



Kirkstall St. Stephen's

Maths Policy

December 2022

KIRKSTALL ST. STEPHEN'S PRIMARY SCHOOL
MATHS POLICY

Contents

Mission statement

Our vision

Our ethos statement

Intent

Objectives

Lesson Structure across Years 1 -6

Equal Opportunities

Special Educational Needs

Provision

Assessing and Reporting Arrangements

Cross –curricular links

Resources

Agreed Principles for Mathematics

Role of Governors

Staff Responsibilities

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

Monitoring, Evaluation and Review

KSS School Mission Statement

We are cherished, we are challenged, we are children of God

Our Vision

We are cherished – we aim to create a caring environment where all children and staff feel welcome, valued, supported and respected. We are challenged- through a stimulating and challenging learning environment, where achievements are recognised but it is also safe to fail, increasing our resilience. We are children of God – we recognise the value of each and every individual, encouraging everyone’s unique spiritual development and potential.

Our Ethos Statement

Our school ethos is represented by the KSS Values Tree; showing children’s growth as a tree planted firmly into God’s sustaining love and rooted in our school values of trust, justice, perseverance, respect, thankfulness and forgiveness.

This is based on Psalm 1:3: “They are like trees that grow beside a stream, that bear fruit at the right time, and whose leaves do not dry up. They succeed in everything they do.”

Intent

At Kirkstall St Stephen’s we believe Maths is at the heart of everyday life. It helps us make sense of our world. Mathematics provides us with tools to tackle real life problems, communicate information and develop skills, which are essential in most areas of the curriculum. At KSS, we want to foster an environment in Maths that encourages questioning at every stage of a child’s learning journey. Reasoning skills are embedded from Reception as children are taught to explain clearly how they have tackled a problem and why they have used a particular strategy with clear modelling of stem sentences and vocabulary used by our teachers. We do this using the Mastery approach to teaching and learning maths. Our KS1 teachers have entered their second year of the Mastering number programme where they continue to develop tools and strategies to equip our children with the best building blocks to become fluent in key facts as they enter KS2. We strive to unlock a passion for Maths by the time our children reach Year 6 and with a growth mind set approach, encourage children to believe that they can achieve in maths and develop a lifelong love of the subject. This will give them a good foundation in Maths so that, when they move to secondary school, they will have developed a positive approach to the subject which should help to ensure success at both KS3 and GCSE.

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

Mathematics is an integral part of everyday life. It helps us make sense of our world. Mathematics provides us with tools to:

- Tackle real life problems
- Communicate information
- Develop skills which are essential in most areas of the curriculum

Mathematics should be taught across the curriculum to develop pupils' mathematical fluency. This policy describes how Kirkstall St Stephen's intends to meet the needs of learners of all ages. In the first instance, this will be through working within the Early Years curriculum. From Y1 to Y6 statutory requirements of the National Curriculum in Mathematics will be met by fully implementing the National curriculum objects through the use of the White Rose Maths Hub's Mastery planning documents alongside daily sessions in Reception, Years 1 and 2 as part of the NCTEM Mastering Number programme.

This policy is intended to be read in conjunction with the calculation policy which illustrates strategies and methods outlined in the national curriculum and that are taught from Reception to Year 6. Through fully adopting the mastery approach of Maths hub, all pupils are encouraged by the belief that by working hard at maths they can succeed.

Objectives

The national curriculum identifies three main aims in the primary phase:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can **solve problems** by **applying their mathematics** to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Through combining the national curriculum aims and the Maths Hub Principles our objectives are:

