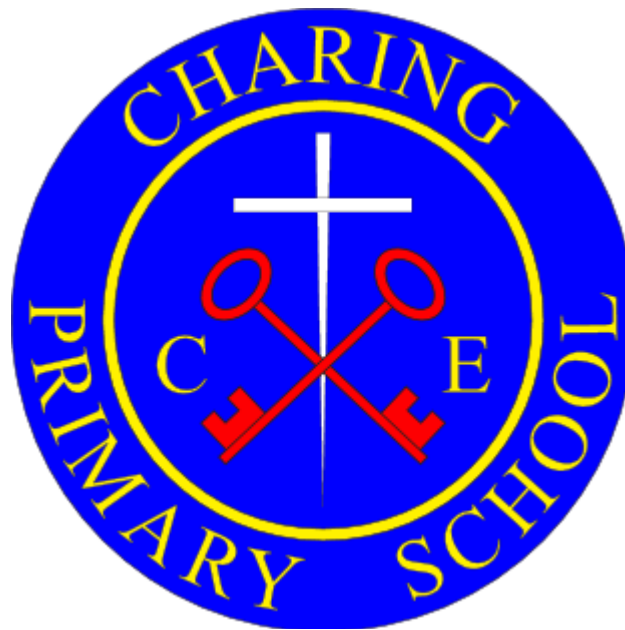


*Love Friendship Kindness Truth Hope*



*...those who hope in the LORD will renew their strength.  
They will soar on wings like eagles; they will run and not grow  
weary, they will walk and not be faint.' Isaiah 40:31*

connect | nurture | aspire | learn | excel | hope



## Charing Church of England Primary School

### **Mathematics Policy**

Document Information	Date/source of Policy	Responsibility
Date of review	September 2019	Maths team
Date of new review	September 2020	Maths team

*"As an inclusive community built on friendship and love, Christian values inspire us through faith in God and hope for the future. Everyone is empowered to recognise their God-given potential and to become lifelong learners. We work together to ensure we achieve our aspirations and encourage independence.*

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## **School Aims and Objectives**

Charing CE Primary School aims to enable all children the opportunity to achieve their best academically, emotionally and socially through:

- Providing high quality learning to enable children to acquire the skills, knowledge and concepts relevant to their future;
- Promoting an ethos of care, mutual respect and support, where effort is valued and success celebrated;
- Enabling children to become active, responsible and caring members of the school and wider community.

The school works towards these aims by:

- Promoting high quality learning and exceptional attainment;
- Providing high quality curriculum entitlement and a high quality learning environment;
- Promoting the Christian Values to enable the children to value themselves and each other; the Core Values are: love, friendship, kindness, truth and hope.
- Promoting an effective partnership with parents and the wider community.

## **Mathematics Policy Introduction**

Mathematics teaches children how to make sense of the world around them through developing their ability to use number, calculate, reason and solve problems. It helps children to understand relationships and patterns in both number and space in their everyday lives. The mathematics curriculum should be bold, provide breadth and balance and be relevant and differentiated to suit the needs of all children in the modern world. It should be flexible, motivating all pupils, thus encouraging success at all levels. A secure fluency in will develop into an ability to reason and justify resulting in confident problem solvers.

### **Aims**

#### **General**

- To ensure all staff, children, parents/carers and Governors are aware of the aims for learning and teaching mathematics at Charing CE Primary School and that these are consistently applied.

#### **School Staff**

- To promote a confident, positive attitude towards the learning and use of mathematics making it an enjoyable experience;
- To promote confidence and competence with numbers and the number system;
- To promote the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To promote mathematical reasoning by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To promote a practical understanding of the ways in which information is gathered, presented and used;
- To promote the exploration of features of shape and space and develop measuring skills in a range of contexts; and
- To understand the importance of mathematics in everyday use, especially in relation to essential life skills, such as telling the time and understanding money.

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## **Children**

- To develop an enjoyment of learning through practical activity, investigation, exploration; mental exertion and discussion;
- To develop confidence and competence with numbers and the number system;
- To develop the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To develop the ability to reason mathematically by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To develop a practical understanding of the ways in which information is gathered and presented;
- To explore features of shape and space, and develop measuring skills in a range of contexts;
- To understand the importance of mathematics in everyday life, especially in relation to essential life skills such as telling the time and handling money; and
- To foster positive attitudes towards mathematics by developing pupils' confidence, independence, persistence and co-operation skills.

## **Parents and Carers**

- To be understanding and supportive of our aims in learning and teaching mathematics.
- To attend and contribute to Parent Consultation Meetings.
- To support their children with Mathematics homework activities including the importance of learning their number bonds and times tables off by heart.
- To praise their children for the good things that they do in mathematics.
- To communicate and work with school whenever further support is needed to develop their children's mathematical skills and understanding.

