TANKERSLEY C of E (A) PRIMARY SCHOOL

MATHS POLICY

"A love of learning in a Christian environment"

We aim high and have self-belief

We have community spirit

We are enterprising

We have enquiring minds

We are respectful

Updated September 2020

Next review September 2022

TANKERSLEY ST. PETER'S PRIMARY SCHOOL MATHEMATICS POLICY

Our policy outlines the aims, organisation and management for the teaching and learning of mathematics at Tankersley St. Peter's Primary School.

Our Vision

At Tankersley St Peters, our vision for mathematics ensures every pupil is taught a broad, balanced, engaging and relevant curriculum that takes into account the requirements of the National Curriculum. Our mastery approach curriculum ensures that every child can achieve excellence in mathematics, fosters positive and confident attitudes and develops a 'can do' attitude in our children. Using a wide range of models, visual manipulatives and practical resources, we develop a deep conceptual understanding alongside procedural fluency.

Using the White Rose Maths Hub documents, our teachers ensure that mathematics is taught progressively and builds on prior learning, using year group concepts and objectives. We have sequenced our curriculum to build children's depth of understanding when teaching each mathematical skill and our children are given many opportunities to consolidate prior knowledge.

Intent

We believe that all our children should have:

- A deep understanding of maths and number.
- A positive and resilient attitude towards mathematics.
- Competence and confidence in mathematical knowledge, concepts and skills.
- An ability to solve problems, to reason, to think logically and to work systematically and accurately.
- A range of learning strategies: working both collaboratively and independently.
- Fluency in mathematics where our children can express ideas confidently and talk about the subject using mathematical language.
- An understanding of the importance of mathematics in everyday life.

Our maths curriculum aims to ensure that all our children:

- Become fluent in the fundamentals of mathematics through placing number at the heart of our curriculum with daily practice to ensure fluency of number facts
- Reason mathematically through ensuring discussion plays a vital role in all lessons; children are actively encouraged to discuss with peers and teachers, 'how and why' using mathematical language.
- Can solve problems by ensuring problem solving is embedded in lessons and variation of questions are used to enable children to apply their knowledge to different situations.

- Are challenged, which is built into lessons for children who grasp concepts rapidly through sophisticated problems.
- Can attend same day intervention, which is provided for children who are not sufficiently fluent to consolidate their understanding.

Here at Tankersley Primary School we use a **'maths mastery'** approach based on the National Curriculum.

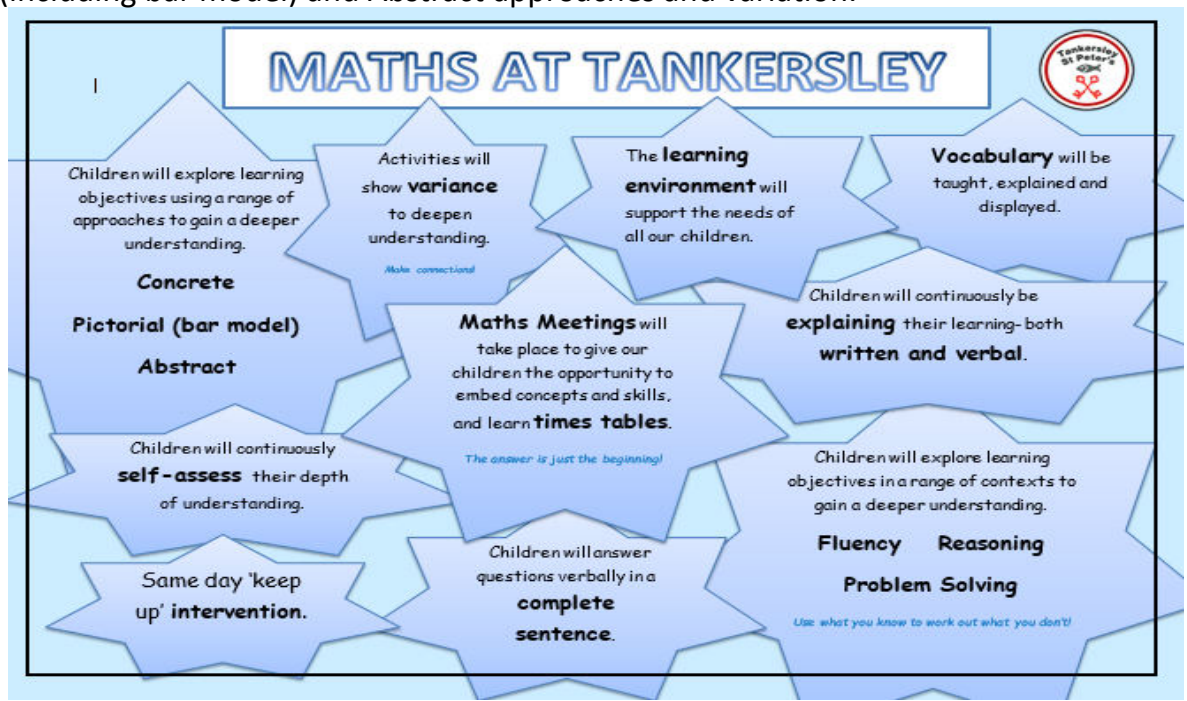
Our Maths Mastery approach allows children to master maths, which means acquiring a deep, long-term and secure understanding of the subject. It embeds a deeper understanding of maths by using a concrete, pictorial and abstract approach so that pupils understand what they are doing rather than just learning to repeat routines without grasping what is happening.

