Helping your child with maths **really adds up**

For parents/carers of children in Years 4 to 7

From the Minister

As a parent/carer it's not always easy to keep up with the way education has changed since we were at school. Especially in the area of maths I know that parents don't always feel confident to help their children as they progress through primary school.

However, I would like to encourage you. There are many simple things you can do at home which will support your child as they learn maths in Years 4 to 7. This booklet sets out a range of ways that you can provide vital support – even if you are not good at maths yourself. For example, when you talk about the football score or go shopping you are probably using maths ideas. These simple activities help to increase your child's understanding and confidence with maths.

Education is a partnership between the school and you. The more you can support your child at home the more likely they are to enjoy school. In this booklet maths experts from Western Australian public schools show how you can enjoy spending time with your child and use maths ideas at the same time.

Dr Elizabeth Constable MLA
Minister for Education
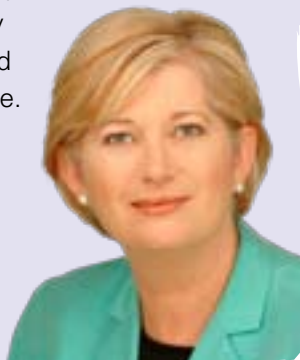
Encourage your child to talk about maths by asking open questions like these:

Which one is the best buy? How do you know?

What shape would fit best?

Is it likely to happen? Why/ why not?

How many will we need?

Did your team win? By how much?

Do we have enough? Why?

How long will it take?

Will we have time?

Which way should we arrange the furniture to make it fit best?

We all do maths every day… sometimes without even knowing it!

People use maths every day in real situations. Whether you are at home, in the garden, playing sport, in a restaurant, shopping, driving or on holidays – maths is always needed.

Maths is not just about numbers. It is also about shapes, sizes, patterns, directions, positions and also chance.

Maths is not something that just happens at school. In fact, the real maths happens outside the classroom. Maths is taught at school to give your child effective maths skills to use for life – and you can help! Your child will develop important skills by being involved in maths at home.

Extra family fun

WIN a Wii

Want more ideas for fun with your child?

SMS 'fun2' to 13 46 92 and we'll keep you updated with easy and fun tips.

Text by 2 October 2009 and you'll also be in the running to win a Nintendo Wii courtesy of Teachers Credit Union.

Please see website for terms and conditions.
Standard SMS rates apply.
Not available Vodaphone and 3.

TEACHERS CREDIT UNION

TIP:
Ask the right kinds of questions to get your child talking about maths.

Everyday maths

In the home

- Read the water meter. Work out how much water was used for the family's showers in the evening. You might even save some water!
- Use digital and analogue scales to measure quantities for cooking. How many grams in a kilogram? What does ½ a litre mean?
- What is the capacity of 1 cup? Use a measuring jug to find out.
- Count the coins in a money box.
- Ask your child to record important dates and times on your family's calendar.
- How long will the television program run? Do we have enough time to watch it? Ask your child to set the video/DVD recorder.

In the car

- Check the odometer in the car. Work out how far you travelled.
- Ask your child to give you directions to get somewhere using a street directory.
- How many litres of petrol do we need? Where is the petrol the cheapest?

TIP:

Be careful not to pass on your own fears of maths to your child. A positive attitude can help your child become confident and learn to enjoy maths.

You are always able to help your child with maths in the home – even if you were not good at maths when you were at school.

In the garden

- Plan a vegie patch. Decide on the best shape and position (for lots of sunshine) and how the plants can be arranged. Talk about how far apart the plants can be planted and how many will fit in the space.

- Do it yourself projects. Get your child involved in making plans and designing their own constructions such as a cubby house or sand pit.

- Calculate how many cubic metres of mulch will be needed to cover an area.

Did you know?

One of the best ways for your child to learn about decimals is to use money and measurements.

$2.75 is more than $2 but less than $3. It is two dollars and 0.75 of the next dollar.

2.5 metres is 2 metres and point five, or half, of the next metre – it's 2 metres and 50 centimetres.

But 2.05 metres is two metres and point zero five of a metre – which is much less than half a metre – it's 2 metres and only 5 centimetres.

Shopping

- Get your child to work out the best deals – one item at $2.99 or three for $8.00? Then ask your child to work out the change you would get from $50.00.

- Have competitions to see who can make the closest estimate of how much the shopping will amount to.

- Use shopping catalogues to plan the weekly shop. Work out percentage discounts in sales. How much will you save?

