How we teach Maths at Clifton:

Curriculum Intent

Our vision is for all pupils to be confident about their mathematical ability and understanding. We want them to be able to: reason about their maths; develop their conceptual understanding, problem solving and fluency; become 'deep thinkers' where they acquire maths skills that can be recalled quickly and transferred and applied in different contexts and develop their mathematical curiosity so that they appreciate the beauty and power of mathematics.

Curriculum Implementation:

What is White Rose Maths?

At Clifton Primary School we have adopted The White Rose Hub (WRH) Schemes of Learning (SOL) . These outline yearly frameworks that break down what children need to learn during each week of each term to master the learning objectives laid out by the Mathematics National Curriculum. All resources are aligned with the White Rose Maths frameworks and are designed to be enjoyable, engaging and varied, to help pupils develop a love of learning and work towards mastery.

What defines White Rose Maths more than their resources and frameworks is their approach to teaching maths. At the heart of their resources and frameworks is the motto:

"Everyone Can Do Maths: Everyone Can!"

— a slogan Clifton Primary School wholeheartedly agrees with!

By adopting the White Rose Maths approach to teaching mathematics, means we make sure all children have the same opportunities to learn and the support they need to fully grasp concepts.

The philosophy behind White Rose Maths also focuses on making maths fun for children and helping them to find enjoyment in number problems. Because when children are engaged in learning and enjoying maths, **that's when lessons really sink in and deep learning happens.**

"Brain research tells us that when the fun stops, learning often stops too. " Judy Willis, 2007 (The Neuroscience of joyful education)

Why Take a White Rose Maths Approach to Teaching?

By using White Rose Maths frameworks and guidance to adopt **a maths mastery approach, we help all children achieve excellence in mathematics**. **No pupils are considered 'low ability' or allowed to feel like they 'can't do maths'**. Instead, a positive 'can-do' attitude is encouraged and children are taught to enjoy working with numbers. Adopting a White Rose Maths approach is about building a deep understanding of topics, helping our children become confident mathematicians who embrace mathematical challenges with a smile.

The White Rose Maths yearly frameworks outline which topics are covered and when and by revisiting topics to encourage fluency, the whole class will progress at a similar pace, closing the attainment gap.

How to Use White Rose Maths to Enhance Children's Learning

Using White Rose Maths enables teachers plan for and children make small steps to progression. The Schemes of Learning make sure topics are introduced to children in a logical order and revisited throughout the year to encourage deep learning and ensure children have the foundational knowledge they need, before moving on to more advanced maths concepts and tackling more challenging number problems.

Curriculum Impact

Throughout each lesson formative assessment takes place and feedback is given to the children through marking and next step tasks to ensure they are meeting the specific learning objective. Teacher's then use this assessment to influence their planning and ensure they are providing a mathematics curriculum that will allow each child to progress. The teaching of maths is also monitored on a termly basis through book scrutinies, learning walks and lesson observations. Each term children from Year 2 and above (Year 1 in their Summer Term) complete a summative assessment to help them to develop their testing approach and demonstrate their understanding of the topics covered. Key Stage 1 use a combination of observations, informal questioning and SATs papers (Year 2) whilst Key Stage 2 use NFER tests and SATs papers (Year 6.) The results from both the formative assessment and summative assessment are then used to determine children's progress and attainment.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils'

understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, through additional practice, before moving on.

Fluency and Understanding in Number

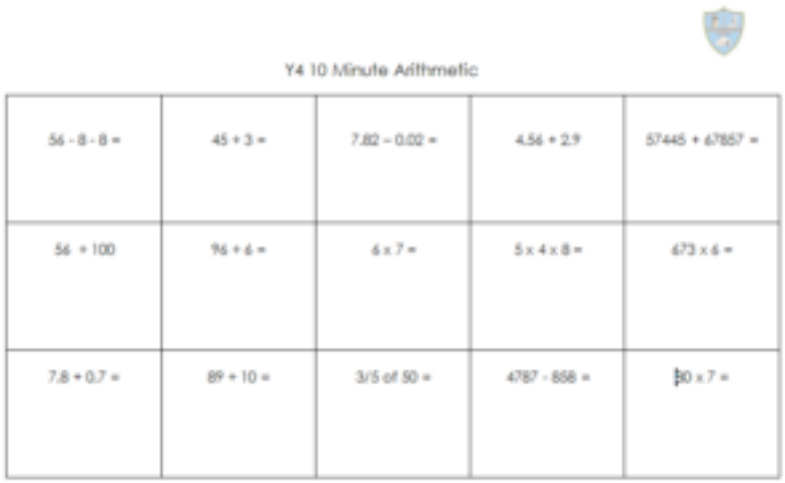
At Clifton Primary School, we strive for our children to be successful and proficient mathematicians. The reason for this is simple: Maths is all around us and we use it in our everyday lives. We use maths when we are baking, when shopping, whilst driving, when solving problems. We use maths when we are drawing, when building, whilst waiting for the bus and when going on holiday. We even use maths when we don't even realise it. Therefore it is essential that we enable our children to be successful in this subject.

How do we help our pupils to become successful mathematicians?

In order for a child to be successful (either personally or academically) they must practise. This is true of any mathematician. Frequent practise will enable children to have a secure understanding and enable them to recall facts quickly and fluently so that they can apply them in many different contexts.

In light of this, we do daily arithmetic sessions so children become fluent in number. The aim of these sessions is to enable children to practise number facts in order to improve the speed of their recall. We believe that over learning number facts will also enable our children to be secure enough to apply their knowledge in a range of contexts.

These sessions usually last for 10 minutes a day and take place before the maths lesson. They involve singing and chanting number facts, rapid recall of number bonds or times tables and arithmetic questions in line with their year group expectations.



Y4 10 Minute Arithmetic

56 - 8 - 8 =	45 + 3 =	7.82 – 0.02 =	4.56 + 2.9	57445 + 67857 =
56 + 100	96 + 6 =	6 x 7 =	5 x 4 x 8 =	673 x 6 =
7.8 + 0.7 =	89 + 10 =	3/5 of 50 =	4787 - 858 =	80 x 7 =

How can you help your child to become fluent mathematicians?

Have fun on: TimesTables RockStars

When it comes to times tables, speed AND accuracy are important – the more facts your child remembers, the easier it is for them to do harder calculations. Times Table Rock Stars is a fun and challenging programme designed to help students master the times tables! To be a Times Table Rock Star you need to answer any multiplication fact up to 12×12 in less than 3 seconds!

Encourage them to practise their number facts in fun and practical ways. For example, counting pairs of socks, playing games with dice where they have to use the number bonds, sing number songs (a range of which can be found on U Tube) or play ICT games on the internet such as 'Hit the Button'. See the list of online resources on our website. We also use Mathletics.

Mathletics

Success is different for every child. For some, it's getting to the top of the class; for others, it's finding an answer on their own. Mathletics provides a safe, encouraging learning environment that provides the right level of challenge to help your child grow, gain confidence, and achieve their best.