



MATHEMATICS POLICY 2021 - 22

Vision

At UPS we value maths equally within the curriculum and want the children to enjoy learning about maths. Our primary aim is to build a culture of fluency, deep understanding, confidence and competence, producing secure learning whilst fostering a love of maths.

We want our young people to become mathematicians so we have chosen to follow the White Rose Scheme of Work as it ensures curriculum coverage and promotes varied fluency (addressing an area for development in KS2). Children are to master their current learning with an emphasis on depth and challenge rather than accelerating through the content thus allowing children to reason and problem solve mathematically with confidence.

Through research undertaken in 2018-19, it became very clear that adopting a Growth Mindset approach is central to creating mathematicians. It introduced us to how valuable it can be to celebrate mistakes and learn from them. This continues to be of great focus and importance as we move forward and encourage our children to be mathematically resilient, especially as we continue to recover from the effects of Covid-19.

The mathematics taught and the methods used by staff at Urmston Primary reflect the recommendations outlined in the guidance contained in the documents:

- A. Curriculum Guidance for the Foundation Stage
- B. Curriculum guidance for Teaching Mathematics from Year 1 to Year 6
- C. White Rose medium term planning.

It provides information and guidance for teachers, governors and other interested parties.

Response to Covid-19

The global Covid-19 pandemic has significantly disrupted all children's learning. As a school, we have adopted the 'go slow to go fast' approach, which is actively promoted by the NCETM. Using the White Rose materials, we will prioritise key skills, knowledge and concepts to ensure gaps are identified and addressed. This will allow our children to make accelerated progress because they will have mastered the fundamentals of mathematics, enabling them to apply their learning across the remaining areas of the maths curriculum. Challenges are provided within lessons to ensure all children have the opportunity to deepen their understanding, reason with, and apply their knowledge.

By following the White Rose Scheme, we are able to offer continuity for any home learners who may be isolating due to testing positive for Covid-19. Links are provided via our home-learning platform, SeeSaw, to the relevant teaching videos and lesson materials so that pupils can return to the classroom at the same teaching and learning point as their peers.

In KS2, the pupils most affected by the disruption of lockdown are Year 4. In a further effort to support these pupils, a third teacher has been employed to reduce class sizes and provide the opportunity to deliver a more personalised curriculum so that these pupils can 'catch up' ready for their transition to upper Key Stage Two.

In Key Stage One and EYFE, 3 of our classes are taking part in the 'Mastering Number' programme that is being provided by the NCETM. We hope to find that their approach supports our younger children to develop fluent number sense. If this is a success, we will consider introducing this into all of our KS1/EYFS classes with the aim of supporting children that have missed out on their early introduction to number because of the Covid-19 pandemic.

Aims

At Urmston Primary School, in conjunction with the National Curriculum, we aim to:

- To ensure coverage of all objectives set out in the maths Curriculum
- To ensure our pupils are supported and challenged and nurtured in developing their knowledge, skills and understanding
- To ensure our pupils learn core maths skills (including mental strategies and times tables knowledge) and can use and apply these skills, transferring them across the curriculum
- To provide creative and inspiring lessons that our children are engaged in and enthused about through giving learning context and meaning
- To ensure learning of maths is fun
- To ensure memorable learning experiences that stick with our children
- To provide opportunities for children to use their imaginations and explore and investigate
- To offer opportunities for learning to be child-led, giving children the licence to question the world of maths and find out the answers
- To evoke intrigue and inquisitiveness in our children with regard to mathematical concepts
- To nurture confidence and independence through encouraging growth mind-set in all areas of the curriculum

- To ensure staff are aware of pupils' abilities and plan, assess and deliver lessons and programs appropriately

The national curriculum for mathematics aims 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.
- **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.

