’; ‘that’s my number over there, it’s a 3’; ‘the TV is on number 6.’ We can use these comments to help children build their understanding of numbers and when, where and why they are used. We can talk to them about the need to count things carefully so we ‘get the right number of items’, and about mathematical ideas such as the passing of time.

We can encourage children to explore mathematical ideas as they play with toys and materials by asking question such as ‘What’s for sale in your shop today?’ ‘How many cars do you have in the box?’ ‘What number is on the house you just drew?’

Children in this age range will begin talking about numbers, shapes and measurements—‘I’ve grown as tall as the doorknob now; one day I’ll nearly be as high as the door.’ They are problem solving all the time: ‘I wonder how many trains will go in the station?’ ‘If I build higher will my tower fall over?’ They are beginning to put number ideas in their drawings and paintings. They will put shapes and numbers (often the wrong way around or upside down) and made-up numbers in strange places in their pictures.

Counting

Counting is going to be an important skill in school and in everyday life. We count how many people will be in for tea, so we can cater for them; we count how many pieces we need to cut the pizza into to serve everyone. Counting forms the basis of addition and multiplication: 2 + 5 + 5 = 12; 3 lots of 4 = 12. Learning to count isn't as simple as reciting numbers. Children need to learn to count each item once and only once; they need to understand that the last number said is the total and that the total will remain the same whatever the objects are—10 shells are 10, and so are 10 cars. Children need opportunities to count a wide range of objects, to suggest how many there are and then to check if they've got it right. In the preschool years, children's counting will not always be accurate but they are learning all the time.

To help children develop these skills, adults can:

- explain that counting tells us how many things are in a group;
- point to the object as they say the number name;
- use fingers to count and encourage children to do it too; fingers are handy and they're always with us!

A 'numeral' is the symbol that represents the number of objects—'There are 4 candles on the birthday cake and we write the numeral 4 in icing'. Matching the right numeral to the number of objects in a group is an important skill. At home, adults can write out the number symbols (numerals) on cardboard and help children to match them to collections of pegs, buttons, spoons or straws. Counting books are fun and they help young children learn that numerals stand for groups of things and they can be represented on the page. *Duckie's ducklings*, for example, encourages young children to count two snails, three butterflies, four dandelions … and nine strawberries, before Duckie finds her missing ducklings, and we count back to make sure there are 10!

Counting books:

ABC counting rhymes. (2004). Australia: Kingfisher Books.

Barry, F. (2005). *Duckie's ducklings.* London: Walker Books.

Bolam, E. (2000). *Mother Goose math.* UK: Puffin.

Dodds, D. A. (2005). *The great divide.* UK: Candlewick Press – fun with fractions for older learners.

Hill, E. *Spot can count.* (2000). UK: Puffin.

Hussey, J. (2002). *Little bear's numbers.* UK: Red Fox, Scholastic.

Mockford, C. (2003). *Cleo's counting book.* UK: Barefoot Books.

Sharratt, N. (2005). *One to ten and back again.* UK: Puffin.

Wood, J. (1995). *Number parade.* UK: Frances Lincoln.

And on to school

When children are about to start school, it gives them a good start if they are able to:

- talk about their age and recognise some numbers;
- count a group of objects up to about 10;
- sort things into similar and different, and talk about why;
- use words to compare items—this is the biggest; this one is short; my drink bottle's empty; I want the long sausage;
- use words to describe the position of objects—it's under the chair, beside the dolly, next to the table, etc.

As children begin school, they learn about areas of mathematics such as space and shape, chance, pattern, number and measurement. In each of these areas, important foundations are being laid for later mathematics, and children need many experiences and lots of opportunities to learn about them in different ways. Understanding about shape, for example, is the beginning of geometry, but for young children, shape words are used to describe the physical world we live in—the letter is a rectangle and so is the door; the pizza is round and so are the biscuit and the birthday cake. When we cut the cake, or the square sandwich, we can make triangles …

Measurement is about length, height, weight and time. Young children use things such as blocks to 'measure' how long their train is, or how high the tower has become, before they use rulers and tapes—Jack is five cereal boxes tall.