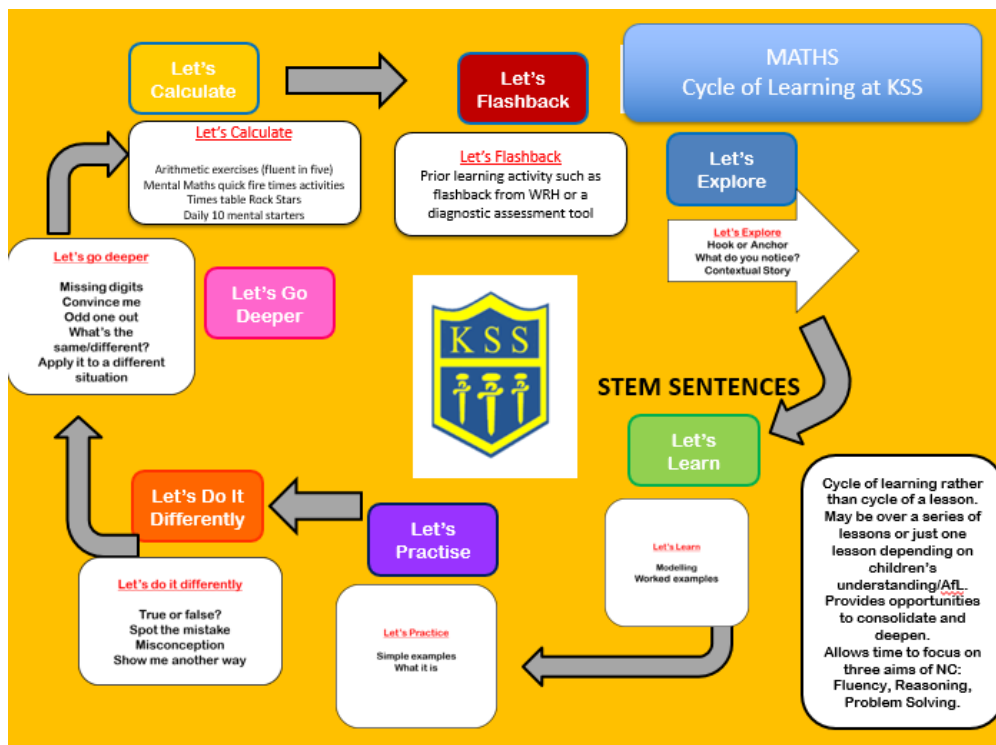
- Children will be taught in discreet year groups
- Children in each year will be sat in mixed ability seating. In line with the aims of the National Curriculum, differentiation has now moved to focus on all children achieving the same learning outcome and differentiation is the way that groups of children are supported to achieve this.
- Work is carried out using a balance of individual, paired and group work.

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

- A high proportion of lesson time is devoted to direct teaching of methods and vocabulary through modelled examples to ensure that the children are fully confident to tackle individual tasks.
- Manipulatives are used across all classes and the children are able to access various manipulatives during all Maths lessons.
- Concrete, pictorial and abstract representations are chosen carefully to help build procedural and conceptual knowledge together.
- Pupils’ difficulties and misconceptions are identified through immediate formative assessment and addressed with rapid intervention – commonly through individual or small group support later the same day.
- A high priority is placed on children reasoning and explaining their strategies.

Lesson Structure across Year 1 -6

As seen below each class will follow the cycle of learning. It should be evident what stage each class are working on when entering the classroom during a Maths session. It is important to note that a full cycle may not be completed in one lesson but a series of lessons, allowing opportunities to consolidate and deepen children’s understanding. Teachers may choose to complete additional ‘Let’s Calculate’ challenges every lesson to help develop children’s key skills.



This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

Equal Opportunities

All pupils receive a high quality Mathematics education regardless of background, culture or ability. To achieve this we use our knowledge of the children's level of attainment in Mathematics to enhance our teaching.

Our knowledge of learners is gained by:

- Continually monitoring and assessing pupil progress to ensure that all tasks set are appropriate to each child's level of ability; offering challenge to extend and develop their abilities.
- Planning work for all children including those with special educational needs and disabilities, giving due regard to information and targets contained in the children's support plans.
- Use of technology to support children with special educational needs and disabilities using targeted Apps and programs.
- Close liaison with parents and all members of staff who are partners in the learning process.
- Feedback from pupil intervention.

Special Educational Needs

Children with special education needs will be carefully monitored by the school's SEND coordinator who will regularly meets with teaching staff and support in assessing pupils and creating support plans.

Provision

Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through timetabled lessons based upon carefully planned activities informed by teachers' prior assessments. Lessons include a wide range of manipulatives and strategies such as number lines, number squares, digit cards, bar models, part whole models and place value charts. Wherever possible, we encourage the children to use and apply their learning in everyday situations. Our calculation policy clearly outlines the methods to be taught at different stages. The curriculum overview details when specific concepts will be taught. The progression map outlines the skills taught broken down into each year group. All of these documents are available on our website.

