



Kirklandneuk Primary School - Maths Help at Home

Golden Rule: Whatever you do, make sure your children enjoy it.

If they struggle to understand, make mistakes, or get bored: keep calm, make it easier, change the subject, tell them a joke, play football, go to the park but please don't get cross or impatient - you could put them off maths for life.

Generally the advice is;

- Talk about and involve children in the situations in which you use maths in everyday life;
- Play games involving numbers and/or logic, such as card games, dominoes, snakes and ladders, board games, darts, draughts, chess etc.;
- Stimulate their thinking at times of boredom, (such as when travelling), with mental activities;

It was different when I was at school...

The maths work your child is doing at school may look very different to the way you were taught. This is because children are encouraged to work mentally, where possible, using jottings to help support their thinking. This leaflet will help you support your child, using the methods we use at school.

When faced with a calculation problem, encourage your child to ask...

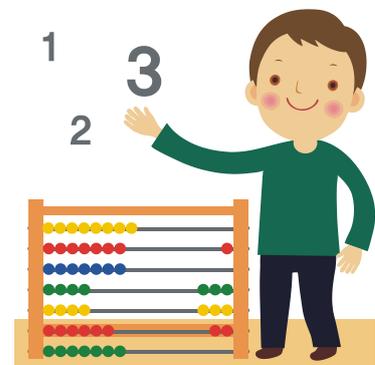
- Can I do this in my head?
- Could I do this in my head using drawings or jottings to help me?
- Do I need to use a written method?

For all ages

Ask the question: **'The answer is 10 (or any number), what's the question?'**

Possible responses:

- 8 plus 2
- 1 million divided by one hundred thousand
- 5×2
- $25 - 15$
- 2.5 times 4
- the number before 11
- 9999 subtract 9989
- the square root of 100



This is a brilliant activity because: there's no failure; it stimulates thinking about and stretching knowledge of numbers and mathematical relationships; it's good fun.

Young children, e.g. 3 – 7 Everyday situations:

- Sorting things out and putting things away, e.g. shopping, toys, cutlery, clothes. Talk about which things go together and where things go, giving clear instructions for position such as 'in the cupboard, on the bottom shelf'.
- Matching pairs of socks, shoes, gloves.
- Ordering and sequencing when getting dressed, going to the shops, having a bath etc. Talk about what you do first, what you do next, ... and last of all..
- Comparing objects according to size, weight or capacity, e.g. the longest spoon, the lightest shopping bag, the cup which holds the most, the shortest person, the widest hand, the bottle which is half full.
- Matching and counting when setting the table, preparing food, sharing out food, etc.
- Counting, weighing, measuring capacity and timing when cooking
- Talking about time, referring to the clock at different times throughout the day, (preferably a clock with hands), setting times for certain events, e.g. 'We'll have lunch at 1 o'clock.', timing events, e.g. 'How long will it take to wash the dishes?'
- Handling small amounts of money when shopping, counting small totals.
- Counting on and back from a given number or '3, 2, 1' when going down/up the stairs.

Play activities/games:

- Talking about directions when walking around or playing with toy vehicles etc. (e.g. forwards, backwards, straight on, turn left/right.)
- Making models with building bricks, Lego, boxes etc. Talk about shape and position, count the number of similar shapes etc.
- Playing games involving matching, recognising numbers and shapes or counting such as snap, pairs (pelmonism), dominoes, board and dice games (e.g. snakes and ladders).
- Counting particular things on journeys, e.g. red cars, fields with cows in, churches etc.
- Sharing books. Sit together when you read to children so that they can follow the pictures. Go back over the story and talk about the order of events, the number, position and shape of things in the pictures etc.

Mental activities:

- Counting in 1s, then 2s or 10s, e.g. as you climb stairs, walk to the local shop etc.
- Simple addition/subtraction calculations, e.g. $5 + 2$, $10 - 7$, developing to $15 + 2$, $25 + 2$, $25 + 12$, $20 - 7$, $30 - 7$, $30 - 17$

All of the above provide the foundation for mathematical understanding and development.

