





Introduction

The maths work your child is doing at school may look very different to the kind of 'sums' you remember.

This is because children are encouraged to work mentally, where possible, using personal jottings to help support their thinking. Number lines are one example of this.

Even when children are taught more formal written methods they are only encouraged to use these methods for calculations they cannot solve in their heads.

It will be a great help to your child, and to their teachers, if you could encourage them to use methods which they have learnt at school rather than teaching them different methods at home.

This booklet is designed to inform you about the progression in calculation methods that we use at Holy Family School for addition, subtraction, multiplication and division.

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Written methods of calculations are based on mental strategies. Each of the four operations builds on mental skills which provide the foundation for jottings and informal written methods of recording. Skills need to be taught, practised and reviewed constantly. These skills lead on to more formal written methods of calculation when the children are ready for them. For many children this will be in the later years of primary school or into secondary school.

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Strategies for calculation need to be supported by familiar models and images to reinforce understanding. When teaching a new strategy it is important to start with numbers that the child can easily manipulate so that they can understand the concept.

The transition between stages should not be hurried as not all children will be ready to move on to the next stage at the same time, therefore the progression in this document is outlined in stages. Previous stages may need to be revisited to consolidate understanding when introducing a new strategy.

A sound understanding of the number system is essential for children to carry out calculations efficiently and accurately.

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By the end of year 6, children will have a range of calculation methods, mental and written. Selection will depend upon the numbers involved. Discussing the efficiency and suitability of different strategies is important.

Remember that the expanded methods are perfectly good ways of working out an answer if the children feel more comfortable and therefore find it easier. They give the same answer and it can often be quicker if they are confident about what they are doing.

These methods are very useful when children are extending their work, for example to numbers involving decimals.

Children should not be made to go onto the next stage if:

- they are not ready.
- they are not confident.

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<u>Mental calculation</u>

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Developing confidence and efficiency in mental calculations is a vital part of Maths teaching throughout Key Stage 2.

Regular practice of number facts is important both at school and at home. Any opportunities to practise are very useful, for example through **real life situations** such as shopping as well as activities such as games.



The children would greatly benefit from knowing key number facts by heart and recalling them instantly (e.g. number bonds to 20, tables).

There are many useful games on the internet which give children chance to practise number facts and mental calculations.

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Multiplication Facts

Remember that truly **knowing** tables is not the same as just being able to count up in steps of a given number or being able to recite the table.

Really knowing a table means that the children can instantly tell you any fact up to 10x. It also means knowing the corresponding division facts.

For example, a child who knows the 3x table well would be able to answer questions like these with very little hesitation:

9x3, 7 lots of 3, 3x4, 18÷3, how many 3s in 24?

As the children get more confident they should also have strategies for using known facts to help them work out other facts and also to work with larger numbers or decimals.

e.g. I know 5x3 is 15, so I can work out 50x3, 5x30, 150 ÷5, 500x3, 50x30, 5x0.3, 150 ÷30...

A suggested order for learning tables:

2x, 10x, 5x, 4x *(double 2x)*, 3x, 6x (double 3x), 9x, 8x, 7x

Just a few minutes a day could make a real difference to your child's confidence with number.

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<u>ICT links</u>

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There are many useful games on the internet which give children chance to practise number facts and mental calculations.

Useful sites include:

<u>www.topmarks.co.uk</u> select Games, 7-11 then category e.g. addition and subtraction

www.woodlands-junior.kent.sch.uk/maths

<u>www.bbc.co.uk/schools/ks2bitesize/maths</u> (particularly useful for Y6)

www.bbc.co.uk/schools/digger (select 7-9 or 9-11)

www.channel4learning.com/sites/puzzlemaths

<u>www.ictgames.com</u> (select numeracy - designed for infants but some useful games to practise basic number facts)

www.mad4maths.com

www.counton.org/games

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<u>www.primaryinteractive.co.uk/maths</u> (includes an easy link to Moon Maths for tables practice)









































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?

* Should I use a calculator? (only if is necessary with the numbers involved)



Also help your child to estimate and then check the answer. Encourage them to ask...

Is the answer sensible?