Our children are provided with various opportunities (variance) to apply fluency skills to a broad range of problem solving and reasoning tasks. Talk for Maths is an important approach for us which allows children to explain their mathematical learning at every opportunity and therefore gain a deeper understanding.

As with other areas of the curriculum, assessment is continuous. From the beginning of every lesson, teachers will be assessing what pupils are, or are not understanding, and next steps for learning. Interventions are planned, meaning that misconceptions are dealt with immediately and higher attaining pupils are given many opportunities to deepen their understanding.

Implementation

Our teachers ensure that mathematics is taught every day using year group themes and objectives from the *'White Rose Maths Hub'* documents to develop our children's mathematical knowledge, understanding and fluency. Activities cover a wide range of mathematical knowledge, many with an emphasis on practical work and applying skills Each sequence is taught using small steps with many opportunities given for Concrete, Pictorial (including bar model) and Abstract approaches and variation.



Maths Meetings take place daily to deepen fluency. Questions are planned carefully to ensure depth of understanding. Same day Maths Interventions take place to help children to practice tricky concepts and post teach mathematical gaps- *keep up, not catch up.*

Our pupils are encouraged to be confident in maths and to apply the skills that they learn to problem solving and reasoning using the motto… *use what you know to find out what you don't*.

Children continue to develop place value, the four number operations and the understanding of fractional parts as they journey through school.

We give children as many opportunities as possible to explain their learning- verbally, pictorially and written. Children are expected to answer questions in a complete sentence to develop depth of understanding and reinforce key vocabulary.

Children are expected to be fluent in all times tables and number bonds/relationships by the end of year 4. Children can practice their times tables at home on the interactive TT Rock Stars website.

Countdown morning maths aids retention in key mathematical concepts. Children complete a maximum of 10 maths questions on the board first thing each morning. These are pitched using age related objectives and include at least one of each of the 4 operations + - x ÷, x tables and also fluency, word type problems and reasoning.

Questions are completed promptly and marked together as a class (with some questions picked out for clarification /misconceptions).

<u>Our Learning environment</u>

It is important to us that the classroom environment supports both the teaching and learning of mathematics and that it meets the needs of all our learners.

We strive to provide a mathematically stimulating environment through the use of working walls to support teaching and learning, interactive displays that promote thinking, explaining and discussion, sharing children's work that celebrate achievement and providing a range of resources for teaching and learning.

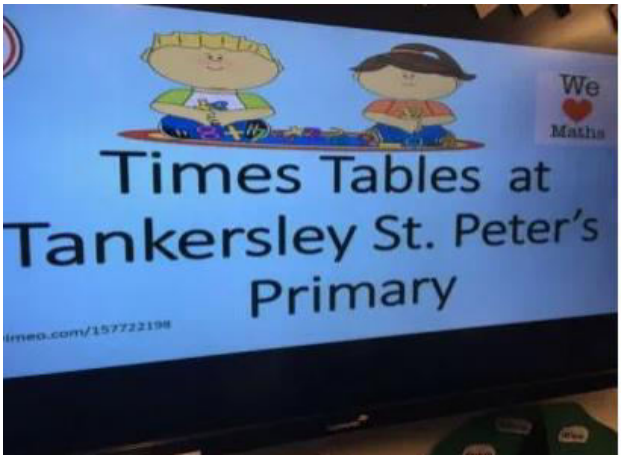
In every classroom written calculations posters for the 4 operations are on display. These posters model the written calculation procedure.

In every classroom resources such as learning walls, vocabulary, WAGOLLS, use what you know to work out what you don't slogan, number lines, 100 squares, place value charts, multiplication tables are accessable for whole class, group or individual work.

We also ensure that Maths displays are outside the classroom environment, for example on the corridors and communal areas.

