



PARKGATE

PRIMARY SCHOOL

| Version | Date | Revision Author | Summary of Changes |
|---------|------|-------------------------------------|---------------------------|
| 2 | 2022 | Mrs. C Dunn Numeracy Coordinator | Review of current policy. |
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INTRODUCTION

We, the staff of Parkgate Primary School, teach Numeracy because it is an essential tool for life. It is understood by all staff that Mathematics and Numeracy are one and the same, as defined in the Northern Ireland Curriculum. It is our intention to create a positive environment in the classroom in which the efforts and contributions of pupils will be encouraged, developing within our pupils a positive attitude towards Numeracy by making the subject interesting, attractive and enjoyable.

AIMS

Our aims are:

- to encourage the effective use of mathematics
- to develop the ability to think clearly and logically
- to develop in pupils, the personal qualities of perseverance, confidence, independence and co-operation with others
- to enable all pupils to experience success and pleasure through practical activities
- to enable pupils to communicate effectively through the medium of mathematics
- to foster an understanding of mathematics through a process of enquiry and experiment
- to encourage mastery of basic mathematical skills and knowledge
- to encourage the use of ICT to support the teaching of mathematics
- to develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom and become aware of the uses of mathematics/numeracy in the wider world
- to encourage parents to become involved in their children's learning

These basic principles are designed to contribute towards the achievement of the overall aim of the Northern Ireland Curriculum: "To empower young people to develop their potential and to make informed and responsible decisions throughout their lives as individuals, as contributors to society and as contributors to the economy and the environment."

STATUTORY REQUIREMENTS

The detailed statutory content requirements are set out in the NI Curriculum (primary) document (CCEA 2007). These, along with the progression exemplified in the revised Lines of Development document (CCEA) and the EA Number Overview Planners, inform our own Yearly Overviews and planning for Mathematics. The NI Curriculum (primary) document also sets out guiding principles, which we endorse and have agreed to include in our policy:

Foundation Stage (p.23)

- Activities should involve children in playing, exploring and investigating, doing and observing, talking and listening and asking and answering questions
 - Through engaging in a wide variety of activities, children should understand mathematical language and then begin to use the language to talk about their work
 - Mathematical activities should be presented through contexts that have a real meaning for children and provide opportunities for them to investigate their ideas

Key Stage One and Two (p.57–60):

- Mathematical ideas should be introduced to children in meaningful contexts
- Activities should be balanced between tasks which develop knowledge, skills and understanding, and those which develop the ability to apply mathematical learning and solve problems
- Children should use their knowledge of mathematical language to talk about their work and explain their findings
- Children should be given regular opportunities to develop their skills in mental mathematics, to estimate and approximate and to investigate and make predictions and decisions:
 - within mathematics
 - across the curriculum
 - in real-life situations

Child Centred Provision

The following ESaGS (Every School a Good School) indicators will be reflected in our provision for Mathematics and Numeracy:

- Decisions on planning, resources, curriculum and pastoral care reflect at all times the needs and aspirations of the pupils within the school
- A clear commitment exists to promoting equality of opportunity, high quality learning, a concern for individual pupils and a respect for diversity
- A school culture of achievement, improvement and ambition exists with clear expectations that all pupils can and will achieve to the very best of their ability
- Individual pupils' needs are identified using PTM /CAT4 assessment data, informal assessments and teacher observations. The class teacher has the main responsibility to ensure learning and teaching approaches are suitably differentiated to match the level of attainment of those pupils identified including extension activities for high achievers.

HIGH QUALITY TEACHING AND LEARNING:

The following ESaGS indicators will be reflected in our provision for Mathematics and Numeracy:

- A broad and relevant curriculum is provided for the pupils.
- An emphasis on numeracy exists across the curriculum.
- Teachers are committed and enthusiastic, enjoying a positive relationship with their pupils and with other school-based staff and are dedicated to improving learning.
- Teachers provide opportunities for children to apply mathematical knowledge and understanding across the curriculum and in real life situations.
- Teachers use adaptable, flexible teaching strategies that respond to the diversity within the classroom.
- Assessment is used to effectively inform teaching and learning in order to promote improvement. Targets are set in relation to PTM data and other informal assessments analysed each academic year.
- Self-evaluation is carried out by teachers, year groups and the whole school, leading to sustained self-improvement.
- Teachers reflect on their own work and the outcomes of individual pupils which is used to inform future planning.
- Levels of attainment are recorded annually for each pupil and passed on to next teacher.

