St Winifred's

Catholic Primary School

Maths Policy

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We live in a complex, high technology society where a wide range of mathematical concepts and skills is needed, both in work and non-work situations.

Maths is a core subject, in the National Curriculum. Mathematical understanding is also required in most other National Curriculum subjects for e.g. science, technology, geography.

Maths is:

- A search for patterns and relationships
- A way of thinking
- A means of communication
- A creative activity, involving invention, intuition and discovery

Doing maths involves:

- Deciding which questions, problems, investigations, hypotheses
- Gathering relevant information
- Creating mathematical models or an algorithm
- Manipulating models or carrying out algorithms
- Interpreting or explaining results
- Communicating the findings

Aims – As a result of teaching maths we want:

- All pupils to achieve their full potential irrespective of race/gender/class/ability
- To foster a love of maths
- To foster the development, consolidation and application of maths concepts, skills and facts
- To develop quick recall of basic number facts based on understanding
- Pupils to apply mental methods, making jottings in support, visualising to 'see' structures and solutions, testing strategies and developing ideas
- To develop understanding through a process of enquiry and experiment
- To develop the ability to think clearly and logically to find a way through problems and investigations where strategies are not immediately obvious
- To develop pupil's ability to work independently, collaboratively, systematically and with persistence
- To develop pupil's ability to communicate information and ideas, orally, graphically and symbolically, using precise mathematical language
- Pupils to acquire increasing precision in use of language and written procedures interpreting diagrams and notation, providing explanations and reasons for their methods and choices
- Pupils to see the relevance of maths to everyday problems and situations, and its cross-curricular links
- To develop an appreciation of patterns and relationships throughout maths
- To develop an appreciation of the fascination of maths for its own sake, its creative aspects and its aesthetic appeal
- To develop an appreciation of the diverse cultural origins of mathematical ideas
- Pupils to have a positive attitude to maths, a high self esteem and confidence in their mathematical ability

- Pupils to listen to others and speak with clarity and confidence, persevering and expecting to learn and enjoy the challenge of tackling something new

Broad Guidelines – when teaching maths we:

- Provide equal opportunities for all pupil's to learn maths irrespective of race/gender/class/ability and have high expectations for all. To achieve this, we use a '**Mastery**' approach to our lessons whereby children are taught through **whole-class interactive teaching** where the focus is on all children working together on the same lesson content at the same time to master the content of the National Curriculum 2014.
- Ensure maths is taught as a **daily maths lesson** and therefore receives a specific time allocation of **5 hours per week**, flexibly organised
- Explore new mathematical concepts using a **CPA (Concrete, Pictorial and Abstract)** approach to allow pupils to spend longer on key mathematical concepts in particular number to develop a deep knowledge of key ideas.
- Provide opportunities for children to explore using **concrete** objects and manipulatives to help them understand the Maths concept, and then make use of **pictorial** representations (diagrams, graphs) to help children reason and problem solve. Both concrete and pictorial representations should support children's understanding of **abstract** methods.
- Develop fluency by providing **daily mental maths opportunities** in **'maths moments'** to ensure quick recall of bonds/tables/x ÷ by 10 100 1000 …
- Ensure all pupils participate in whole-class, group and independent activities that involves: speaking and listening, practice, application, challenge and reflection.
- Seek a balance between the 6 elements of maths teaching highlighted by the Cockcroft Committee – **exposition** and **discussion, practical work, practice of skills and routines, problem solving and investigation**. These aspects of maths teaching are not isolated but are intended to interrelate
- Embody maths in a wide variety of situations so that pupils can realise its fascination and multiplicity of uses
- Wherever possible timetable maths as a morning activity
- Plan which elements of the programmes of study can be delivered through cross-curricular topic work, remembering the need for continuity and progression
- Structure progression in learning, modelling and integrating talk together with use of procedures, diagrams and notation to secure pupils' oral, mental and recording skills
- Analyse data to inform teaching and learning
- Maths planning is based on the **2014 National Curriculum** and enhanced by a wide range of resources (**White Rose, Power Maths (KS1)** and **NCETM's Professional Development documentation (2019)**. This ensures a progressive and thorough curriculum in every year group. Teachers know which objectives must be taught and assessed in each year group and can follow progressive small steps to ensure pupils have a comprehensive understanding of maths.
- Secure recall and mental skills, developing imagery, thinking, reasoning, language and precision.
- Require pupils to record their work in maths books which are accessible in the class maths area
- Introduce correct mathematical terminology as appropriate (refer to Maths curriculum Map for year 1-6 key vocabulary).

- Encourage pupils to explain their maths orally as well as on paper. Develop the oral skills within maths which include explanation, discussion, reasoning and questioning as well as written maths
- In so far as possible, keep the class together, provide more-able pupils with challenging activities to deepen their understanding. Pupils who find maths difficult benefit from plenty of practical work, discussion, repetition, small group and 1-1 support.
- Adopt a holistic approach to number i.e. encouraging mental work and the development of the child's own algorithms as well as pencil and paper routines
- Value the role played by mathematical games
- Create a **rich mathematical environment** which includes a learning wall and the use of display areas in each classroom, and the school in general, in order to support the pupil's learning
- Update Maths learning walls regularly to match current learning including key vocabulary
- Have a well organised, attractive and inviting class resource area for maths. Pupils should be aware of the available resources, encouraged to use them appropriately, possess the necessary skills to do so, treat them with care, and return them to their correct place
- Use the central maths resources to borrow larger pieces of equipment, books, posters, games, etc., and return resources to their place after use.
- Continually assess pupils against their termly objectives, dating and evidencing when one has been achieved on their sheet.

- Plan in **Powerpoint, ActivInspire software** format, or in a **Word** document each week. This format ensures evaluation of each lesson and subsequent lessons are adapted accordingly.
- Save **weekly Maths plans** in the shared **planning folder** and a copy must be made available for teaching assistants.
- Include in weekly Maths plans **teaching points** and **activities** to be completed for each lesson as well as **key mathematical vocabulary** that match the current learning.
- Adapt planning and teaching to address any misconceptions and to raise expectations plans.

- Use **'pink for think'** so pupils know how to improve their work
- Set aside time for pupils to respond to marking and do corrections
- Set challenging progress targets for pupils and regularly review if pupils are on track to achieve them. Have a support structure to maintain progress
- Have a dual role of informing and involving parents, as their attitudes have a major influence on their children
- Give parents a written report on Maths for their child in the Summer Term and an oral report in the Autumn and Spring Terms
- Set weekly home learning for all pupils using popular home learning tools (**My Maths and TTRockstars**). These online resources encourage the children to continue to develop their mathematical skills outside of school.

Other information/sources:

Refer to White Rose resources for the year group overview, unit guidance and small-steps summary.

Refer to Maths Curriculum Map

Refer to the feedback policy for marking guidance.

Refer to the National Curriculum.

Refer to Assessment Policy