Understanding chance and probability is another area of mathematics we use in our everyday lives. We talk to children about things such as: 'It was cold last night, so we'll probably to get a frost.' 'The forecast is for rain, but I don't see any clouds.' Who's got the best batting average in cricket?' 'My brother kicked 10 goals last week in footy. I wonder how he'll go tonight.'

Many of us remember mathematics in terms of 'an exercise book filled with neat sums'. Current research tells us that young children need to play with mathematical ideas before they are introduced to written 'sums'. Experiences such as games, mental computation ('doing sums in your head'—e.g. how would you work out 5 + 4 in a quick way?) and lots of talk and discussion are necessary before children can build a deep understanding of the main ideas in mathematics.

It's the ideas that count!

Children in the early years of school meet many new challenges and many new ideas. They begin to use the tools of mathematics such as accurate counting, addition, subtraction, grouping (multiplication) and sharing (division). These are often introduced through real problems they meet in the classroom ('How many people are at school today—how can we find out? If there are 12 boys and 14 girls that will be 12 + 14 = 26.' 'Do we have enough textas for everyone at the tables—we need 6 + 6 + 6 + 6 = 24—how can we check?')

Children will use objects such as counters, beads, bottle tops and, of course, fingers to assist them. Using things like these is important in early learning, because it lets children actually see how the mathematical idea works, over and over, with different materials. They will also use basic calculators to investigate counting patterns, to work with long lists of numbers, and to look at how very big and very small numbers work. Such experiences also help children learn how to make sensible decisions about when and how to use a calculator.

Representing our ideas

Children at age four and five are learning important mathematical words which they will need to explain their thinking. At school, they will be encouraged to explain how they reached answers and to share their ideas with others. Children learn from each other, and they need opportunities to hear about the thinking of their friends and of the adults who work with them. Adults use the correct mathematical words such as 'numeral', 'subtract' and 'rectangle' to give children the language to talk about their ideas and experiences.

As children gather more mathematics language, they also begin to write down their ideas and thinking in ways which make sense to them. Writing numerals is a tricky skill, and children will take some time to grasp this. Adults can help young children by showing them how to write numbers and other mathematical symbols (such as +, -, =) and encouraging children to explore ways of recording thinking. Children's early attempts at making maps and drawing shapes often don't look anything like what we would draw but they make perfect sense to them. Adults ask children to explain what they have drawn, and suggest they look at what others have done so they can learn from each other. We don't place stress too early on children recording their numbers and numeracy ideas in adult ways, because they can become too worried about 'getting it right' and not have a go at the problem. It's the thinking that we want to encourage at this stage; accurate ways of recording will come later.

Time

Learning to tell the time is a complex task. Many children do not fully understand how a clock works until well into the primary years of schooling. In the early years of schooling children can be encouraged to recognise times that are important in their daily lives; e.g. bedtime, time to leave for school, lunchtime, time to watch their favourite TV program, etc. Adults can help by pointing out these times, even making a poster which shows the time of the day with a label about what we do then.

Having different kinds of clocks in the house can help children notice the different ways we can show time. For example, the traditional clock (analogue) has a 'face' with 'hands', while modern clock radios and many wrist watches are 'digital'—they show time as 6:05 am or 6:05 pm. Many common household appliances have clocks; e.g. the microwave, TV, DVD players, etc. and adults can talk about the different ways time is displayed and the fact that 6 o'clock and 18:00 are the same time. If the family travels by air, the tickets will show the departure time in this way—on a 24-hour clock—and this can be pointed out to children.

The passing of time is also a difficult idea to understand. Children beginning school will still tend to think that a week is forever and that their birthday will never come! Shorter periods are also hard to understand. To young children a minute might seem to take a very long time. We can help children to understand the idea of time passing by helping them connect to the time taken by activities that are important to them; e.g. if they ask 'When will we be there?' we might respond with: 'It will take half an hour—that's about as long as your favourite TV program, or about as long as it takes to drive from home to Grandma's.'

We can help children gain ideas of time by providing them with a calendar to mark off the days/weeks until a special event, having a clock in their room, talking about special times of the day and how we might represent them. We can show them how we use devices such as the microwave timer, an egg timer, our watch, the oven timer, etc. to measure time. It is best to get children to start telling the time with the hour and half-hour; with an analogue clock we would say: 'When the big hand is on twelve and the little one is on four, it will be four o'clock.'