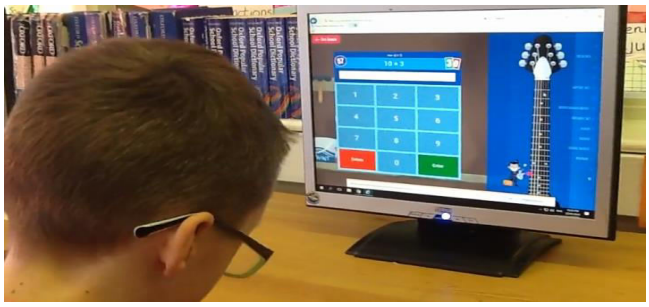
Maths Ambassadors/ Times Table Buddies

Our marvellous year 6 Maths Ambassadors enjoy supporting all classes in our school every half term. They enjoy explaining their learning to other children whilst at the same time supporting other children as well as deepening their own understanding. Our Maths Amassadors also support at our workshops for parents such as the progression in written calculations and times tables.



Homework

We recognise the importance of making links between home and school and encourage parental involvement with the learning of mathematics. Homework provides opportunities for the children to consolidate their knowledge and skills, as well as develop their understanding. It also gives our children many opportunities to share their mathematical learning with their family.
My Maths and TT Rock Stars is an online interactive homework tool we use for homework.



Cross Curricular links

Many cross curricular links are made through mathematice here at Tankersley. For example problem solving activities may link to the termly topic.

Equal opportunities and inclusion

We ensure equal access for all children to the curriculum. Our staff plan activities so that all our children are able to develop their knowledge, skills and understanding in the subject. This may include adapting teaching, objective outcomes and content in the lessons to suit different learning styles and abilities. Our curriculum will meet the current learners in the cohort and adaptations are made where necessary. Accessibility to the curriculum is always prioritised - visual aids, scaffolding, specialist equipment and other learning prompts are planned in where needed.
We recognise that children have a wide range of abilities and ensure that we provide suitable learning opportunities for all our children by matching the challenge of the task to the ability of the child. We achieve this in a variety of ways:

- setting tasks which are open-ended and can have a variety of responses
- using variation
- providing a wide variety of resources and aids

Can you help Tranio and Livia solve this problem using long division?

If Tranio and Livia share 6516 rugs with 12 Pompeli citizens, how many rugs will each citizen get?

Impact and Assessment, Recording and Reporting

- Children demonstrate a deep understanding of maths. This includes the recollection of the times tables.
- Children display a positive and resilient attitude towards mathematics.
- Children show confidence in believing that they will achieve.
- Each child achieves objectives (expected standard) for their year group.
- The chance to develop the ability to recognise relationships and make connections in maths lessons.
- Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems.

Assessment is rigorous and is used to inform teaching in a continuous cycle of planning, teaching and assessment.

Day-to-day assessments

As part of the ongoing teaching and learning process, teachers assess children's understanding, achievement and progress in mathematics. Assessment may be based upon observations, questioning, informal and formal testing, on the spot, incisive feedback and the marking and evaluation of work. This will inform day-to-day teaching and learning and provide feedback to children. Our children are also be taught to assess and evaluate their own achievements by recognising successes, learning from their own mistakes and identifying areas for improvement. Our children self assess their maths work by completing a learning line before and after the lesson as well as completing an end of teaching sequence challenge in KS2. Teachers use a

variety of AFL strategies to assess learning, attainment and progress.

Formal assessment

Formal assessments take place termly. Teachers assess mathematical themes taught during the term using the Maths Mastery assessments. These assessments allow us to analyse gaps in learning and to analyse attainment- are the children at national expectations, above national expectations or below (based on the end of key stage thresholds). We also use the EMAG tool (EYFS) to track attainment and progress. Year 2 and Year 6 also assess against the end of key stage standards. This data is fed back to the Head teacher at pupil progress meetings where attainment and progress from prior starting points are put into the school tracking system/matrices and target groups are set.

Marking

We ensure that our marking provides positive feedback about the achievements and progress made. Children are encouraged to reflect on the feedback using a green 'polishing pen' and to explain their learning at every opportunity. Incisive feedback is provided throughout the lesson so that all our children are aware of their successes, any misconceptions, and targets to move their learning forward. We use the TS (teacher support) symbol as evidence when a child has needed support.

Developing and Monitoring and Subject in the Spotlight

As part of the school's drive to ensure all subjects are given equal status and to provide a broad and balanced curriculum the school has a 3 year subject overview as part of the **Subject in the spotlight**. This involves each subject lead developing a 3 year action plan for their subject area and monitoring the subject across school through work scrutiny, developing policy, keeping a portfolio of subject progression and celebration in the subject as well as dedicated time for whole school display.

Maths is developed and monitored through: staff development and training, book and work scrutiny, lesson observations, learning walks and paired enquiry. These are carried out by the Senior Leadership Team, subject lead and staff.

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