St. Veronica's R.C. School, Helmshore School Policy for Teaching and Learning in Mathematics

As of September 2022, St. Veronica's have become a member of a Maths Hub. This is a four year commitment to developing a consistent Teaching for Mastery approach across the whole school.

Mission Statement

In line with the mission statement, our prime concern in the teaching and learning of Mathematics at St. Veronica's is that all children are encouraged to do their best, given opportunities to explore and learn and given the confidence to achieve their full potential in this vital area of the curriculum.

The Nature of Mathematics

Mathematics is a tool for everyday life. It is a whole network of concepts and relationships that provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real life problems. It also provides the materials and means for creating new imaginative worlds to explore.

Aims

Using the Programmes of Study from the National Curriculum, the National Centre for Excellence in Teaching Mathematics (NCETM) and White Rose Maths WRM), it is our aim at St. Veronica's to develop:

- a positive attitude towards mathematics and an awareness of the fascination of 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.
- the ability to work both independently and in cooperation with others
- an ability to communicate mathematics using mathematical terms and expressions
- an ability to use and apply mathematics across the curriculum and in real life to help our children make sense of their world
- an understanding of mathematics through a process of enquiry and experiment
- the ability to engage in interactive oral opportunities
- the ability to employ mental calculation strategies
- the ability, particularly in years 5 and 6 to use calculators effectively
- the ability to use and apply ICT skills within the daily mathematics lessons with competence and confidence

<u>School Policy and the National Curriculum</u>

The policy sets out the framework within which the daily mathematics lessons can be taught. It is to be used in conjunction with the National Numeracy Strategy Framework.

The policy is intended to guide all staff with a teaching role within our classes and to inform the Governors of the school, the parents of our pupils, the Local Education Authority and all relevant outside agencies.

At Key Stage 1 and Key Stage 2, teachers use the Framework to ensure that the statutory requirements of the National Curriculum for Mathematics are met.

The Programme of Study is taught as follows:

Number – Number and place value
Addition and subtraction
Multiplication and division
Fractions

Money
Geometry – Properties of shape
Position and direction
Statistics
Measurement

Knowledge Skills and Understanding

The subject's key objectives can be expressed in terms of SKILLS, CONCEPTS and ATTITUDES, which for Maths are as follows:

Skills

- counting/reading/writing/re-ordering numbers
- using the four operations
- estimating/approximating
- sorting/classifying
- interpreting
- problem solving
- using measures
- using symbols
- constructing graphs/charts/tables
- using a calculator (ys5 & 6)
- generalising
- calculating
- using trial and error/improvement methods
- verbalising methods
- writing explanations

Concepts

- number

- conservation of number
- awareness of pattern/relationship
- place value
- fractions/equivalence of fractions, decimals & percentages
- time
- length/perimeter
- mass/weight
- area/volume
- shape
- angle
- scale

Attitudes
(in accordance with the School Mission Statement)

- willingness to learn
- willingness to apply knowledge to new situations
- positive attitude to the subject
- enthusiasm
- perseverance
- pride in presentation of work
- spirit o enquiry
- pride in personal achievement
- co-operation, collaboration
- independence
- respect for equipment and the learning environment
- respect for the opinions of others

<u>Scheme of Work</u>

Our school scheme of work is a working document and as such is composed of ongoing plans produced on a weekly basis. The scheme is developed from the NNS Framework, NCETM and WRM, along with the guidance provided

from the Lancashire numeracy consultants. It supported by a variety of resources and adapted to suit the needs of our children.

Cross- Curricular Opportunities

Throughout the whole curriculum opportunities exist to extend and promote mathematics. Teachers seek to take advantage of all opportunities. e.g. in art(scale), science(statistics) and geography(co-ordinates)

Planning and organisation

The NNS framework forms the basis for long term and medium term plans. Short term plans are based on NCETM and WRM resources.

Class teachers are responsible for the mathematics in their class in consultation with and with guidance from the mathematics subject leader.

The approach to the teaching of mathematics within the school is based on three key principles:

- a daily mathematics lesson lasting between 45 and 60 minutes
- a clear focus on direct, instructional teaching and interactive oral work with the whole class and group
- an emphasis on mental calculation

Where possible, teachers should have one overt learning objective which will be displayed in a prominent place and communicated verbally to the children. Where appropriate the language used should be "child friendly." Daily plans should contain well planned tasks that are matched to prior learning and to the differing abilities of the children.