GROUPING AND SHARING

Children are taught to:

- Count repeated groups of the same size
- Share objects into equal groups and count how many in each group
- **PICTURES! Drawing often gives children a way into solving the problem:**

6 shared in to 2 groups

6 Easter eggs are shared between 2 children.

How many eggs do they get each?



There are 6 Easter eggs.

How many children can have two each?



- **Dots or tally marks or items can be shared out one at a time or split up into groups.**

12 shared in to 4 groups

4 apples are packed in a basket. How many baskets can you fill with 12 apples?



- **Solve** practical problems that involve combining groups of 2, 3, 4, 5 or 10, or sharing into equal groups.
- **Represent** repeated addition, arrays, sharing and repeated subtraction as grouping; use practical and visual methods with related vocabulary to support grouping and sharing.

Children will learn to use the following vocabulary:

Initially:

- Count
- Same size

Then:

- Double
- Half

Next Steps:

- Count on
- Count back
- Lots of
- Groups of
- Equal groups of
- Grouping
- Array
- Row
- Column
- Share equally

Questions to ask...

- How many ___?
- How many more to make ___?
- How many more is ___ than ___?
- How much more is ___?
- How many fewer is ___ than ___?
- How much less is ___?

Children are taught to understand multiplication as repeated addition and scaling. It can also be described as an array.

- **Again, a picture can be useful**

2 lots of 4

Each child has two eyes. How many eyes do four children have?


$$2 + 2 + 2 + 2 = 8$$

- **Items, dots or tally marks are often split in to or drawn in groups.**

5 lots of 3

This shows 3 groups of 5:

There are 5 cakes in a pack. How many cakes in 3 packs?


$$1 \quad 2 \quad 3$$
$$= 15$$

- **Drawing an array.**

4 lots of 3

(3 rows of 4 or 3 columns of 4) gives children an image of the answer. It also helps develop the understanding that 4 groups of 3 is the same as 3 groups of 4.

A chew costs 4p. How much do 3 chews cost?



Here are some activities to try at home with your child:

- Find out which number facts your child is learning at school (number bonds to 10, 20, 50 or 100). Try to practise for a few minutes each day using a range of vocabulary.
- Have a 'fact of the day'. Pin this fact up around the house. Practise reading it in a quiet, loud, squeaky voice. Ask your child over the day if they can recall the fact.
- Play 'ping pong' to practise number bonds or facts with your child. You say a number. They reply with how much more is needed to make 10. You can also play this game with numbers totalling 20, Encourage your child to answer quickly, without counting or using fingers.
- Throw 2 dice find the total (+ or -). Can they do this without counting?
- Use a set of playing cards (no pictures). Turn over two cards and ask your child to add or subtract the numbers. If they answer correctly, they keep the cards. How many cards can they collect in 2 minutes?
- Play Bingo. Each player chooses five answers (e.g. number bonds to 10, 20, 50 and 100). Ask a question and if a player has the answer, they can cross it off. The winner is the first player to cross off all their answers
- 'Target'. Give your child a target number to reach and find as many ways together of making that total.

ONLINE SUPPORT

- Education Scotland Parent Zone
- www.Topmarks.co.uk Reception = P1 Year 1 = P2 etc.
- www.oxfordowl.co.uk
- www.primaryinteractive.co.uk/maths
- <http://resources.woodlands-junior.kent.sch.uk/> maths zone
- Sumdog

I-PADs - many free apps to support all concepts in maths, limited activities on above websites work on I-pad platform as they involve Flashplayer

For many tasks children use concrete materials to aid understanding of concepts. For example: hundred squares, clocks, number fans, tables grids



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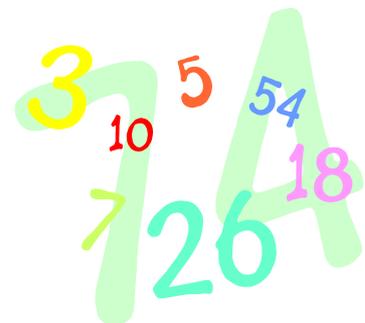
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Ask the question: **'The answer is 10, 100, 1000 (or any number), what's the question?'**

Possible responses:

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Older children 8-11 Everyday situations:

- Weighing, measuring capacity and timing when cooking. Converting a recipe for 4 people to one for 6 people.
- Being involved with measuring and calculating how much curtain fabric is needed, how much wood for shelves, how many wall or floor tiles are needed, how much carpet etc.
- Talking about time, e.g. How long is it until lunch time? The journey takes 2½ hours, when will we arrive? We need to be there at 2.00 pm, when do we need to leave home? Many children will still need practice with reading clock times, particularly minutes past and minutes to the hour.
- Handling amounts of money when shopping, working out total costs, working out change, checking receipts. Working out prices of sale items, e.g. 20% off. Managing pocket money and saving for things.
- Working out distances and directions from maps.
- Discussing and comparing house prices from newspaper house sales pages.
- Working out how much petrol will be used on a journey, working out average speed for a journey, costing journeys or holidays etc.

Play activities/games:

- Card games such as sevens, cribbage, pontoon etc.
- Any games involving calculating scores, e.g. scrabble, quoits, darts, bowling.
- Beat the calculator. In pairs, one with a calculator, one without, each works out the answer to a calculation aiming for the one without the calculator to say the answer first.
- Games involving strategic thinking/logic, e.g. draughts, chess, mastermind.
- Specialised computer games designed for using and developing maths.
- Using the mad4maths website!

Mental activities:

- Practising and developing knowledge of addition and subtraction facts within 20 (7+8, 13-5 etc.) and multiplication and division facts to 10 x 10 (6x7, 35/5 etc.) Make it into a game if possible, e.g. have a set of cards numbered 1-10, pick a number such as 4, say 4 times the number on the card as each is turned over, keep all the cards you get right. Beat the calculator as above. On a journey, adult passenger times response, try to beat your own time.
- Ask 'progressive' calculations, e.g. 7 + 6, 17 + 6, 27 + 6, 47 + 6, 147 + 6; 5 x 2, 50 x 2, 500 x 2, 500 x 20.
- Working out 2-digit additions and subtractions, multiplying and dividing 2-digit numbers by 1 digit numbers mentally. Talk about how to make it easier, e.g. for 28 + 15, call it 30 add 13 and that's easy; for 16 x 4, double 16, then double 32.
- Open-ended activities, e.g. The answer's 25, what's the question? How can you use combinations of 3 and 6 to make different numbers? (Use each number as many times as you like with addition, subtraction, multiplication or division.)

GROUPING AND SHARING

Children are taught to understand division as sharing and grouping.

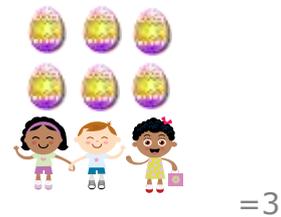
- **PICTURES! Drawing often gives children a way into solving the problem:**

6 ÷ 2

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- **Dots or tally marks can either be shared out one at a time or split up into groups.**

12 ÷ 4

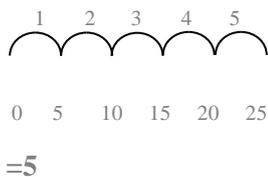
4 apples are packed in a basket. How many baskets can you fill with 12 apples?



- **To work out how many 5s there are in 25, draw jumps of 5 along a number line. This shows you need 5 jumps of 5 to reach 25.**

25 ÷ 5

A chew bar costs 5p. How many can I buy with 25p?



- **Solve** practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups.
- **Represent** repeated addition and arrays as multiplication, and sharing and repeated subtraction (grouping) as division; use practical and informal written methods and related vocabulary to support multiplication and division, including calculations with remainders.
- **Use the symbols** , \times , \div and $=$ to record and interpret number sentences involving all four operations; calculate the value of an unknown in a number sentence.

Children will learn to use the following vocabulary:

Initially:

- Count
- Same size

Then:

- Double
- Near double
- Half
- Halve
- Double
- Quarter

Next Steps:

- Count on
- Count back
- Lots of
- Groups of
- Equal groups of
- Grouping
- Array
- Row
- Column
- Multiply
- Multiplication
- Multiplied by
- Multiple
- Share equally
- Divide
- Division
- Divided by
- Remainder
- Round up
- Round down
- Double
- Halve

Questions to ask...

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- Throw 2 dice find the product (x). Can they do this without counting?
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