Approaches to learning and teaching of mental mathematics:

Mental Maths will be promoted through daily development of mental strategies to solve problems. This could take the form of a written 'mental starter', a practical activity, a game or ICT/Interactive whiteboard task. Some examples of mental strategies we seek to develop in pupils during these activities include: Counting on/back; Re-ordering; Inverse operations; Partitioning; Rounding and Adjusting; Factors; Equivalence and Quick Recall. Regular informal assessment of Mental Maths will help to inform planning and ensure that there is progression for mental mathematics within and across year groups.

Approaches to learning and teaching in Number:

Our teaching of Number will enable pupils to:

- Understand the number system – counting, sequencing, place value, fractions, decimals, percentages.
- gain a sound understanding of the place value basis of the number system.
- calculate – using the four operations.
- think flexibly and use connections within mathematics.
- develop skills of estimation.
- apply calculation skills in mathematical problem solving, across the curriculum and in real- life situations and select operation(s) required.
- apply financial capability skills.

Approaches to learning and teaching of Measures:

Our teaching of Measures will enable pupils to:

- measure weight, length, capacity and time in a hands on and practical way.
- use non-standard units, progressing towards recognising the need for standard units.
- measure using standard units.
- develop accuracy in estimation before measuring.
- select the appropriate measuring tools and units of measurement.

Approaches to learning and teaching in Shape and Space:

Our teaching of Shape and Space will enable pupils to:

- explore 2D and 3D shapes through Play and Activity Based Learning.
- investigate properties of shapes.
- name shapes and make reference to their particular properties.
- explore position and movement in real life contexts.
- develop language from informal to formal mathematical definitions.
- experience irregular shapes as well as regular shapes.

Approaches to learning and teaching in Handling Data:

Our teaching of Shape and Space will enable pupils to:

- apply data handling skills when investigating and making decisions.
- identify a question, then decide on information required, how to gather it, and how best to record or display it.
- analyse information to answer questions.
- develop an understanding of probability: from informal language to describe likelihood of events occurring, through formal language of increasing accuracy to numerical quantification of likelihood.
- use ICT to construct graphs and charts and input data into databases.

Approaches to learning and teaching in Processes:

Our teaching of Processes will enable pupils to:

- have opportunities to develop Processes skills e.g. through choosing materials and mathematics required, using a range of problem –solving strategies.
- plan their own work and work systematically.
- explain their thinking when given open-ended questions.
- work collaboratively, comparing ideas and methods with others.
- demonstrate clear progression of Processes skills within and across year groups.

CLASSROOM MANAGEMENT

We aim to give our pupils a variety of learning experiences in Numeracy lessons. These will include:

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| Discussion | Pencil and paper | Mental work |
| Calculator work | Games and puzzles | Problems |
| Use of ICT | Use of the outdoor environment | Estimation |
| Investigations | Practical activities | Group Work |
| Play Based Learning | | |

The teaching strategies used will include practical teacher demonstration, individual, paired, group and class teaching. These teaching strategies will match:

- the level of understanding of the pupil
- the age and ability of the pupil
- the nature of the topic
- the available resources

EFFECTIVE LEADERSHIP

The following ESaGS indicators will be reflected in our provision for Mathematics and Numeracy:

- An effective school development plan is in place, providing clear and realistic targets for improvement in Numeracy.
- The Principal and Governors understand their responsibilities and are informed about the Numeracy Action Plan and the strategies in place to bring about improvement in Numeracy.
- The Numeracy Co-ordinator demonstrates a commitment to providing professional development opportunities for staff, particularly teachers, and promotes a readiness to share and learn from best practice.
- Teachers are given the opportunity to share in the planning, implementation and evaluation of the strategies needed to bring about improvement in Numeracy.
- Under the guidance of the Principal and Numeracy Coordinator, teachers identify underachieving pupils and set individual, class and whole school targets to raise achievement in Numeracy.
- The resources for Numeracy are used and managed properly and effectively to support high quality learning and teaching.
- The Numeracy Coordinator monitors and evaluates effectively school Numeracy outcomes, policies, practices and procedures within the Numeracy Action Plan.

ROLE OF THE NUMERACY COORDINATOR

It is the responsibility of the Numeracy Coordinator to lead the development of Numeracy throughout the school, in conjunction with the Principal, reporting to the Principal and/or Board of Governors.

Responsibilities:

The Numeracy Co-Ordinator will:

- demonstrate expertise, enthusiasm and vision.
- promote self-evaluation in order to enhance the monitoring, evaluation and review processes.
- monitor, evaluate and record progress on the Numeracy Action Plan.
- ensure a regular review and update of the policy with all staff.
- encourage staff to use a range of learning and teaching strategies to best meet the needs of pupils.
- disseminate information from or assist staff to avail of Numeracy courses to enhance understanding and teaching of Numeracy.
 - organise school-based INSET as required.
- provide guidance in the effective use of comparative performance data, including benchmarking.
- encourage management to offer support for identification, dissemination and implementation of good practice in the learning and teaching of Numeracy.
- undertake on-going monitoring and evaluation at individual, class and whole school level.
- report to Principal and Governors about the school's Numeracy development.

