



Downe Primary School

Maths Policy

Date revised: March 2024

Date to be reviewed: March 2027

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Vision

We put children first, pioneering excellence and championing each and every child.

The Pioneer Academy Expectations

Safe:

- Schools are safe and secure
- Safeguarding is effective and robust
- Similarities and differences are celebrated; everyone thrives and flourishes

Happy:

- Pupils and staff are positive and succeed in a supportive environment
- Wellbeing for all
- High standards of attendance and enjoyment are outcomes of an inclusive TPA school

Learning:

- Learning is achieved by the successful sequencing of memorable experiences
- Learners are engaged, resilient and enthusiastic

- Learning outcomes are ambitious due to knowledgeable and effective teaching

Legal framework

This policy has been created with regard to relevant legislation including, but not limited to:

- DfE (2014) National Curriculum in England
- DfE (2023) Statutory Framework for the Early Years Foundation Stage

This policy should be read in conjunction with the following policies:

- EYFS Policy
- Assessment Policy
- Marking and Feedback Policy
- Inclusion Policy
- Equality statement

Curriculum Intent

The curriculum in TPA schools is designed to inspire and motivate children. Our aim is for every child to experience ‘an extraordinary school day’ every day. We place children at the heart of the learning process through a bespoke ‘Teaching and Learning Model.’ Wherever possible, the maths curriculum will provide opportunities to establish links with other curriculum areas.

Curriculum Implementation

We follow White Rose Maths (WRM). This is a mastery approach to the teaching of Mathematics whereby topics are taught in depth over a longer period. This allows for the mastering of concepts before moving on to the next sequence. This we believe paves the way for children to be secure in what they have learnt. Classroom Secrets can be used to supplement WRM resources.

Calculation Policy

We follow the White Rose Calculation Policy which introduces key concepts using a concrete-pictorial-abstract approach.

Engaging with WRM Schemes of Work

1. Get an overview of the block
 - What should pupils be able to understand and apply by the end of this block?
 - How does the block progress?
 - What is the key learning which needs to be covered?
 - Are there links to previous/future learning?
2. Consider the key teaching points - these will need to be reinforced throughout the block.
 - What needs to be modelled and how to the children? How will you model this alongside the calculation?
 - What are the key sentence structures and vocabulary? (See Appendices 4 and 5)
 - What are the small steps for the learning?

- What concrete, pictorial and abstract representations would be most appropriate during the block?
 - What misconceptions will need to be addressed or anticipated?
 - What questions will promote a deeper understanding of the concepts taught? (See Appendix 2)
3. Decide how the unit will need to be adapted for your class
- How will you differentiate? How will you scaffold? Will you use constraints? (See Appendix 3)
 - How will you promote learning for depth? What opportunities for reasoning will you include? How might you use conceptual/procedural understanding? (See Appendix 1)
 - Will any pre-teaching be required? Would it be most useful to use consolidation lessons- at the beginning/end/middle of block?
 - Will more/less time be needed on certain key learning?
 - What are my expectations of how pupils will progress?
 - What sharing strategies might pupils in use; Use manipulatives, create visual images, guesstimate (trial and error), work backwards, look for a pattern, create a systematic list, create a table...

Teaching

1. Lessons can be structured in a variety of ways to suit the topic and the class.
 - *Example A: Do Now, New Learning, Talk Task, Develop Learning, Independent Task, Plenary*
 - *Example B: Discover, Share, Think Together, Practise, Reflect*
 - *Example C: Continuation from previous lesson*
2. Whole class teaching is used only when appropriate.
3. The children get the opportunity for collaborative work and independent work.
4. There are five maths lessons a week. In Key Stage 1 teachers ensure that every child undertakes mathematical activities for at least 40 minutes per day. In Key Stage 2 daily mathematics lessons are at least an hour long.
5. Key vocabulary for the lesson is taught and displayed. Full sentence responses are modelled and expected.
6. The use of worksheets for children's work is discouraged. However, learning prompts, scaffold or frames can be used to support learning.
7. The following core representations or manipulatives are used across the school:
 - Place Value charts
 - Arrays
 - Numicon
 - Place Value
 - Counters
 - Money
 - Base 10
 - Cuisenaire rods
 - Bead strings
 - Number lines
 - Part-whole models
 - Bar models

- Tens frames
8. A Working Wall and maths displays are used to support learning.
 9. Teachers plan for other opportunities for the preview and review of learning, including: Daily Ten, Maths Meetings, TT Rockstars, MyMaths, Maths with Parents, Big Maths, Flashback Four, True or False

Early Years

We aim daily for short adult-led focused inputs which can either be for the whole class or groups. This does not have to be formal and can include number rhymes, songs, and games as well as suggested prompts for learning from WRM. The children also have regular opportunities to practise their counting and subitising skills and revisit prior learning. These inputs can be followed up with short adult-led activities 2/3 times each week. Opportunities to practise new skills through play are encouraged in different areas of the provision either independently or with adult support.