How children feel about numeracy and mathematics

What happens in the early years sets the pattern for later learning. If children enjoy playing with mathematical ideas and using numeracy in their everyday lives from when they are very young, they become confident and have a go at mathematics learning at school. (And this confidence carries over to lots of other learning too.) Feelings about mathematics are 'catching'. If we talk about mathematics and numeracy and show a positive attitude to using the ideas to solve everyday problems, children will want to learn more about it. This seems to be particularly true for girls. If we say 'I wasn't any good at maths', or appear nervous about performing tasks involving numbers, children are more likely to give up and to lose confidence.

'Children's beliefs about mathematics and their own capabilities with it become firmly established during the early childhood years.' (Willis, 1990).

Numeracy continues at home

Parents and other family members can help young children to develop and strengthen their numeracy understandings through simple everyday activities. If we involve children when we are preparing a meal, following a recipe, planting a garden, buying petrol or doing the grocery shopping, they can see how adults use mathematics to solve problems and make decisions. Planning events and using a diary or calendar can help children see the importance of time. Buying things at the shop shows how we use money and counting; pointing out numbers in the environment (e.g. number plates and numbers on sports players' shirts, etc.) highlights numbers and their purposes. From around four or five years of age, children will begin to identify the value of coins—$2, $1, 50c, 20c—and we can help them to count out the correct money at the counter when they are buying a small item.

Simple dice games can help children learn to understand probability and chance and can also help with counting forwards and backwards. For example dominoes, Ludo, *Snakes and Ladders*, and card games such as *Snap* and *Fish* are enjoyed by the whole family and build important mathematical and numeracy ideas.

Some of the ordinary numeracy activities families can enjoy:

- play games;
- make things;
- cut shapes;
- sort things by attributes;
- make a plan for watching TV;
- keep a chart of temperatures;
- use calculators;
- make lists and go shopping;
- read and discuss catalogues and prices;
- solve problems and explain how you got to the answer;
- notice mathematics and numeracy in the world—continue to point out numbers and symbols in the environment;
- write numerals yourself so children see you using numbers;
- show how we use mathematics; e.g. to plan an event, read a recipe, etc.;
- encourage children to tell you how they worked out a problem;
- use calendars to mark special dates;
- count up to or back from special events;
- make charts and simple graphs; e.g. How many teeth have you lost? How many books have we read?, etc.; and
- keep a measurement chart on the wall and mark how much taller the child is than they were last March.

Continue to read books and stories with mathematical ideas. Old favourites, such as *The three bears, The billy goats gruff* and *The three little pigs*, offer opportunities to talk about more than just the number '3'. They contain big chairs and little chairs; long bridges over which billy goats have to walk; flimsy houses made of straw and strong houses made of bricks. Modern picture books such as those listed introduce wonderful ideas you can read and think about over and over.

Books and stories involving numeracy

Cousins, L. (2005). *Hooray for fish!* UK: Walker Books.
Ideas about big and little, colours, grouping by attributes – stripes, dots, happy, grumpy; counting 1,2,3 fish – How many can you see? Fat and thin fish; position – upside down, round and round.

Fox, M., & Horacek, J. (2004). *Where is the green sheep?* Australia: Penguin.
Playing with classification – colour, position; far & near.

French, J., & Whatley, B. (2003). *Too many pears!* Australia: Koala Books.
Numbers, volume, size.