CONTINUITY AND PROGRESSION

In our planning we endeavour to ensure that pupils have experiences across each of the five Numeracy areas and through the different levels. Using the Lines of Development provided by the Education Authority, along with the content taken from the Programmes of Study ensures progression. Yearly Overviews and a Number Progression document have been created by the Numeracy Coordinator to guide all staff.

Continuity is ensured by whole staff agreement on:

- mathematical language and conventions;
- compatibility of teaching approaches;
- development of schemes of work which include progression in ICT;
- appropriate teaching strategies;
- classroom organization;
- resources and materials;
- assessment and recording procedures.

MONITORING AND EVALUATING

Monitoring and evaluating are integral parts of the teaching and learning in our school and are the responsibility of all members of staff. The co-ordinator oversees the progress the school is making towards fulfilling its aims. This will be achieved through:

- evaluation of pieces of work (internal standardization)
- informal discussions with staff
- informal teacher discussions with pupils and parents
- informal/formal Numeracy staff meetings and development days.
- monitoring and feedback of teachers' six weekly planners/evaluations
- production, presentation and review of the school's annual Numeracy Action Plan
- regular book scoops/ feedback

The evidence, which we gather through these monitoring procedures, will be evaluated regularly in order to inform future planning. Staff will encourage the pupils to produce work of a high standard and these standards will be evaluated, maintained or, in some identified areas, improved. We intend to do this through:

- the sharing of learning intentions and success criteria
- formative assessment
- class / topic / end of term tests
- end of key stage assessment results
- internal standardization procedures
- formal and informal assessment undertaken as part of normal classroom teaching
- observation of practical activities
- discussion with pupils including pupils' self evaluation and assessment
- analysis of standardised test results
- quizzes and puzzles
- use of the procedures as outlined in the school's Assessment Policy

IDENTIFYING AND ADDRESSING PUPILS WITH ADDITIONAL NEEDS

"The school uses the teachers' knowledge and experience, as well as a wide range of standardised tests, to identify early those children requiring additional help in mathematics, and provides appropriate and effective intervention to support them." (Better Numeracy in Primary Schools 2010)

In Parkgate Primary School we consider it to be essential that each pupil fulfils their full potential as a learner of mathematics. We aim to identify any pupils who are underachieving and to ensure that appropriate support is given. Pupils' standardised (PTM) scores are analysed alongside their CAT scores. Informal assessments, daily classwork and Friday tests are also used to observe and identify individual pupils' difficulties.

Differentiated activities and outcomes may be provided for pupils/groups who are struggling with aspects of Numeracy. In line with the Code of Practice, the special needs of individual pupils are catered for through consultation with parents, the pupils, SENCo, Numeracy Co-Ordinator and other appropriate agencies. Parents are updated about their child's progress and achievement and Numeracy targets may be set on regularly reviewed Individual Education Plans.

We also recognise that differentiation is vital for more able and gifted children. Extension activities, brainteasers and extra problem solving elements in lessons help to challenge and advance these pupils' mathematical knowledge.

NUMERACY ACROSS THE CURRICULUM

Numeracy contributes to many other subjects of the curriculum. Other subjects can provide the opportunity to develop and enhance mathematical skills and knowledge. Numeracy also makes a significant contribution to the development of the curriculum area of Thinking Skills and Personal Capabilities. Pupils will be involved in activities which promote the skills of managing information, problem solving and being creative, whilst developing their abilities of working with others and self management.

ICT is an integral part of the planning and delivery of the Numeracy curriculum. C2k, Active Learn and iPad apps are integrated into Numeracy planners and are used to support teaching and learning. Pupils use ICT individually, in small groups or as a whole class on the Interactive Whiteboard.

HOME/SCHOOL LINKS

Parents will be kept informed of the progress of their children and how to participate in their education. They will also be made aware of issues of interest to them concerning developments within the school or the wider education field. This will be done through:

- annual written reports
- parent interviews
- informative and helpful remarks when marking work
- well selected homework activities
- displays of work
- annual curriculum meetings.
- table booklets (KS2) and learning of tables to practise at home.

CONSISTENCY WITH OTHER SCHOOL POLICIES:

The content of the Numeracy Policy is checked to ensure consistency with other school policies for:

Assessment, Homework, Special Educational Needs, Literacy, ICT, Positive Behaviour and Pastoral Care.

MONITORING AND EVALUATION OF POLICY

The Numeracy Policy is:

- Agreed with the Board of Governors
- Shared with parents
- Reviewed and updated every four years, in consultation with school stakeholders: staff, children, parents and governors