The Teaching and Learning Model

The Pioneer Academy's Teaching and Learning Model, which is rooted firmly in research and analysis of effective learning and teaching, translates the Trust's Expectations into classroom practice. Our teaching and learning model is designed and implemented in such a way that it builds on prior knowledge and skills and lays the foundation for future learning. Lessons are designed to be engaging and challenging with learners actively involved. This Model has been developed and embedded to provide consistency and continuity for all children.

Extra-Curricular and enrichment opportunities

The Pioneer Academy aims to ensure every child has the opportunity to engage in new experiences and visit new places beyond the school grounds, taking them to places that some children wouldn't have naturally gone to. School visits and inspiring visitors are an entitlement to every child who attends a school within The Pioneer Academy. The Pioneer Pupil Passport is part of each school's cultural capital commitment to provide a role broad and balanced curriculum that promotes spiritual, moral, social, cultural, mental and physical development and prepares our pupils for the opportunities and experiences of adult life.

Each year, each school will arrange a number of activities that take place off the school site and/or out of school hours, which support the aim of providing opportunities that enrich the curriculum, enabling the children to have first-hand experience of a wide range of topics and activities. Such activities will include number day and world maths day.

Lesson Planning

Teachers in all year groups plan using the White Rose scheme as the basis for most of their work, supplemented with resources such as Premium WRM, Deepening Understanding or Classroom Secrets. We aim, wherever possible, for children to access the work from their own year group. Occasionally, there may be a small number of children for whom this is not appropriate. They will look at earlier year groups if this is the case. Higher Ability children are extended using additional reasoning resources, maybe from NRich or NCETM etc.

When planning a lesson, teachers need to plan for a balance of conceptual understanding, language and communication and mathematical thinking to support children's mathematical problem solving. If a pupil has meaningful understanding of the maths they are learning, they will be able to represent it in different ways, use mathematical language to communicate related ideas and think mathematically with the concept. This will enable them to apply their understanding to a new problem in an unfamiliar situation.

Overviews and schemes of learning can be found on the White Rose website - <https://whiteroseeducation.com/resources?year=year-1-new&subject=maths>

Assessment

Assessments are made in line with the Trust's assessment policy. Teachers and educational support staff use effective assessment for learning (AfL) to ensure planning is based on prior attainment and that pupils know what they need to do to achieve the next steps. Teachers can achieve this through the use of AfL, formative assessment, e.g. 'Assessment will take various forms, including:

- Tracking systems (currently used in KS1/KS2)
- Marking and feedback, live marking, use of self/peer assessment
- Use of AfL spots
- Assessed in each lesson against the WALT/LQ
- End of year reports to parents
- Summative assessment
- White Rose Maths Unit Tests
- Regular moderation
- Gaps analysis of assessment data

Equal opportunities

At The Pioneer Academy, we are committed to ensuring equality of education and opportunity for all pupils, staff, parents and carers, irrespective of race, gender, disability, belief, religion or socio-economic background. We ensure that all children, regardless of ability, race, gender, culture or SEND, are given appropriate opportunities to access the maths curriculum. In order to achieve this, we provide learning activities that are adapted to support and challenge all groups of learners.

Monitoring and review

The subject leader is responsible for:

- Monitoring curriculum plans and fidelity to agreed schemes of work for the subject;
- Monitoring the learning and teaching of the subject, providing support for staff where necessary;
- Monitoring and supporting the quality of the learning environment;
- Monitoring assessment in the subject, including reviewing any relevant data and setting ambitious targets for pupils;
- Auditing, purchasing and organising the deployment of resources;
- Organising, providing and monitoring CPD opportunities for staff in order to develop subject specific expertise;
- Updating stakeholders on relevant updates within the subject at a national and school level;

- Monitoring and supporting the organisation of any relevant cross-curricular and extra-curricular activities.

The classroom teacher is responsible for:

- Ensuring that all of the relevant content is covered within the school year as per agreed school curriculum plans;
- Providing a range of learning activities to inspire and motivate all learners;
- Monitoring the progress of pupils in their class and reporting this as agreed in the Trust's assessment policy;
- Undertaking any training that is necessary in order to effectively teach the subject.