**Dundela Infants’ School and Nursery Unit**

**Numeracy Policy**

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**November 2022**

NUMERACY POLICY STATEMENT

In Dundela Infants’ School and Nursery Unit we seek to provide our pupils with the basic mathematical skills necessary to give them a secure foundation for their future education and to enable each child to attain his/her full mathematical potential. Above all, we do our utmost to create an environment in which children enjoy Numeracy. In the Early Years this will be fostered through a wide variety of practical experiences in different settings. Pupils will be encouraged to see mathematics in everyday contexts both at school and in the environment. They will have access to a large range of activities and resources. We believe these factors will enable them to develop and apply mathematical understanding and mental skills as they learn to discuss the work in progress and begin to demonstrate a grasp of appropriate mathematical language. Pupils will be encouraged and guided in tackling and solving problems collaboratively and independently.

**GENERAL AIMS**

* To make the learning and teaching of Numeracy in our school an attractive, engaging and relevant activity which each child will enjoy.
* To promote curiosity, understanding and proficiency in Numeracy and lay a secure foundation for each pupil to attain his/her full potential in this area.
* To foster the ability to communicate mathematical ideas clearly and with confidence.
* To encourage an awareness of the use and relevance of Numeracy in everyday life – in the classroom and in wider school and home environments.
* To exploit the cross-curricular nature of Numeracy as fully as possible to maximise learning and teaching potential.
* To develop Thinking Skills and Personal Capabilities (Managing Information; Thinking, Problem-Solving and Decision-Making; Being Creative; Working with Others; Self-Management).
* To integrate ICT into the Numeracy curriculum on a regular basis using appropriate hardware and software.
* To provide a broad and balanced curriculum in Numeracy, designed to build on the experience and to meet the needs of each child at his/her stage of development.
* To encourage parents to become involved in their children’s mathematical learning through home learning, information sessions, school events, our school website, Parent Teacher meetings etc.

**ROLES AND RESPONSIBILITIES**

We view the development of Numeracy as part of every teacher’s responsibility. All teachers need to use both planned and incidental opportunities for developing Numeracy throughout the school day.

**The Numeracy Co-ordinator will**:

* take the lead in curriculum and policy development in conjunction with the Numeracy Team and Principal, updating and reviewing policy, action plans, schemes and resources on a regular basis
* in collaboration with the whole school staff, help to produce schemes of work designed to ensure progression and continuity throughout the school
* promote reflective teaching and self-evaluation to facilitate the monitoring, evaluation and review process
* act in an advisory capacity to teaching colleagues, eg contributing to plans, observing classroom practice
* support colleagues in the development of planning for learning and teaching and in assessment and record-keeping
* make effective use of any available data to track children’s progress and assess the efficacy of teaching strategies
* work in conjunction with the ICT Co-ordinator to ensure learning progression and the inclusion of appropriate ICT resources
* work in conjunction with the Learning Support teacher and SENCO to ensure the needs of children with specific difficulties in Numeracy are being addressed and that tracking procedures are in place to ensure progression
* undertake to keep up-to-date with developments in mathematical education

and to disseminate information to colleagues as appropriate

* organise school-based INSET as required
* co-ordinate the purchase and organisation of Numeracy resources
* liaise as appropriate with Numeracy Co-ordinators from other schools, particularly Strandtown Primary School.
* report to the Principal and Governors about the school’s Numeracy development
* maintain and encourage communication with all relevant outside agencies, including DENI, EA and CCEA.

**The Senior Leadership Team will:**

* participate in termly assessment analysis and tracking of pupil progress in order to continue raising mathematical standards for all pupils
* provide support for class teachers and, if required, suggest appropriate interventions for low, under, and high achievers, Newcomer pupils and pupils with social and emotional needs eg. SENCO advice, Learning Support, EAL specialist advice and pastoral support
* review long, medium and short term planning
* promote self-evaluation amongst all teaching staff.

**The Numeracy Team will:**

* assist the Numeracy Co-ordinator with the annual action-planning process
* meet every half term to discuss planning and progress in Numeracy
* serve as the Numeracy champion within their own year group and offer encouragement, support and advice to year group colleagues
* draw up medium term plans for Numeracy.

