



Maths Policy

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Statement of intent

The intent of our mathematics curriculum is to design and deliver a curriculum, which is accessible to all and will maximise the development of every child's ability and academic achievement. We want children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving problems.

We intend for our pupils to be able to apply their mathematical knowledge to across other subjects. We want them to know that it is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.

As our pupils progress, we intend for our pupils to be able to understand the world, have the ability to reason mathematically, have an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Through the teaching of maths, we aim to develop:

- A positive attitude towards maths and an awareness of the relevance of maths in the real world.
- A process of enquiry and experiment.
- An ability to solve problems and think logically in order to work systematically and accurately.
- An ability to work both independently and in cooperation with others.
- Competence and confidence in pupils' maths knowledge, concepts and skills.

1. Legal framework

1.1. This policy has due regard to statutory guidance including, but not limited to, the following:

- DfE (2013) 'National curriculum in England: Mathematics programmes of study'
- DfE (2017) 'Statutory framework for the early years foundation stage'

2. Roles and responsibilities

2.1. The **subject leader** responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of maths, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out a regular audit of all maths-related resources.
- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution of maths to other curriculum areas.
- Collating assessment data and setting new priorities for the development of maths in subsequent years.

2.2. The **classroom teacher** is responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' mathematical skills, with due regard to the national curriculum.
- Planning lessons effectively, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Liaising with the **subject leader** about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this on an **annual** basis to parents.
- Reporting any concerns regarding the teaching of the subject to the **subject leader** or a member of the **senior leadership team (SLT)**.
- Undertaking any training that is necessary in order to effectively teach the subject.

- 2.3. The **special educational needs coordinator (SENCO)** is responsible for:
- Liaising with the subject leader in order to implement and develop maths throughout the school.
 - Organising and providing training for staff regarding the maths curriculum for pupils with special educational needs and disabilities (SEND).
 - Advising staff how best to support pupils' needs.
 - Advising staff on the inclusion of mathematical objectives in pupils' individual education plans.
 - Advising staff on the use of teaching assistants in order to meet pupils' needs.

3. Early years provision

At Tyneview, our Early Years provision are Early Adopters of the new EYFS Framework. This is currently being developed in school and Early Years sections of the Maths policy will be updated for academic year 2021/22.

- 3.1. Activities and experiences for pupils will be based on the seven areas of learning and development, as outlined in the DfE's 'Statutory framework for the early years foundation stage'.
- 3.2. Provision for early years pupils focusses on four specific areas:
- Literacy
 - Maths
 - Understanding the world
 - Expressive arts and design
- 3.3. Activities will provide pupils with the opportunity to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems, and describing shapes, spaces and measurements.
- 3.4. Activities will adhere to the objectives set out in the framework.
- 3.5. During the early years foundation stage, pupils will be taught to:
- Count with numbers from 1 to 20, placing them in order and naming the number that is one more or less than a given number.
 - Use quantities and objects to add and subtract two single-digit numbers, and count forwards or backwards to find the answer.
 - Solve problems, including doubling, halving and sharing.
 - Use everyday language to talk about size, weight, capacity, position, distance, time and money in order to compare quantities and objects, and solve problems.
 - Recognise, create and describe patterns.
 - Use mathematical language to describe everyday objects and shapes.

4. The national curriculum

- 4.1. The national curriculum is followed and provides a full breakdown of the statutory content to be taught within each unit.

5. Cross-curricular links

- 5.1. Wherever possible, the maths curriculum will provide opportunities to establish links with other curriculum areas.

5.2. English

- Mathematical terminology is used, where appropriate.
- Maths-based texts are sometimes used in English lessons and in guided reading sessions.

5.3. Science

- Pupils' data collection and analysis skills are further developed through the conduction of physical experiments, using units of measurement, calculating averages and interpreting results.
- Pupils record their finding using charts, tables and graphs.

5.4. Humanities

- Data analysis, pattern seeking and problem-solving skills are developed through the teaching of geography.
- Pupils' understanding of time and measurements of time are developed through discussions of historical events.