The children's progress will be monitored throughout the year. Any children who are not making expected progress will be highlighted for intervention. An intervention overview will be completed by the Class Teacher and discussed in pupil progress meetings. Intervention programs may include

- Same day or next day 1:1 interventions
- Booster group interventions focussing on targets identified in class
- Key skills interventions focussing on fluency (number facts, times table facts)

The impact of the intervention program will be monitored closely by the Class Teacher and evaluated.

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

We recognise the importance of a stimulating learning environment. Each classroom has a mathematical working wall, which includes mathematical vocabulary, stem sentences, visual aids and interactive activities where appropriate. In each class, the children will access the working wall during lessons to support their learning.

Each class (Reception to Year 6) has a curriculum overview which details which areas of maths are to be taught each term. This is saved on staff share. Medium term planning can be taken from the White Rose Hub scheme of learning which all classes follow. Staff use a combination of resources centred around the White Rose Scheme of learning including resources from the White Rose premium resources, NCETM, Classroom secrets and twinkl. At the beginning of each session, there is a focus on fluency and recall of key facts. This leads onto a focus on prior learning through an activity, followed by the class teacher sharing the learning target of the lesson. There is a cycle of learning that follows allowing opportunities for consolidation and deepening of understanding. This allows time to focus on the three aims of the NC: Fluency, Reasoning and Problem Solving. Please see lesson structure across all year groups below for more details of this cycle.

Each class carries out a mental arithmetic test and a mental maths test once a fortnight (alternate weeks, one week is mental maths, one week is arithmetic). In addition to this, each class undertakes a 'challenge', which usually takes place on a Friday each week. This is where learning will be assessed through a multiple-choice activity and SATs style questions which allows teachers to see misconceptions or gaps in understanding, and then adapt their teaching for the following lesson.

Times tables are a major priority at Kirkstall St Stephen's. To prepare the children for the statutory Times Table Check in Year 4, each child has an individual log on for Times Table Rockstars. This website allows children to practise their times tables in a fun and interactive way. Sessions are set for homework weekly where children are encouraged to log on at home to complete and practise their times tables. Teachers will set specific times tables to focus on. Different times tables are introduced in different years as follows:

Reception – introduction to number, focussing on numbers 0-10

Year 1 – Introduction to halving and doubling, counting in 2s, 5s and 10s

Year 2 – introduction of multiplication as repeated addition, focussing on the 2, 5 and 10 times tables.

Year 3 – Focussing on the 3, 4 and 8 times tables.

Year 4 – Focussing on the 6, 7, 9 and 12 times tables as well as re-capping other times tables ready for the Times Table check in June.

Year 5 – Consolidation of all times table facts and introduction to squared and cubed numbers.

Year 6 – Further consolidation of all times table facts and squared/ cubed numbers.

In class, children will practise their times tables at least three times during the week. This may be through the following:

- Timed tests (linked to Times table Rockstars)
- Songs and chants
- Counting stick

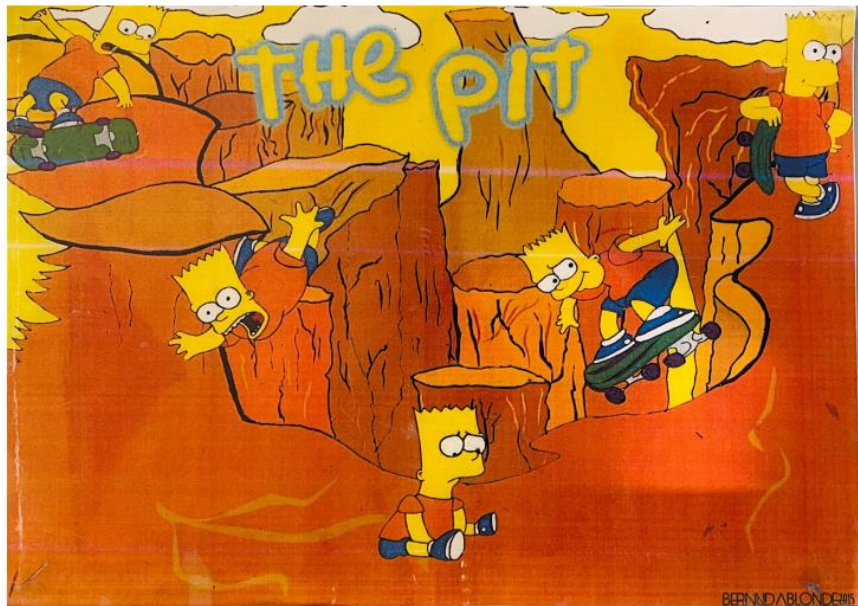
This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

