



Developing Maths at Cliffe Hill Primary School



*A parents' guide to the Cliffe Hill
approach to teaching maths...*

Developing Maths at Cliffe Hill School

At Cliffe Hill School, mathematics is perceived as a vital life skill as well as an academic pursuit. We aim to develop children who have mathematical fluency and children who confidently and successfully undertake mathematical activities both in the classroom and the world beyond.



We aim to develop mathematically able pupils who.....

- ❖ can apply their mathematical knowledge to solve problems, including those with real-life contexts, by choosing the appropriate operations*
- ❖ can estimate the approximate size of the answer to check the reasonableness of their calculations*
- ❖ leave primary school with an efficient, reliable, compact written method of calculation for each operation*
- ❖ develop a range of mental calculations strategies, aided by informal jottings where necessary*
- ❖ are confident in the fundamentals of maths and be able to reason mathematically*
- ❖ understand the importance of mathematical skills in everyday life*

The Maths Curriculum

At Cliffe Hill School, maths teaching contributes to the acquisition of life-long skills and promotes enjoyment and enthusiasm for learning through practical activity, exploration and discussion

We use a range of approaches to engage pupils and help them develop a love of maths.

Problem Solving

We are committed to ensuring that pupils have plenty of opportunities to apply their mathematical knowledge and skills. We regularly give the pupils open-ended investigations and problems to solve. Often this involves working alongside others so that they are encouraged to use mathematical language and explain their reasoning.

Mental Maths

Regular mental maths sessions help children to develop strategies for calculating quickly and encourage logical use of previously learnt facts.



Kung Fu Maths

Kung Fu Maths is a whole school, number facts challenge. It begins with reading, counting and writing numbers at Stage 1 and finishes with algebra and percentages at Stage 3. Pupils begin working at Stage 1 when they join in nursery and work through the skills until they complete the challenging Stage 3.

Maths Events

Over the school year we hold maths events to excite and inspire pupils. Such events include visits from the Happy Puzzle Company and the inter-school Maths Quiz Club, which we are looking forward to hosting in Autumn 2015.

Practical Resources

There are many hands-on, practical resources in school which can support pupils in their understanding of mathematical ideas. From counting support, such as Numicon, all the way to board games and measuring equipment; there is something for all ages, abilities and topics.

Mathletics

Mathletics is an engaging and exciting way for pupils to develop their mathematical skills. Through a range of online activities and games they can become confident mathematicians. At the same time they will be earning credits so that they can create their avatar and collect points towards certificates which are kept in the Award Café.

Cross-curricular Maths

We surround pupils with maths as much as possible so we take the opportunity to bring mathematical ideas into other lessons. Shape can be covered in art lessons, statistics is linked to ICT and geography and measures are used frequently in DT.

Mathletics

We have purchased a school subscription to Mathletics (www.mathletics.co.uk), a website designed to improve and reinforce maths skills in an inspiring and engaging way. Each pupil has been provided with a username and password which they can use at home as well as at school. To be most effective it is recommended that pupils use the website at least 3 times a week for 20 minutes. We give pupils the opportunity to log on at school but we would encourage them to use it at home as well.

There are plenty of activities for pupils to test themselves and practice skills learnt in lessons. Sometimes the teacher may set a task that is related to a topic that has just been covered and the children can complete these at home or at school. As well as this there are games and Live Mathletics where they can play against children from all over the world.

For use at home, the pupils can log on through the internet if they have a PC or laptop. If they are using an ipad, they will need to have the Mathletics Student App, which is free to download (unfortunately this app is not currently available for iphones).

Pupils thoroughly enjoy Mathletics sessions at school, always asking for extra time to log on. We hope that this new programme can help them become confident mathematicians whilst having lots of fun.



Kung Fu Maths

Kung Fu Maths is a whole school target system, which focuses on mental maths. Every child, from Nursery to Year 6, has a 'belt' which they are working towards. There are three stages and each one is broken down into a bronze, silver and gold set of belts. When pupils enter Nursery, they begin with learning to count to 5, and by the time they leave in Year 6 they will have a secure understanding of times table facts, fractions and algebra.

Pupils are given the opportunity to show that they have met their target at least once a week. This will be either through games and group work with an adult (Stages 1 and 2) or a timed test (Stage 3).

At the end of each bronze, silver and gold set the pupils are tested on everything they have learnt within that set (this is the 'Black belt'). When they succeed they will receive a badge and certificate in Star of the Week assembly.