 **The Class Teacher will:**

* encourage, facilitate and manage the development of Numeracy in their classroom
* promote mathematical enquiry, thought and language within their classroom
* identify and cater for the differing learning needs of their pupils
* identify pupils with additional learning needs and develop and manage interventions to support these needs
* monitor and assess pupil progress in line with school assessment procedures
* inform parents of their child’s progress
* participate in staff meetings and training.

**OUR PRINCIPLES FOR LEARNING AND TEACHING IN NUMERACY**

* The development of Numeracy and Mathematics should be an integral part of the School Development Planning process.
* Teachers should plan to ensure a broad and balanced curriculum for Mathematics.
* Mathematical skills will be incorporated across the curriculum.
* The importance and relevance of Mathematics in everyday life will be promoted.
* Learning and teaching will take account of the key role of language within Mathematics.
* Processes in Mathematics will be incorporated across all areas of Numeracy (Number, Measures, Shape and Space, Handling Data).
* Teachers will use an appropriate range of teaching strategies.
* A variation of approach will be used to take account of differing learning styles and abilities.
* Positive attitudes to Mathematics will be fostered through the positive attitude of the teacher and through the careful planning of a variety of differentiated approaches and activities.
* There will be appropriate use of ICT with teachers making good use of software packages and programmable devices.
* Pupils will be encouraged to become increasingly independent and to exercise choices and make decisions in their learning.
* Pupils will be encouraged to self-evaluate their learning.
* There will be suitable arrangements to ensure that all pupils make appropriate progress in Mathematics.
* Assessment will form an integral part of the learning and teaching process and will be used to inform future planning.
* Teachers will have opportunities for professional development as necessary.

**PROCESSES**

Opportunities will be provided for pupils to:

* work collaboratively so that through discussion they can develop their mathematical language and organise their thinking
* select the appropriate mathematical strategies and resources required for a task
* record their work in a variety of ways
* use a variety of materials in practical activities
* engage in a range of meaningful problem-solving and investigative activities.

**NUMBER**

Opportunities will be provided for children to:

* count, compare and order numbers
* develop an understanding of number conservation
* develop and apply their estimation skills
* understand addition and subtraction and how these processes are related
* use mental calculation strategies to solve problems involving addition and subtraction
* develop and consolidate written computational skills using a balance of practice and application in meaningful contexts
* explore and identify patterns and explain their reasoning when making generalisations
* search for patterns and use relationships in investigative work.

**MEASURES**

Opportunities will be provided for children to:

* use a range of appropriate measuring equipment (non-standard and standard measuring units)
* estimate and make appropriate comparisons
* appreciate the need for standard measures
* discuss the units of measurement, equipment and accuracy required when undertaking measuring tasks.

**SHAPE AND SPACE**

Opportunities will be provided for children to:

* handle shapes and discuss their names and properties
* investigate and construct shapes, including the use of ICT
* appreciate the importance of size and scale
* explore position, movement and direction.

**HANDLING DATA**

Opportunities will be provided for children to:

* collect, select, organise, display and interpret data
* apply data handling skills across the curriculum using ICT when appropriate
* discuss, make decisions and give reasons for them in relation to data handling activities.

**OUR PRACTICE IN NUMERACY**

**Teachers promote a positive attitude to Mathematics.**

* Teachers ensure work is well-matched to the pupils, includes a variety of approaches and appeals to various learning styles, includes fun lessons, open-ended challenges, games and investigations.
* Teachers model various methods and pupils are encouraged to take risks and not be afraid to ‘fail’.
* Teachers ensure ICT is incorporated into lessons on a regular basis.
* Teachers reward pupils with verbal and written praise and other reward systems.

**Pupils are encouraged to become increasingly independent in their learning and to work collaboratively, interacting with and supporting their peers.**

* Teachers use WALT and WILF to share Learning Intentions and Success Criteria.
* Pupils are encouraged to self-evaluate, indicating their learning in a variety of agreed ways including thumbs up, traffic lights etc.
* Resources and equipment are arranged to foster independence and allow pupils to find and select appropriate equipment for their tasks.
* Pupils are encouraged to talk about their learning with their peers and teaching staff.
* Pupils are given many opportunities to develop their Thinking Skills and Personal Capabilities.

**PLANNING AND ASSESSMENT**

Planning and assessment are inextricably linked and are an ongoing process which is integral to our learning and teaching. It should be a cyclical process and plays an important role in informing learning and teaching, and in providing evidence of progress made and outcomes achieved. Teachers plan, usually in year groups, an appropriate range of learning experiences for the pupils and use various assessment strategies to gauge the learning of the children in their class.