In accordance with the NNS, lessons for year 1 to year 6 will include:

- A mental/oral starter

- Main activity
- Plenaries

Through careful planning and preparation, we aim to ensure that throughout the school children are given opportunities for:

- practical activities and mathematical games
- problem solving
- individual, group and whole class discussions and activities
- open and closed tasks
- a range of methods of calculating eg. mental, pencil and paper and using a calculator
- working with computers as a mathematical tool

Foundation Stage

Teachers of the Reception class base their teaching on objectives in the Framework for Reception, NCETM and WRM; this ensures that they are working towards the 'Early Learning Goals For Mathematical Development'. Towards the end of Reception teachers aim to draw the elements of a daily mathematics lesson together so that by the time children move into Year 1 they are familiar with a 45-minute lesson.

Special Educational Needs

Children with SEN are included in the daily mathematics lesson and are encouraged to take part fully with adult support and manipulatives.

Where applicable children's IPPs (Individual pupil programme) incorporate suitable objectives from the NNS Framework and teachers keep these objectives in mind when planning work.

Teaching Assistants collaborate with the class teacher in the classroom to support individual children and small groups within the numeracy lesson. Teachers provide activities to support children who find Mathematics difficult as well as providing challenges for higher achieving pupils.

Equal Opportunities

We incorporate mathematics into a wide range of cross-curricular subjects and seek to take advantage of multi-cultural aspects of mathematics, whenever the opportunity arises.

In the daily mathematics lessons we support children with English as an additional language in a variety of ways.eg. repeating instructions, speaking clearly, emphasising key words, using picture cues, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes etc

Maths For All

Activities within all mathematical lessons are planned to include the following in order for all children to have the opportunity for mastery in maths;

Stepped Activities which become more difficult and demanding but cater for the less able in the early sections.
Common Tasks which are open ended activities/investigations where children work with peers.
Manipulatives A wide variety of resources are available for all children to use eg. counters, cubes, 100 squares, number lines, mirrors.
Adult Support

Pupils' records of their work

The children at St. Veronica's are encouraged to and taught to record and communicate their mathematics in a variety of ways. There are occasions when it is both quick and convenient to carry out written calculations and

children are also encouraged to record aspects of mathematical investigations. They are encouraged to develop their own personal methods of calculation, to use the most appropriate and convenient methods and to compare and discuss their methods with others. They are, however, encouraged to use mental strategies before resorting to a written algorithm.

Recording is completed on whiteboards/exercise books/worksheets

Marking

Marking is carried out by the class teacher during lessons, by child selfassessment or peer assessment in line with the School Marking Policy.

Monitoring and Evaluating

The mathematics subject leader monitors the quality and standards of teaching and learning in mathematics throughout the school on a termly basis and offers support to other teachers in their planning. Samples of children's work are scrutinised and opportunities to address issues arising from the monitoring process are taken in feedback meetings on a regular basis.

Staffing and resources

Every opportunity will be given to allow members of staff to improve their teaching skills by attending courses and by being kept informed of developments in Mathematics. The mathematics subject leader will seek to bring the needs of the subject to the attention of the management team and governors through:

- An action plan for mathematics
- The school development plan

Availability of Practical Resources

The vast majority of mathematical resources will be stored in the central resource area but class teachers will have the essential daily mathematical resources stored in their own classrooms.

Assessment and Record Keeping

The importance of incorporating assessment into lesson planning in order to inform subsequent planning cannot be emphasised enough. Written assessment activities should be planned for, at the end of each half term and teachers will use these results and a scrutiny of children's recorded work to review how well they have done over that period. This ongoing teacher assessment of the KLIPS (Key Learning Indicators of Performance) is used both formatively and summatively. An overall judgement of attainment is entered onto the pupil tracker and updated every half term by each class teacher and this record of the standards achieved is used to monitor the children's progress and any areas of misconception can be identified and revisited.

By the end of each year group teachers make a final professional judgement as to whether a child has achieved the expected standard and inputs the final entry of attainment onto the pupil tracker.

Termly progress meetings with SLT members are attended by all staff.

Reporting to parents

Annual reports are completed before the end of the summer term. Parents are given the opportunity to discuss their child's progress at Parents' Evening in the Autumn and Spring terms. In addition, parents or teachers, who may have concerns with regard to a child's progress, may consult with each other at a mutually agreed time throughout the course of the year.

A monitoring file is kept by the subject leader which includes evidence of work and progress made.

Parental Involvement

Parents are invited into school twice yearly to look at their children's work. Information and guidance on the National Curriculum for Mathematics is posted St. Veronica's website. The website also has calculation policies for each of the four operations so that parents can see where their child is up to and the methods being used. Further information is available at parent's evening or on request. Informal meetings are arranged with individual parents as and when the need arises.

Homework

Homework is sometimes given to provide parents and carers with opportunities to work with their children at home. These activities may only be brief but are valuable in promoting children's learning in mathematics. These become increasingly formal and regular as the children move up towards upper Key Stage 2.