Kung Fu Belts: Stage 1

			
purple	Count to 5	1 more within 10	1 more within 20
grey	Count to 10	+ facts within 5	Write nos. to 20
white	Count 5 objects	1 less within 10	Count back from 20
yellow	Count back from 5	- facts within 5	Count in 10s to 100
orange	Read and write nos. 0 to 5	+ facts within 9	1 less within 20
red	Count 10 objects	Count to 20	Count in 2s to 20
green	Count back from 10	Count in 2s to 10	Number bonds to 10
blue	Read and write nos. 0 to 10.	- facts within 9	Count back in 10s from 100 to 0
brown	Order nos. to 10	Order nos. to 20	Doubles to 6 + 6
black	All of the above	All of the above	All of the above

Kung Fu Belts: Stage 2

			
purple	+ and - facts to 12	Count in 5s to 50	$\div 10$
grey	Count on and back to 30	+ and - facts within 18	+ and - 10 within 100
white	Doubles to 10 + 10	+ 10 to any number within 30	$\div 2$
yellow	Count in 2s to 30	Count in 5s to 100	Pairs of multiples of 10 totalling 100
orange	Count on and back in 1s within 100	Doubles of numbers to 12+12	Count in 3s to 30
red	Read and write any 2 digit number	$\times 2$	+ and - multiples of 10 to any two-digit number
green	+ and - facts within 15	- 10 from any number within 30	$\div 5$
blue	Halves of nos. within 20	Number bonds to 20	Doubles of multiples of 5 to 50
brown	$\times 10$	$\times 5$	Halves of nos. within 24 and multiples of 10
black	All of the above	All of the above	All of the above

Kung Fu Belts: Stage 3

			
purple	$\times/\div 10$	$\times/\div 10$	10/100/1000
grey	$\times/\div 2$	$\times/\div 2$	$\times/\div 7$
white	$\times/\div 10$ and 2	$\times/\div 5$	$\times/\div 8$
yellow	$\times/\div 5$	$\times/\div 4$	$\times/\div 9$
orange	$\times/\div 4$	$\times/\div 3$	Square numbers
red	$\times/\div 5$ and 4	$\times/\div 6$	Fractions
green	$\times/\div 3$	$\times/\div 7$	Percentages
blue	$\times/\div 6$	$\times/\div 8$	Algebra
brown	$\times/\div 3$ and 6	$\times/\div 9$	Brackets
black	All of the above	All of the above	All of the above

In stage 3 the bronze tests ask for basic multiplication and division facts for up to $12 \times$ the number (e.g. 3×4 , $55 \div 11$). The silver and gold tests require children to apply the basic facts to more difficult calculations (e.g. $630 \div 9$ – silver, 63×8 – gold).

Calculation Policy

Our calculation policy was updated in September 2014 to ensure that pupils are secure in formal written methods for all operations by the time they leave in Year 6. It is reviewed frequently.

So that pupils understand the math behind the calculations they are doing, we start with jottings in Reception and gradually introduce more complex ideas and different methods as they move through the school. Each method links to the next and they become more efficient as they progress.

Please refer to the Calculation Policy, which is available to download on the school website ([click here](#) and go to 'Information', followed by 'Policies'). If you have any questions, or would like to go through some examples of the methods, please do not hesitate to contact your child's class teacher or Miss Malone, the maths leader.

Useful Websites

These websites have some excellent games and revision aids which pupils can use at home, learning whilst having fun.

www.mathletics.co.uk (pupils will need their personal login, as provided by school)

www.crickweb.co.uk/ks1numeracy.html

www.woodlands_junior.kent.sch.uk

www.crickweb.co.uk/ks2numeracy.html

www.bbc.co.uk/bitesize/ks2/

www.mathszone.co.uk

www.primarygames.co.uk

www.fractionmonkeys.co.uk

www.transum.org (aimed at KS2 only)

www.ictgames.co.uk

If your child finds any other websites or apps which they enjoy using please let Miss Malone know so that we can spread the word!

How You Can Help

Mathletics

Encourage your child to log on and earn some Mathletics points – they should be completing the activities as well as playing Live Mathletics.

Kung Fu Maths

Ask your child what their Kung Fu Maths target is and help them practise and learn their number facts so that they are ready for their next test.

Homework

Homework given to your child will be based on topics recently covered and will help them remember and retain the knowledge and skills. Please make sure they complete homework and that the teacher knows if they have found it difficult.

Maths Websites

*Give your child opportunities to use the maths websites (listed above) and support them in understanding how to use the activities available to them.
(Some games might even be 2 player so join in and have a go!)*

Please do not hesitate to speak to your child's class teacher if you wish to discuss anything, although please remember that class teachers are busy at the start of the school day and problems cannot be resolved in front of a class.

Alternatively please contact the school office to make an appointment with the teacher, Miss Malone, Mrs Lomas or Mrs Craven.