- Class Games
- Multiplication squares

A weekly Homework Maths task is set in each year along with the practise of times tables. Either this Maths task recaps learning in class each week or is a revision exercise focussing on learning from the previous year.

Growth Mindset

In school, we encourage growth Mindset in all the children. The display below is presented in every classroom and is referred to in all Maths lessons when new learning is introduced.



People with a **growth mindset** believe that if they're not as good as they'd like to be at something, they can work at it and improve. Set-backs are re-framed as new challenges to overcome, and failure can be used as a springboard to bigger and better things. Whereas people with a **fixed mindset** believe that their intelligence and abilities are fixed, something that you are either born with or without.

A growth mindset is the belief that your skills and abilities are not set in stone. Just as mighty oaks grow from tiny acorns, our talents might start small, but they have the potential to grow huge. This is reflected in our school vision and our KSS values tree.

Home Learning due to COVID isolation

The school have purchased additional resources from the White Rose Hub which offer videos and activities for children to access independently should they be isolating at home. These resources mirror what is being taught in class and will be sent out daily by the class teacher via Class Dojo for the duration of a child's isolation.

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

Assessment and Reporting Arrangements

Children learn best when assessment informs teaching so that there is provision for support, repetition and extension of learning for each child, at each level of attainment.

Assessment opportunities are built into the planning of lessons and a range of other methods are used as appropriate. Standards are checked both in school and through external moderation opportunities. We assess children's work in mathematics from three aspects (long-term, short-term and medium-term). Short-term assessments are used to help Class Teachers adjust their daily plans. These short-term assessments (a weekly challenge as discussed earlier in provision) are closely matched to the lesson targets. End of unit tests are carried out in line with the White Rose Hub scheme of learning. Often teachers will also carry out base line assessments before starting a new unit of work, in order to inform their teaching of this new unit.

Each full term the information gathered from teacher assessments, along with a standardised test, is submitted on a class tracker to the Senior Leadership Team. Pupil Progress meetings will be held between the Class Teacher and SLT to monitor progress and implement any necessary interventions.

Long term assessments are made towards the end of the school year. These assessments are used to measure progress against local and national targets. Targets are then set for the next school year and the information is passed on to both parents and the next class teacher. Children in Year 2 and 6 are assessed using the national tests.

Books are scrutinised by SLT throughout the term with a health check completed termly and feedback is provided.

Cross-Curricular links

Throughout the whole curriculum, opportunities to extend and promote Mathematics should be sought. Within every Science topic, children will also develop their mathematical skills. This will help children appreciate how to Work Scientifically but also practise discrete mathematical skills. Nevertheless the prime focus should be on ensuring mathematical progress delivered discretely or otherwise. Within History topics, children will develop their mathematical skills through ordering of timelines. In Geography topics, mathematical skills will be tested through map work, for example, when reading coordinates.

Resources

Each class is equipped with a range of mathematical resources and manipulatives. These are stored in accessible and clearly labelled drawers / shelves / containers. All children have access to a range of aids

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

such as place value charts, counters, dice, time table squares and 100 squares, rekenrek, base 10, numicon, number beads, ten frames, multilink blocks, number blocks, cuisenaire rods.

General Mathematics equipment is stored centrally in the store Room. These are stored in accessible and clearly labelled shelves / containers.

There a range of mathematical software on the Staff shared area as well as access to websites to support a range of activities across Foundation, KS1 and KS2. These are updated and monitored by the subject leader yearly and shared with staff frequently.