Teaching and Learning Style

Teachers will deliver lessons and programs of study in line with the White Rose Schemes of Learning and our Teaching and Learning Policy. Teachers will cater for all types of learning styles and incorporate all manner of activities; visual, audio, kinaesthetic, investigatory and exploratory - with an appropriate balance between child and teacher-led learning. Teachers' deep knowledge and skilled questioning will support and challenge our pupils in broadening their own knowledge, skill and understanding.

Our principle aim is to develop children's knowledge, skills, reasoning, fluency and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as number lines, number squares, numicon, and small apparatus to support their work. Counting and calculation is an integral part of the teaching week.

Differentiation

Progression, Support and Challenge

In the revised national curriculum 2014 it is suggested that:

Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.'

Our Teaching and Learning Policy makes clear the expectation that pupils of differing abilities are both supported and challenged. Teachers will use a range of age-appropriate models and activities to engage all learners and ensure progression year on year, with work set appropriate to the ability levels of the children. This is particularly the case for our SEND pupils as well as stretching those children who excel and are particularly able, gifted or talented in certain areas of the curriculum, or indeed outside it.

We use teaching assistants to provide appropriate support to individuals or to groups of pupils. Teaching assistants within Urmston Primary School are viewed as an important 'asset' to the

school and, as such, are appropriately involved in the planning and delivery of the mathematics curriculum. Power of One and Power of Two are additional interventions which are delivered to identified pupils on a one to one basis.

In Year Six, pupils are streamed three ways according to their needs and level of confidence. These groups are fluid and challenge and support the pupils accordingly. The teachers meet regularly to discuss progress and the needs of individuals.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study. The school aims to provide opportunities for children to develop these skills but for those children who are exceeding the appropriate relevant programme of study they are not to move onto the next programme of study. *They are to master their current one with an emphasis on depth and challenge rather than accelerating through the content.*

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum, and we use the White Rose scheme of learning (Y1-Y6) as the basis for implementing the statutory requirements of the programme of study for mathematics.

We carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the National Curriculum. Teachers use the Small Steps planning provided by White Rose Scheme of learning to structure their weekly plans. These plans are further enhanced using resources from Deepening Understanding, NCETM, Testbase, Teach Active and NRich.

The head teacher, phase leaders and mathematics subject leaders are responsible for monitoring the mathematics planning within our school.

Work undertaken within the Foundation Stage is guided by the requirements and recommendations set out in the Early Years Foundation Stage document. We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

Assessment

Maths skills will be formally assessed on a termly basis but ongoing assessment will be more robust than foundation subjects, to ensure that pupils are developing key skills in order to access all areas of the curriculum and beyond.

The children's learning is assessed regularly through teacher observation, marking, and discussion with the children. In addition, White Rose end of unit assessments are used frequently to support judgements. Tracking is completed on a termly basis in line with our assessment policy. For the Foundation Stage, children are assessed in accordance with the Early Years Foundation Stage tracking system.

Recording

Pupils' learning will be recorded in a number of ways. Practical activities may be recorded by video or photographs in order to evidence learning but, more importantly, to offer opportunities for pupils to reflect on that learning. These will be uploaded to SeeSaw. This will be alongside written work in books, on paper or card, and on display to celebrate learning.

Monitoring, Evaluation and Review

The maths subject leads will use teachers' assessments to gauge how pupils are performing in maths and may use this as an indicator of areas for development across the school. The subject leads have developed a specific action plan which will further outline the *design and intent, implementation of maths into the curriculum and the intended impact on pupils' standards, engagement and enjoyment*. It includes actions that are based on their knowledge of maths at Urmston Primary and the subsequent needs of our school and our pupils. They will also monitor the development of maths through learning walks and discussions with staff and pupils and again use this as a platform for implementing improvement and enhancing our pupils' experiences in maths.

This policy is intrinsically linked to the following policies among others:

- Teaching and Learning
- Behaviour
- All subject policies
- Calculation Handbook

Reviewed: September 2021 for academic year 2021 - 2022

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