## **Governors**

- *Governors will:*
  - a) Meet with the Mathematics Subject Leader at least once a year to find out about:
    - the school's systems for planning work, supporting staff and monitoring progress;
    - the allocation, use and adequacy of resources; and
    - how standard of achievement are changing all the time.
  - b) Visit School and talk to pupils about their experiences of mathematics;
  - c) Promote and support the positive involvement of parents in mathematics;
  - d) Attend training and other events relating to the mathematics curriculum;
  - e) Report jointly with the Subject Leader, both for the School Prospectus and to the governing body with recommendations, if appropriate, once a year.
- To be understanding and supportive of our aims in the learning and teaching of mathematics and to review this policy annually.

## **Implementation of the Mathematics Policy**

### **1. The National Curriculum for Mathematics (Programmes of Study)**

- The school's scheme of work follows the new 2017 White Rose Hub material. These follow and are aligned with the National Curriculum 2014 to support planning and delivery of mathematics teaching.

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- Charing CE Primary School teach the child and not the curriculum.
- The short term planning is done fortnightly during PPA, listing the specific learning objectives that are to be covered in each year group class for each lesson the following 2 weeks.
- Teaching and learning is differentiated to best match the needs of the class and the individuals within it, and where possible is taught alongside mental mathematics strategies required for the week.
- If the needs of the children are best met following an alternative plan, which deviates from the National Curriculum 2014, then the class teacher and Year Group Leader discuss this and decide on a way forward.

## **2. Lesson organisation**

- Maths lessons are 1 hour and 5 minutes 4 times a week and an arithmetic/basic skills lesson is 50 minutes once a week
- At the beginning of each Mathematics lesson all children undertake an Oral/Mental Starter activity which links to previous learning and is known as a 'daily practice'
- Children should be taught fluency, followed by applying and then problem solving using the CPA (concrete, pictorial, abstract) approach, not just a trick or method to complete calculations.

## **3. Planning formats**

- Short term planning is based on each year group's planning long term scheme which details the expectations set within the National Curriculum 2014.
- Examples of short term planning for all year groups are available to access the school's website.

## **4. Calculation Policy**

- The calculation policy has been tailored to meet the needs of the children and focuses on Concrete-Pictorial-Abstract.
- Our Calculation Policy explains the key written methods that need to be taught in each year group, to support the planning, delivery and assessment of learning and teaching in Mathematics and to ensure consistency and progression across the School.
- The Mental Mathematics policy clearly shows what the National Curriculum Expectations for 2014 are.

## **5. Cross curricular**

- Opportunities are used to draw mathematical experiences out of a range of activities in other subjects, such as in PE, Science and at other subjects such as Theme weeks, to enable children to apply and use Mathematics in both real life and academic contexts.

## **6. Provision for Teaching for Mastery**

- Dive Deeper: In addition to White Rose, we use Dive Deeper strategy to allow pupils to deepen their understanding of any mathematical concept before accelerating too quickly onto new content. It removes the issue of students racing through their work to be the first to 'get the answer'; and it acts as a signpost for teachers of pupils who are working at greater depth. A pupil has to complete five deepening tasks in connection with the work they have just finished 'Draw it, Explain it, Make a mistake, Tell a Maths story, Prove it'. By engaging in these deepening tasks, students are able to devote more thinking time to understanding the structure of the concept as well as unpicking any of their own misconceptions.

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- Gifted and Talented children are challenged further with reasoning and justification using material from The White Rose Hub.
- Additional material for extremely gifted material uses a UKMT (United Kingdom Maths Trust) to challenge students in self-study and national challenges alongside a mentor from the school.

## **7. Resources**

- The use of Mathematics resources is integral to the concrete - pictorial - abstract approach and thus planned into our learning and teaching.
- We have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our learning and teaching.
- These resources are used by our teachers and children in a number of ways including:
  - a) Demonstrating or modelling an idea, an operation or method of calculation, e.g.: a number line; place value cards; dienes; money or coins; measuring equipment for capacity, mass and length; bead strings; the interactive whiteboards and related software; 3D shapes and/or nets; Numicon and related resources and software; multilink cubes; clocks; protractors; calculators; dice; number and fractions' fans; individual whiteboards and pens; and 2D shapes and pattern blocks, amongst other things;
  - b) Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required; and
- Standard resources, such as number lines, multi-link cubes, dienes, hundred squares, shapes, etc. are located within individual classrooms.
- Resources within individual classes are accessible to all pupils and are clearly labelled in yellow resource trays. They are encouraged to be responsible for their use.
- Further resources (often larger items shared by the whole school) are located in the Mathematics resource room.
- A range of Mathematics related software is also available and this is accessible via the shared server, which children can access when projected onto the Interactive Whiteboards in each classroom.
- Teachers are encouraged to use the school playgrounds as an outdoor classroom when possible, for example, when teaching length, area or perimeter.
- Each year group in the school has access to Numicon resources relevant to their class groups. The Numicon resources are tangible resources, which are used for individual interventions; intervention groups; or in-class focus groups in all year groups. Teachers also compliment the use of Numicon with use of the Numicon Interactive Whiteboard software.
- Each teacher has access to *Maths on Target* and *Target Your Maths* for differentiated learning tasks.