The resources are audited, checked and updated. Areas of need are monitored and equipment purchased in line with need and the School Improvement Plan (SIP).






Agreed Principles for Mathematics.

- A typed learning target and date will be placed at the top of the page in each child's Maths book (Years 1 -6).
- Children will learn to work in 1 cm squared A4 Maths books during Year 1 and this will continue into KS2. One digit/symbol per square is the agreed rule. In year 4, children will begin using 8mm squared paper and will begin to rule the middle of their page.
- Wherever possible, the checking or marking of work will be done with the child who will be given the opportunity to ask questions and self correct in red pen.
- Self assessment will be encouraged and assessment arrows recorded in the books against the dated learning target.
- There will be gradual progression through the key stages, according to the child's needs, towards independence.
- In KS2, children will receive a grade for effort and presentation by their class teacher every lesson as follows:

Effort Score 1-3	1- Outstanding; 2- Good; 3- Requires Improvement
Presentation Score A-C	A- Outstanding; B- Good; C- Requires Improvement

- A detailed overview of the marking policy for Maths is visible at the front of all Maths books:

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

What do these marks mean?	
Verbal Feedback (VF) + initials	My teacher spoke to me about this work.
I/GW/S	Independent work/Guided Group work/Supported work
Red Pen	Self Mark/Self Correct/Respond to feedback
Green Pen	Marked by school staff
Starter work	Work done as a warm up at the beginning of the lesson
Learning Question Symbols 	 Yes I am confident/ Yes you are confident  I need a bit more time and support/ Yes you need more practise  I need lots more help/ Yes a teacher will help you
Wish + Symbol e.g. 	A follow up task set by teacher for the child to respond to. Task explained by teacher verbally.

Role of Governors

The Governors on the Curriculum Committee will monitor the effectiveness of this policy.

Staff & Governors will ensure the policy is adhered to and revised as appropriate. The subject leader and Maths governor will meet termly to discuss targets as a whole school.

The Governing body, Headteacher and the Deputy Headteacher will review the needs of the teaching and support staff and provide INSET via external courses and in school training. The needs of the school, pupils and the interests of staff will also be taken into account when planning INSET.

The Maths coordinator and Maths governor meet termly to discuss Maths in school and any changes that have been made or need to be made.

Staff Responsibilities

Maths Lead

- Oversee the Maths curriculum and support class teacher in planning and delivering good quality Maths lessons.
- Ensure manipulatives are available in all classes, being replenished when needed
- Access CPD to enhance the Maths curriculum in school
- Arrange CPD for class teachers to improve their knowledge of the Maths curriculum

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

- Deliver CPD to all staff
- Analyse whole school data, looking at the progress and attainment in each year group and any actions that need to be taken in order to improve standards

Class Teacher

- Deliver good quality lessons using the White Rose Hub scheme of learning following the 'cycle of learning' in year 1 -6
- Access CPD arranged by Maths lead and implement strategies in the classroom
- Mark and assess children weekly to inform planning and ensure progress
- Deliver same day or next day interventions when appropriate
- Direct and deploy teaching assistants successfully in the classroom
- Use manipulatives well in the classroom to support children's learning
- Follow the marking policy for maths

Monitoring, Evaluation and Review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader, the Headteacher and the class teacher

The main aspects of the mathematics subject leader involve:

- providing leadership and direction in Mathematics
- ensuring the national curriculum is implemented effectively
- working closely with staff, offering guidance, support, leadership and arranging in-service as appropriate
- scrutinising books frequently, completing termly health checks and providing whole staff or individual feedback when necessary
- scrutinising the results of termly / annual assessments throughout the school and providing feedback
- managing, storing and updating resources, following a whole school audit
- monitoring and evaluating the quality of teaching and learning throughout the school in Mathematics
- monitoring pupil opinions and feedback yearly (pupil voice)
- Liaising with the governor responsible for maths, other schools through the workshop programme.
- coordinating the review and updating of the policy when necessary
- ensuring the Mathematics Action Plan is implemented, monitored, evaluated and reviewed

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.

This school is committed to safeguarding and promoting the wellbeing of all children and expects our staff and volunteers to share this commitment.