

ST. BERNADETTE'S CATHOLIC PRIMARY SCHOOL

Mathematics Curriculum



Learn to Love, Love to Learn

Miss Finnegan 2020/2021



St Bernadette's is a Catholic School and we are committed to the Catholic faith, recognising and valuing every individual as special and unique, created in the image and likeness of God. We are a beacon of hope in our community and we live by the motto Learn to love, love to learn.

Intent

Mathematics is a life skill, it helps us to make sense of our world, providing a precise means of communication using numbers, symbols and shapes. It is a powerful, universal language used to explain, predict and represent events and tackle problems in everyday life. At St. Bernadette's Catholic School, our aim is for the children *Learn to Love, Love to Learn* and to develop an ability to solve problems, to reason and think logically, to work systematically and accurately and to be curious and resilient learners. New mathematical concepts are introduced using the 'Concrete, Pictorial and Abstract' (CPA) approach; enabling all children to experience hands-on learning when exploring new concepts. This allows all children to have clear models and images to aid their understanding. Time is devoted, daily, to teach and practise arithmetic and basic maths skills, this ensures these key mathematical facts and concepts are embedded and children can recall them accurately. Our mathematics curriculum is designed so that it is accessible and engaging for all pupils to maximise their potential and make rich connections across other areas of the curriculum.

Aims of Mathematics at St. Bernadette's

1. To ensure that all pupils 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. DFE (Mathematics programme of study: key stages 1 and 2 2013:3).



To ensure that all pupils **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language DFE (Mathematics programme of study: key stages 1 and 2 2013:3).

3. To ensure that all pupils 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. DFE (Mathematics programme of study: key stages 1 and 2 2013:3).
4. "That the majority of pupils will move through the programmes of study (Mathematics) at **broadly the same pace**" and that "pupils who grasp concepts rapidly should be challenged through rich and sophisticated problems **before any acceleration through new content**". DFE (Mathematics programme of study: key stages 1 and 2 2013:3).
5. To develop a **positive attitude to mathematics** and help children experience success so they will view maths with pleasure.
6. To **develop and increase confidence and understanding** of mathematics through a process of enquiry and experiment by working individually, in groups and as a class.
7. To encourage the ability to use and apply mathematical skills and knowledge by developing communication, reasoning, enquiry and problem-solving skills.
8. To provide opportunities for children to develop their creativity in maths.
9. To enable children to appreciate mathematical patterns and relationships.



To develop an ability to think clearly and logically in mathematics with independence of thought and flexibility of mind.

- II. To develop children who are numerate, so that by the end of Key Stage 2 they:
- Have a sense of the size of a number and where it fits into the number system.
 - Know by heart number facts such as number bonds, multiplication tables, doubles and halves.
 - Use what they know by heart to figure out answers mentally.
 - Calculate accurately and efficiently, both mentally and with pencil and paper, drawing on a range of calculation strategies as specified in St. Bernadette's Calculation Policy.
 - Recognise when it is appropriate to use a calculator, and be able to do so effectively.
 - To make connections

St. Bernadette's is a beacon of hope and by the time our pupils leave us in year 6, we aim that all pupils will have a rich understanding of the Primary Mathematics curriculum that will support them into Secondary School and build strong foundations into further education and beyond. We aim for all of our children to be able to apply their knowledge and skills to their everyday lives and have high aspirations for their future.

Implementation

Maths is a journey and long-term life goal, achieved through exploration, clarification, practice and application over time. At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of a mathematic concept and be able to build on this over time.



Mathematics St. Bernadette's Catholic Primary School:

- Of all the subjects taught in school, reading is first among equals – the most singular in importance because all others rely on it, including mathematics. Excellence in almost any academic subject requires strong reading and thus as a school, reading is a priority and we have a strong reading culture at our school throughout the curriculum.
 - Basic maths skills and key mathematical concepts are taught and practised daily.
 - A range of reasoning and problem solving resources are used to challenge all children and give them the opportunity to apply and reason with their understanding.
 - Children in KS1 and KS2 are taught in ability classes, through targeted differentiated small group and whole class lessons. In EYFS, the children are taught in mixed ability classes and small groups.
 - Maths interventions are used to ensure gaps in learning are quickly addressed.
 - Lessons use the Concrete, Pictorial and Abstract approach to guide children through their understanding of mathematical processes.
- Concrete** – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.
- Pictorial** – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.
- Abstract** – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.
- Revise and Review consolidation lessons are used to revisit previous learning and ensure maths skills are embedded.



- Rather than children repeating mechanical activities, we encourage Intelligent Practice, creating an appropriate path for practising the thinking process with increased creativity. The purpose of Intelligent Practice is to keep children thinking hard during all parts of a lesson, preventing the lesson becoming more about physical repetition than developing conceptual understanding.
- Homework is set to develop and review children's learning.
- Parents and carers are involved in their children's mathematic learning journey from the onset. We want our parents and carers feel confident supporting their children at home. They are invited to attend Maths Open Week lessons, which demonstrate how concepts are taught and how they can further support their children's mathematical learning journey at home. There are other opportunities throughout the year to attend other mathematical workshops, such as times tables workshops and bar modelling workshops.
- Where possible, links are made with other subjects across the curriculum as well as making connections outside of the classroom and to life experiences and enterprises, developing the children's Cultural Capital.

Impact

At St. Bernadette's Catholic Primary School, we expect all children to master mathematical concepts or skills. This is when a child can demonstrate understanding in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. As a results of Mathematics teaching at are school, you will see:

- Children who are enthused, challenged and resilient.
- Confident learners who can talk about mathematics and their learning and can also make links between mathematical units.



- Quick recall of facts.
- Lessons where concrete resources are used to support learning and embed mathematical concepts.
- A range of representations of mathematical concepts.
- Learning that is tracked and analysed so that all children make at least good progress.

School data indicates that strong outcomes can be shown in EYFS, with 76% of children achieving or exceeding ELG for mathematics in 2018/2019. This is in line with LA data where 73% achieved at least the expected standard. KSI data from the academic year 2018/2019 also indicates strong outcomes, with 75% of children achieving at least the expected standard which is in line with National data. 31% achieved greater depth compared to 22% National. 25% of children didn't achieve the expected standard, which is in line with National data. KS2 data from the academic year 2018/2019 shows that progress was 3.61; scaled score was 107.2 (Compared to a national score of 105) and attainment showed 85% of children at National and 39% Greater Depth.



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