Maths

INTENT

What Maths looks like in our school:

- At Clifford Primary School we take a mastery approach to Maths.
- Lessons are delivered in small steps with high quality modelling and scaffolding from the teacher.
- Children are given the opportunity to explain their maths verbally, with concrete materials and represent their Maths pictorially in a variety of ways
- We develop fluency skills through daily practice
- Children solve mathematical problems, develop fluency and have lots of opportunities for reasoning, to ensure they have a deep understanding
- A long-term plan has been written, based around the National Curriculum. It ensures there is progression of skills and children have the opportunity to revisit
- Maths is delivered in a fun and inspiring way
- We have high expectations for all children

End of EYFS:

Number:	**Shape and Measure**
Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.	Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

End of KS1

Number: ***CPA: concrete, pictorial and abstract***	**Shape and Measure**
Be confident with whole numbers to 100, understanding place value; numerals and words. Count in ones, twos, fives and tens forwards and backwards Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20 Solve problems **using the four operations**; add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17), *demonstrate an understanding of commutativity as necessary* Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems Identify 1/4 , 1/3 ½, 2/4 and ¾ of a number and know that all parts must be equal parts of the whole Use different coins to make the same amount	Read the time on a clock to the nearest 15 minutes Name, describe properties, draw, compare and sort different 2-D and 3-D shapes and use the related vocabulary, including number of sides, vertices, edges, faces and lines of symmetry. Be able to describe and compare different quantities such as length, mass, capacity/volume, time and money. Read a scale in the form of a number line or a practical measuring situation. Identify 1/4 , 1/3 ½, 2/4 and ¾ of a shape and know that all parts must be equal parts of the whole

End of lower KS2:

Number:	**Shape and Measure**
Be confident and fluent with whole numbers, including number facts and place value up to 1000.	Analyse shapes and their properties, and confidently describe the relationships between them, draw with accuracy and develop mathematical reasoning

Memorise multiplication tables up to and including the 12-multiplication table and show precision and fluency in their work. For all four operations develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. Solve a range of problems, including with simple fractions and decimal place value.	Use a variety of measuring instruments with accuracy and make connections between measure and number

End of lower KS2:

Number	**Shape and Measure**
Pupils extend their understanding of the number system and place value to include larger integers. Pupils should make connections between multiplication and division with fractions, decimals, percentages and ratio Pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation Use the language of algebra as a means for solving a variety of problems	Classify shapes with increasingly complex geometric properties and learn the vocabulary they need to describe them. I can find the area and perimeter of a shape Convert different measurements

IMPLEMENTATION

This is how it works:

- Teachers plan a unit of work from the school's long-term plans and the evidence they gained from the cold task that children complete at the beginning of the unit
- Key words and mathematical prompts are displayed on the working walls and in the children's books at the beginning of each topic.
- Teachers plan for lots of opportunity for variation to ensure there is a deep understanding of each teaching concept
- Children are given lots of opportunity for partner talk to explain their Maths
- Apparatus, pictorial representation and abstract explanations are used in all years
- Pre and post teaching are used daily to support children to be ready for the next lesson
- A separate mental maths session of 10 mins each day is used to improve fluency of number bonds, timetables, doubling and halving and the 4 operations
- Teachers adapt their planning for the needs of the children and the children learn from their own mistakes
- Teachers are always positive and supportive to all learners, giving extra support and challenge when needed
- More able pupils are stretched through reasoning and problem solving

- Teachers use NCETM, NRICh, Maths of the Day and white Rose Hub to support their planning
- Children are given a hot task and 'check-up test,' at the end of each unit to show off their understanding
- Maths is made fun

Interventions
Teachers use assessment to identify children who need extra support through pre or post teaching or a separate intervention on top of their Maths lesson.

IMPACT

This is what you might see in a typical lesson:
Children talking about their Maths
Happy, engaged and motivated learners
Children persevering through their Maths, using the working walls, apparatus and talking partner to support them when needed
A range of different activities: in and out of the classroom
Children having the opportunity to play mathematical games, solve difficult problems and be active in Maths

How do we know how well children are doing in Maths in Clifford Primary School?
Pupil tracking
Pupil progress meetings
Book Scrutiny
Teacher assessment, marking and feedback
Pupil interviews
Working walls/ display of children's work
Moderation

The Impact of the teaching
Confident children who can talk about Maths
Good mathematical vocabulary
Children that have an understanding of all 4 operations, appropriate to their age
Children that can use maths in other areas of the curriculum
Children ready for their next stage in learning