5.5. ICT

- Pupils are encouraged to use calculators and other electronic devices, gaining confidence throughout their school experience.
- ICT will be used to enhance pupils' maths skills through the use of online resources and the creation of spreadsheets.
- ICT will be used to record findings, using text, data and tables.

6. Teaching and learning

- 6.1. Pupils will be taught to describe key characteristics and associated processes in common language, as well as understand and use technical terminology and specialist vocabulary.
- 6.2. Pupils will undertake independent work, and have the opportunity to work in groups and discuss work with fellow classmates.
- 6.3. Lessons will allow for a wide range of mathematical, enquiry-based research activities, including the following:
 - Questioning, predicting and interpreting
 - Pattern seeking
 - Collaborative work
 - Problem-solving activities
 - Classifying and grouping

- 6.4. Lessons will involve the use of a variety of sources, including data, statistics, graphs and charts.
- 6.5. The **classroom teacher**, in collaboration with the **subject leader**, will ensure that the needs of all pupils are met by:
 - Setting tasks which can have a variety of responses.
 - Providing resources of differing complexity, according to the ability of the pupils.
 - Setting tasks of varying difficulty, depending on the ability group.
 - Utilising teaching assistants to ensure that pupils are effectively supported.
- 6.6. A maths mastery approach is taken to the curriculum, in which fluency comes from deep knowledge and practice. This means that structured questioning is used to ensure that pupils develop fluent technical proficiency and think deeply about the underpinning mathematical concepts.
- 6.7. Focus is put on the development of deep structural knowledge and the ability to make connections, with the aim of ensuring that what is learnt is sustained over time.
- 6.8. Athletics accounts are purchased for children in Year 6 as well as children who work within the ARC provision.

7. Planning

- 7.1. All relevant staff members are briefed on the school's planning procedures as part of their staff training.
- 7.2. Throughout **Tyneview Primary School**, maths is taught as a discrete lesson and as part of cross-curricular themes when appropriate.
- 7.3. Weekly across KS1 and KS2 a discrete arithmetic lesson will be taught to support children in their fluency skills. These sessions will follow National Curriculum objectives, the school's calculation policy and methods used within WhiteRose Maths. (See appendix 4)
- 7.4. Teachers will use the key learning content in the DfE's statutory guidance 'National curriculum in England: mathematics programmes of study', published in 2014 this is used alongside WhiteRose Maths resources and Learning Ladders assessment tool.
- 7.5. Lesson plans will demonstrate a balance of interactive and independent elements used in teaching, ensuring that all pupils engage with their learning.
- 7.6. There will be a clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups.
- 7.7. Teachers will ensure that all maths lessons include a focus re-visiting previous learning, which may include Flashback 4 resources supplied by WhiteRose Maths. (See appendix 4)
- 7.8. Long-term planning is provided by the Subject Leader and based on WhiteRose Maths will be used to outline the units to be taught within each year group. (See appendix 1)
- 7.9. Medium-term planning from WhiteRose Maths will be used to outline the vocabulary and skills that will be taught in each unit of work, as well as highlight the opportunities for assessment. (See appendix 1 and 2)
- 7.10. Medium-term plans in the form of Curriculum Overviews will identify learning objectives, main learning activities and differentiation.

- 7.11. Short-term planning will be used flexibly to reflect the objectives of the lesson, the success criteria and the aims of the next lesson. (See appendix 2.)
- 7.12. Short-term planning is the responsibility of the teacher. This is achieved by building on their medium-term planning, taking into account pupils' needs and identifying the method in which topics could be taught.
- 7.13. All lessons will have clear learning objectives, which are shared and reviewed with pupils.
- 7.14. Times table skills are key. These make up a daily part of each maths lesson across KS1 and KS2 where teachers must ensure that they teach as well as rehearse key facts. School has accounts for Times Table Rockstars which is used from Year 2 to Year 6 in addition to individual class teacher initiatives.
- 7.15. Homework will be set on a **weekly** basis and will build on number skills.