5

In the newspaper

- Talk about weather patterns. Is it likely to rain today? How much is expected?
- What is the temperature in London? How much warmer will it be here?
- Talk about sport scores. Did your team win or lose and by how much?
- About how many people were at the game?
- Discuss different time zones around the world. What day and time is it in New York?

Maths in the classroom

When your child is in Years 4 to 7 they will find out about:

- large numbers, decimals and fractions – how they all fit into our number system and how they can be split up in many different ways
- how and when to add, subtract, multiply and divide, often using their own paper and pen methods (this might look different to the way you were taught)
- how to work out sums in their head in many different ways
- patterns in numbers and the times tables
- shapes and 3D objects around them
- how to measure length, mass, volume and capacity and how to tell the time
- number sense – this means they will be able to make estimations of numbers and have a good idea of whether their answers are right or wrong.

Mental maths

Most of the calculations that adults make during the course of their day are done in their head – and we all do sums in different ways.

Mental arithmetic is a major focus in primary classrooms. Your child will be taught a range of mental tips that will make working out easier. You can encourage this at home by thinking aloud. Talk about how you work out things in your head.

How would you solve 37 + 38?

Work out double 40 then take away 5.
$80 - 5 = 75$

$30 + 30 = 60$
$7 + 8 = 15$
Add together to make 75

Think of the sum as $40 + 35$ by adding 3 from the 38 to the 37

Accept and value all different ways of working out the problems.

Can you think of another way?

TIP:
Ask your child how they worked out a sum. By explaining it to you, your child is showing that they understand the process and have great number sense. They will quickly realise any errors.

Learning times tables

Knowing your tables is very important.

Did you know there are many ways to learn them?

Chant them, sing them, use flashcards, say and write them over and over again!

This is the traditional way of learning tables – and works for many children. However, there are 144 facts to remember and that needs a good memory.

Another way is to find quick and easy ways to calculate the tables.

Doubling is a useful skill. The 2 times table is, in fact, just that – double the 1s.

Did you know that the 4 times table is just double the 2s? So if 2 x 6 = 12 then 4 x 6 must be double 12, that is 24.

Also the 8 times table is double the 4 times table. So 8 x 6 must be double 24, that is 48.

Halving can also be a useful skill. The 5 times table is half the 10 times table, so if 8 x 10 = 80 then 8 x 5 must be half of 80, that is 40.

You can also look for patterns to help check your answers.

- The answers of the 5 times table all end in 5 or 0.
- The digits in the numbers of the 9 times table all add up to 9 (or a multiple of).
- The answers of the 10 times table all end in 0.
- Are the numbers in the table your child is currently learning even, odd or both?

Order does not matter

If you know 3 x 8 = 24 then you also know the answer to 8 x 3.

So you only need to learn half the tables!

Did you know?

Multiplication can be thought of as repeated addition.

Children need to be aware that the times tables can be worked out by adding a constant amount each time.

For example to work out the 6 times table, just add 6 each time. So 4 x 6 is the same as 6 + 6 + 6 + 6.

Multiplication grid

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

Your child may like to colour in the number facts they know (3 x 8 or 8 x 3 both making 24) or patterns they see on this number grid such as even numbers blue and odd numbers red.

Calculators

People often worry about children relying too much on calculators to do maths.

If children are using calculators correctly, most of the maths happens in their head before they even touch any of the keys. They have to know which buttons to press to solve the problem and they also need a rough idea of what the answer should be. Calculators are only of use to people who have some good maths skills in the first place.

Calculators are very handy tools – but do not replace effective mental maths.

Things to do with calculators

Find patterns in the way we write numbers:

- What number comes after 1 499?
- What is one more than 199 999?
- What happens when we subtract 1 000 from 5 467?

Help learn the times tables. For example make the calculator 'count' by 3s by pressing 3 + 3 = = = and so on.

Stop at each number and predict what comes next.

Did you know?

Calculators are an important part of maths learning.

Teachers use them to help children learn about place value and to find patterns in the times tables.

They are an excellent way for your child to play with numbers and discover more number facts than they know at the moment.

Make sure they use them wisely – checking that the answer shown on the calculator makes sense.

Making maths fun

There are many commercial board games that involve counting money, collecting points, adding dice and working out winning tactics. These all develop important maths skills for a real purpose in a fun way.

Here are some examples:

- Card games such as 21 and Rummy are great for adding up numbers in your head.

- Dart boards have double and triple scores. Each player's score is subtracted from the starting number of 301. The winner is the one who reaches zero first. This is a great way to use maths for older children.