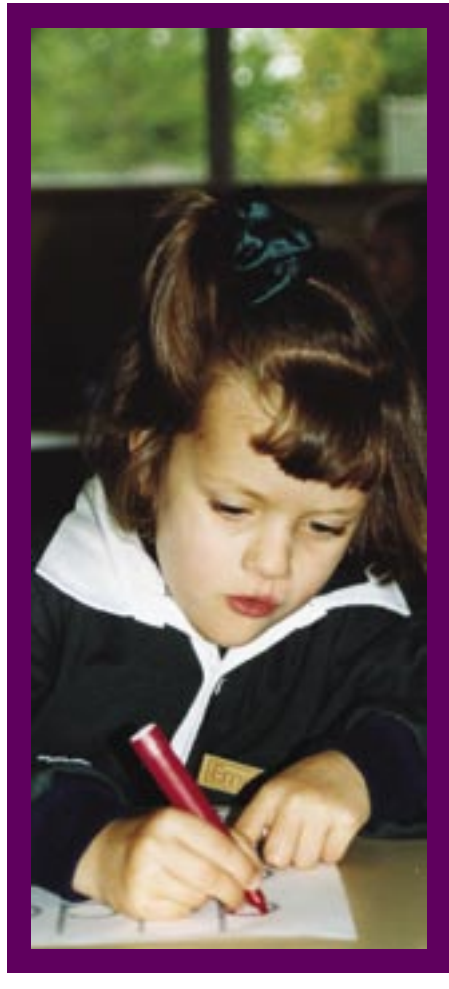
Graham, B. (2005). *Oscar's half birthday.* UK: Walker Books.
Fractions, parts, distance; spaces, positional language, numbers.

Lester, A. (2004). *Are we there yet?* Australia: Viking, Penguin.
Distance, the language of far, near, nearly, not long; positional language.

Mueller, R., & Smith, C. (2004). *The big ball of string*. Australia: A & U.
Follows the unravelling of the big ball of string in its journey – out of the house, past the milk bar, around the corner …

Wild, M., & Rippin, S. (2004). *Too many monkeys*. Australia: Scholastic.
About size and capacity.

Winch, J. (2003). *Two by two*. Australia: Scholastic.
Add up all the animals by counting in twos.



Resources

Griffiths, R. (1998). *Maths through play – Easy paths to early learning with your child.* Great Britain: McDonald & Co.
This easy-to-read book shows how a child's daily life offers many opportunities to learn about number, shape, matching and sorting, etc. It contains practical ideas to develop children's confidence and competence and to make maths a relevant and exciting part of their lives.

Moomaw, S. (2004). *Much more than counting.* St Paul MN: Redleaf Press.
Addresses the questions most asked by teachers, caregivers and parents about teaching children maths through games and activities. Provides information about estimation, patterning and other maths concepts. Photographs show how to make and/or set up materials.

Schiller, P. & Peterson, L. (1997). *Count on math*. Maryland US: Gryphon House.
A comprehensive guide offering maths activities designed to develop concepts sequentially, using everyday materials. Includes numerous hands-on activities for children three–seven years.

You may like to have a browse in Melbourne Gowrie's online bookshop at www.gowrie-melbourne.com.au/bookshop

Websites to provide further ideas and information for parents

http://www.edu.gov.on.ca/eng/document/brochure/earlymath/
This brochure is produced in Ontario, Canada and has lots of practical advice and ideas for parents of young school-aged children.

http://www.literacyandnumeracy.gov.au/2004/funstuff/parents.htm
Information from the Australian Government's 2004 Literacy and Numeracy week site.

http://www.ed.gov/pubs/EarlyMath/index.html
Lots of ideas for using everyday events at home to focus on numeracy.

http://www.sofweb.vic.edu.au/eys/num/strategies/index.htm
A brochure produced in Victoria which helps parents focus on thinking strategies for numeracy.

http://growingtogether.tripod.com/Firstissue/11p12.html
Practical ideas for parents of young children; this article focuses on early number.

http://www.amathsdictionaryforkids.com/
A wonderfully colourful and informative online maths dictionary for families!

http://www.kidsource.com/education/math/activities1.html
More everyday numeracy activities for families and children

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Wade, B., & Moore, M. (1998). 'An early start with books: Literacy and mathematical evidence from a longitudinal study.' *Educational Review. 50*(2).

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The *Everyday learning series* has been developed to focus attention on the everyday ways in which children can be supported in their growth and development. It is for all those who are involved in children's development and learning, including people caring for young children in their own or others' homes, such as parents, grandparents and those with an ongoing responsibility for young children.

How do you introduce young children to maths in a way which will stimulate their interest in this vital topic?

In *Everyday learning about maths* experienced educators Jenni Connor and Denise Neal explore how maths concepts develop and can be encouraged—from simple number rhyme activities with young babies through to counting, recognising patterns and beginning to understand time with preschoolers.

This great book will give parents and carers a terrific resource to encourage young children to begin to see maths used in the everyday world around them and to think about maths ideas.

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