8. Assessment and reporting

- 8.1. Pupils will be assessed and their progression recorded in line with the school's **Assessment Policy**.
- 8.2. Pupils aged between two and three will be assessed in accordance with the 'Statutory framework for the early years foundation stage', in order to identify a pupil's strengths and identify areas where progress is less than expected.
- 8.3. An EYFS Profile will be completed for each pupil in the final term of the year in which they reach age five.
- 8.4. The progress and development of pupils within the EYFS is assessed against the early learning goals outlined in the 'Statutory framework for the early years foundation stage'.
- 8.5. Throughout the year, teachers will plan on-going assessment opportunities in order to gauge whether pupils have achieved the key learning objectives.
- 8.6. Assessment will be undertaken in various forms, including the following:
 - Talking to pupils and asking questions
 - Discussing pupils' work with them
 - Marking work against the learning objectives
 - Pupils' self-evaluation of their work
 - Classroom tests and formal exams
- 8.7. Formative assessment, which is carried out informally throughout the year, enables teachers to identify pupils' understanding of subjects and inform their immediate lesson planning.
- 8.8. In terms of summative assessments, the results of end-of-year assessments will be passed to relevant members of staff, such as the pupil's future teacher, in order to demonstrate where pupils are at a given point in time.
- 8.9. Standardised tests will be used once a year, towards the end of the academic year, to measure each pupil's attainment in all areas of maths. These results will be compared with an 'average' for all pupils of that age.
- 8.10. Parents will be provided with a written report about their child's progress during the **Summer** term every year. These will include information on the pupil's attitude towards maths, understanding of mathematical terminology, investigatory skills and the knowledge levels they have achieved.

- 8.11. Verbal reports will be provided at parent-teacher interviews during the **Autumn** and **Spring** terms.
- 8.12. The progress of pupils with SEND will be monitored by the **SENCO**.

9. Resources

- 9.1. The **subject leader** is responsible for the management and maintenance of maths resources, as well as for liaising with the **school business manager** in order to purchase further resources within the set budget.
- 9.2. Maths resources for the current teaching unit will be stored in **each classroom** with resources returned to the main storage cupboard by the class teacher at the end of a unit of work.
- 9.3. Display/ working walls will be utilised and updated regularly, in accordance with the area of maths being taught at the time.
- 9.4. Maths equipment and resources will be easily accessible to pupils during lessons.

10. Equal opportunities

- 10.1. All pupils will have equal access to the maths curriculum.
- 10.2. Gender, learning ability, physical ability, ethnicity, linguistic ability and/or cultural circumstances will not impede pupils from accessing all maths lessons.
- 10.3. Where it is inappropriate for a pupil to participate in a lesson because of reasons related to any of the factors outlined above, the lessons will be adapted to meet the pupil's needs and alternative arrangements involving extra support will be provided where necessary.
- 10.4. All efforts will be made to ensure that cultural and gender differences will be positively reflected in all lessons and teaching materials used.

11. Monitoring and review

- 11.1. This policy will be reviewed on an **annual** basis by the **subject leader**.
- 11.2. The **subject leader** will monitor teaching and learning in the subject at **Tyneview Primary School**, ensuring that the content of the national curriculum is covered across all phases of pupils' education.
- 11.3. A named **member of the governing body** is briefed to oversee the teaching of numeracy.

Appendix 1

Long term planning (Saved on T:Drive, Maths) comes directly from the Whiterose Maths Maths scheme of work with some minor changes made by the Maths Subject Leader.

Maths Long term Curriculum map 2020-21 (Updated Spring 2021 with Whiterose units)