## **10. Homework** (please refer to the School's Homework Policy)

- Mathematics homework is set for all children every week.
- Homework provides opportunities for children to: practice and consolidate their skills and knowledge; develop and extend their techniques and strategies; and prepare for their future learning through out of class activities and homework.

## **11. Parents/Carers**

- The School aims to involve parents/carers in their children's learning as much as possible and to inform them regularly of their child's progress in Mathematics.

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- Parents/carers have the opportunity to meet with child's class teacher formally once a year and then through termly assessment reports.
- Parents/carers are encouraged to speak to their child's Mathematics teacher during Walk in Wednesday.
- Information about their child's standards, achievements and future targets in Mathematics is shared with parents/carers at these times and also ways that parents/carers may be able to assist with their child's learning.
- Parents/carers are encouraged to support their children with homework.
- School also provides a number of opportunities for parents/carers to learn about what their child is learning and the way their child is being taught through the work of the Family Liaison Officer, who organises the provision of support for parents/carers.

## **12. Subject Leader**

- The role of the Subject Leader is to provide professional leadership and management in Mathematics in order to secure high quality teaching, effective use of resources and high standards of learning and achievement for all pupils.
- The subject leaders take directive from the school SIP in order to develop the subject action plan with clear aims and targets.
- They will achieve this by affecting the following key areas: strategic direction and development; learning and teaching (including planning and marking and presentation); leading and managing staff; and efficient and effective deployment of staff and resources.
- The Subject Leader has regular discussions with the Head Teacher and other senior leaders about learning and teaching in Mathematics and provides a half-termly summary report (Subject SEF) about their work as Subject Leader and an evaluation of the strengths and areas for development for the subject.
- During the academic year the Subject Leader has specific allocated time for subject self-evaluation activities. (half a day termly)

## **The Mathematics Lesson: Good Practice**

- The Learning and Teaching Policy identifies the aims, principles and strategies for promoting effective learning and teaching at Charing CE Primary School. These apply to learning and teaching in Mathematics as well as every other curriculum subject area.
- In Mathematics the overall structure of the lesson will generally be the same and consist of a mental and oral starter, a main teaching focus (guided practice followed by worksheet activity) and a plenary or series of mini plenaries throughout the lesson if appropriate. Weekly times tables tests are undertaken on Monday during the Mental Mathematics Lesson.

## **Assessment, Record Keeping and Reporting (please refer to the School's Assessment and Teaching and Learning Policies)**

- Children's standards and achievements in Mathematics are assessed in line with the School's Assessment Policy.
- 1. On-going Assessment for Learning (AfL) practices within class and group sessions, including the sharing of and reference being made to Learning Objective and Next Steps and self and peer assessments of understanding, outcomes and progress;

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2. Marking of children's work; against the shared Learning Objective and for accuracy of answer (for all written work) and diagnostically (regularly in line with School expectations) including clear next steps to consolidate or progress the child's Mathematical understanding;

3. Shared Love It marking and I wonder questions to further develop reasoning and justification.

4. At the end of each half term teachers are expected to make an overall assessment of pupil's achievements using the school's assessment system;

5. There are formal teacher assessments each half term against National Standard expectations for Mathematics and these are recorded within the School's electronic assessment system. Pupils are assessed as being Beginning or Beginning+ at National Standard, Developing or Developing+ against National Standard, or Secure or Secure+ National Standard. Some children may be well below National Standard and are assessed using a lower year group's criteria.

□ Assessments are used diagnostically by teachers to evaluate learning and inform teaching and by teachers and senior leaders within the Accountability Process to evaluate individual and groups of children's standards and achievements and provision and to inform future provision and school development.

□ All children have Mathematics Targets both in terms of National Standards expectations and within on-going AfL and diagnostic marking practices. The class teachers, the Subject Leader and other Senior Leaders review progress against these targets regularly. This information is used by each of these to affect provision and potentially school development.

□ Assessment information for Mathematics, both standards and achievements, are shared with parents/carers at Parent Consultation Meetings. Mathematics is reported on in detail in each child's School Report; which includes information about the next steps for learning in the subject.

### **Inclusion (please refer also to the School's Inclusion Policy)**

□ Inclusion is about every child having educational needs that are special and the School meeting these diverse needs in order to ensure the active participation and progress of all children in their learning.

□ Successful inclusive provision at Charing CE Primary School is seen as the responsibility of the whole school community, permeating all aspects of school life and applicable to all our pupils. It is in this way that we will turn the rhetoric into reality.

□ Inclusive practice in Mathematics should enable all children to achieve their best possible standard; whatever their ability, and irrespective of gender, ethnic, social or cultural background, home language or any other aspect that could affect their participation in, or progress in their learning.

### **Monitoring and Review**

□ The Head teacher, Senior Leadership Team and Mathematics Subject Leader will monitor the effectiveness of this policy on a regular basis. The Head teacher and Mathematics Subject Leader will report to the governing body on the effectiveness of the policy at least annually and, if necessary, makes recommendations for further improvements.