- Chess and draughts are great for talking about logical thinking, direction and movement.

Try these easy games

Dice throws: Take turns to throw five dice. Each person uses the five digits rolled to make a five digit number. Say and write this number. The person with the largest number wins.

Race to 300: Use a deck of playing cards with the picture cards and the 10s taken out. Place the cards face down. Each player takes turns to take two cards at a time. These become the digits of their number. For example, if a 5 and a 7 are drawn, you can make 57 or 75. Write down your number and keep a running total of your score. The person who is closest to 300 after five turns wins.

Did you know?

Games are a great way to develop maths skills and share family time together. Praise your child's efforts – and have fun!

More ideas to make maths fun

- **Guess my number.** Write down a secret number. Give your child 10 chances to guess the number. After each guess, tell them whether it is higher or lower than your number. Gradually work up to large numbers and even decimals.

- **Reach the target.** Choose a target number. Roll three dice. Your aim is to get as close to your target as possible by adding, subtracting, multiplying or dividing the numbers on each die. Who can get the closest? For example: Target number is 25; dice rolled are 4, 6 and 2.

  Player 1: $(4 + 6) \times 2 = 20$.

  Player 2: $(4 \times 6) - 2 = 22$. Player 2 wins because their answer is closer to 25.

- **Times dominoes.** Multiply the two sides of the domino to give a total. For example the domino with three and five dots represents $3 \times 5 = 15$. Make trains of dominoes that add up to 50.

How can I help my child?

Discuss your child's progress in maths with your child's teacher regularly.

Be aware of the maths your child is learning in school and support them at home with everyday activities and games.

Attend parent-teacher meetings to find out more about learning maths.

Visit det.wa.edu.au/education/schoolsandyou for links to parent booklets that are free to download.

There are many websites that have interesting, interactive maths activities. Just do a search for 'number games' or ask your teacher to recommend websites.

Place maths posters such as times tables charts around the home.

Did you know?

Children can sometimes be confused about numbers and this can affect their maths learning.

For example some children make mistakes when they count into the hundreds, such as: 108, 109, 200…208, 209, 300…308, 309, 400.

When you play games and involve your child in the maths at home, it gives you the chance to see or hear mistakes like this. You can then explain what the correct number should be and help them see the repeated pattern.

Did you know?

We no longer use commas when writing large numbers in Australia.

We now use a space between sets of three digits of the millions, thousands and ones.

So 12 409 312 would read twelve million four hundred and nine thousand three hundred and twelve.

Look for large numbers in the newspaper and on the internet. How are they written?

TIP:
Teachers often use games, calculators and computers to develop and reinforce important maths skills.

Find out more about what's happening in our public schools.
Subscribe to our Parent Newsletter by visiting **http://www.det.wa.edu.au/schoolsandyou/**

ISBN-13 978-0-7307-4325-5

9 780730 743255

Survey

WIN a Nintendo Wii courtesy of Teachers Credit Union.

Return completed form by 2 October 2009 to be in the draw. Please circle the number/words you agree with most.

1. This booklet was easy to understand.

1	2	3	4	5
(strongly disagree)				(strongly agree)

2. I learnt new ideas to bring maths into everyday life.

1	2	3	4	5
(strongly disagree)				(strongly agree)

3. I have used at least one of the ideas in this booklet.

   No   Yes

4. After reading this booklet I feel better able to bring maths into everyday life with my child.

1	2	3	4	5
(strongly disagree)				(strongly agree)

5. It's important for children to learn times tables.

1	2	3	4	5
(strongly disagree)				(strongly agree)

6. I have used at least one of the ideas from this booklet to help my child learn their times tables.

1	2	3	4	5
(strongly disagree)				(strongly agree)

7. After reading this booklet I have a better understanding of what's happening in maths at school in Years 4 to 7.

1	2	3	4	5
(strongly disagree)				(strongly agree)

8. After reading this booklet I feel more confident about supporting my child with maths at home.

1	2	3	4	5
(strongly disagree)				(strongly agree)

9. I am good at maths myself.

   No   Yes

10. If you have used some of the ideas in this booklet please tell us how they helped your child with maths:

    _____

    _____

    _____

    Other comments:

    _____

    _____

Send your completed form to:

A: Reader survey
   Corporate Communications and Marketing
   Department of Education and Training
   Level 2, 151 Royal Street, East Perth WA 6004

F: 9264 4896

Name: _____

Telephone: _____

Suburb: _____

TEACHERS
CREDIT UNION