A weekly lesson will focus on arithmetic and basic number skills. Times tables will be taught on Monday, ~~Rockstars~~ completing Tues, Wed and Thurs and tested on a Friday.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	1-4 Place value within 10 5-7 Addition and subtraction within 10	1-2 Addition and subtraction within 10 3 Shape 4-6 Place value (within 20)	1 Consolidation 2-4 Addition and subtraction within 20 5-6 Place value (within 50)	1 Place value (within 50) 2-3 Length and height 4-5 Weight and volume 6 Consolidation	1 Consolidation 2-4 Multiplication and division 5-6 Fractions	1 Position and direction 2-3 Place value within 100 4 Money 5-6 Time 7 Transition week
Year 2	1-3 Place Value 4-7 Addition and subtraction	1 Addition and subtraction 2-3 Monday 4 Multiplication 5 Consolidation	1-4 Multiplication and Division 5-6 Statistics	1-3 Properties of shape 4-6 Fractions	1-2 Length and height 3-4 Position and direction 5 Consolidation and problem solving	1-2 Time 3-5 Mass, capacity and temperature 6 Assessment 7 Transition week
Year 3	1-3 Place Value 4-7 Addition and Subtraction	1 Addition and subtraction 2-6 Multiplication and Division	1-3 Multiplication and Division 4 Money 5-6 Statistics	1-3 Length and perimeter 4-5 Fractions 6 Consolidation	1-3 Fractions 4 – 6 Time	1-2 Properties of shape 3-5 Mass and capacity 6 Assessment 7 Transition week
Year 4	1-4 Numbers – Place Value 5-7 Addition and subtraction	1-2 Length and perimeter 3-5 Multiplication and Division	1-3 Multiplication and Division 4 Area 5-6 Fractions	1-2 Fractions 3-5 Decimals 6 Consolidation	1- 2 Decimals perimeter 3-4 Money 5-6 Time	1 Statistics 2-3 Properties of shape 4-5 Position and Direction
Year 5	1-3 Numbers Place Value 4-5 Addition and subtraction 6 Statistics	1-3 Multiplication and division 4-5 Area and perimeter	1-3 Multiplication and division 4-7 Fractions	1-2 Fractions 3-4 Decimals and percentages 5 Assessment 6 Consolidation	1-3 Decimals 4-6 Property of shapes	1-2 Position and Direction 3-4 Converting units 5 Volume 6 Assessment 7 Transition week
Year 6	1-2 Number and place value 3-6 Addition, subtraction, multiplication and division 7 Assessments 8 Gaps from assessments	1-2 Fractions 3 Enterprise 4 Fractions 5 Assessment 6 Geometry – Position and direction	1-2 Decimals 3-4 Percentages Assessments 5-6 Algebra 7 Measurement – converting units	1-2 Perimeter, area and volume 3-4 Ratio 5 Statistics	1-3 Properties of shape Consolidation, investigation and preparation for KS3	Consolidation, investigation and preparation for KS3

Class teachers must take the long term plan and refer the the Whiterose Maths Medium Term Planning available at <https://whiterosemaths.com/> for the relevant year group. Previous year groups may need to be considered to support gaps in learning.

Appendix 2

Please note: Planning formats are currently being developed in line with Staff Voice and Teacher's professional standards alongside research. Currently, short term planning is in a format similar to the following:

Maths Learning Intentions - Autumn Week - Year

		Last week	Revisited learning for the week Last month	Last year
Day	Teaching	Differentiation		
Mon		Purple - Green - Orange - Red -		
Tues		Purple - Green - Orange - Red -		
Wed		Purple - Green - Orange - Red -		
Thurs		Purple - Green - Orange - Red -		
Fri		Purple - Green - Orange - Red -		

By the end of the week, groups will be able to complete the following at the least:
Purple -
Green -
Orange -
Red -

Appendix 3
Arithmetic

Arithmetic is a key aspect of fluency within maths. In order to develop children's fluency skills in maths, there will be a weekly arithmetic session within KS1 and KS2.

In addition to this, children will have daily opportunities to review and rehearse a range of mental methods.

An example of this could be:

Fluency
Can you complete the following in 3 minutes?

1) 758×5
2) 3265×42
3) 21.52×10
4) $324.8 \div 1000$
5) 0.024×100
6) $363 \div 3$
7) $7854 \div 15$
8) $\frac{3}{10}$ write as a fraction, decimal and %.
9) 78%
10) 32% of 325

3 Minute timer

Appendix 4
Re-visited learning

Children learn best when learning is re-visited and this is a key focus at Tyneview Primary School.

Every maths lesson, children will re-visit previous learning using Whiterose Maths 'Flashback 4' resources or similar.

This will review previous learning quickly in a range of different formats and provide children with a range of engaging and creative learning opportunities.

Activities can include whiteboard work, games, songs, paired and groups work.