Planning is at three different levels:

1. Long-term planning – the school scheme which provides details of what is taught in each year group throughout the school.
2. Medium-term planning – provides details of learning and teaching, and may be focused on thematic topics or broadly based around a range of mathematical areas.
3. Short-term planning – weekly and daily – provides detailed notes, mainly intended for the class teacher, on the organisation of the classroom, groups within the class and differentiation between groups and individuals in the class.

Teachers use a wide range of assessment strategies to ensure that pupils are making progress and to provide information to assist future planning for learning.

Strategies include:

* observation of pupils during their learning
* oral discussions with, and between, children
* marking and feedback in written work
* photographic evidence of practical work and investigations
* Assessment for Learning strategies
* assessment of cross-curricular themes
* standardised testing, including baseline tests and MaLT tests
* analysis and effective use of performance data at school, year group, class and individual pupil level.

**ASSESSMENT FOR LEARNING**

Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there.

Within Numeracy, AFL should;

* Be part of every class teacher’s planning
* Focus on how students learn
* Be central to classroom practice
* Be sensitive and constructive
* Take account of the importance of learner motivation
* Promote commitment to learning goals
* Provide pupils with constructive guidance as to how they can improve
* Develop each learner’s capacity for self-assessment so that they can become reflective and self-managing.

In Dundela Infants’ School and Nursery Unit we promote the use of the following AFL strategies:

* Sharing of learning intentions (WALT)
* Sharing of success criteria (WILF)
* Giving verbal, pictorial and written feedback to all pupils in accordance with our marking policy
* Using effective questioning
* Promoting pupil voice by encouraging children to take an active role in assessment in accordance with their age, ability and educational needs.

**RECORD-KEEPING**

Observations are noted by the class teacher on to weekly observation grids.

Each teacher has assessment results compiled by previous class teachers. This information is passed on at the end of the year to the next teacher and is used as a basis for discussions at Parent Teacher meetings and for completion of annual pupil reports.

The Numeracy Co-ordinator monitors work through the collection of half termly notes and occasionally through lesson observations. Teachers are given individual written feedback following such lesson observations.

**WHOLE SCHOOL MONITORING AND EVALUATING STRATEGIES**

Careful and continuous monitoring is an integral part of an effective Numeracy programme because it enables teachers to determine the most effective strategies for teaching mathematical skills and helps assess students’ learning. School monitoring and evaluation helps in providing a consolidated source of information showing the progress of the school and its pupils.

The monitoring and evaluation of Numeracy within our school includes:

* Classroom observations (BT, EPD, PRSD, ‘Trusted Colleague’)
* Termly book scoops and/or book looks
* Examples of pupils’ work
* Folders/portfolios of pupils’ work
* Classroom and corridor displays
* Discussion and sharing of approaches at staff meetings
* Evaluated teachers’ planners
* School tests and standardised tests
* Parent questionnaires and appropriate samples demonstrating pupil voice.

**DATA ANALYSIS**

Standardised test results are analysed by the Numeracy Co-ordinator and an analysis report is compiled and given to teachers.

The results are used to:

* target pupils who are not making the progress which would be expected for them so that they may receive additional support
* target pupils who are performing above expectations so they may be provided with challenge and/or enrichment activities
* identify common areas of Mathematics where classes may need to focus
* inform future planning and classroom grouping and/or organisation
* inform target-setting for whole school improvement.

**CLASSROOM ORGANISATION / TEACHING STRATEGIES**

The primary school currently has nine classes with each class teacher, in consultation with their year group colleagues, taking responsibility for the planning and assessment of daily Numeracy lessons for all children.

Teachers plan for a flexible approach within Numeracy lessons, appropriately applying such organisational strategies as:

* whole class teaching
* group work (similar ability or mixed ability groups, as appropriate)
* paired work
* individual tasks

For the most part, lessons include mental Maths and a plenary session to evaluate, share and reinforce learning. Good use is made of the interactive whiteboards, by both teachers and pupils, to enhance learning.

**PRACTICAL ACTIVITIES**

 “I hear, I forget,

 I see, I remember,

 I do, I understand.” - Montessori.

Practical work is fundamental to the development of mathematical understanding. For most children the transfer from the use of concrete materials to abstract thought is a slow and gradual process. All children therefore need to be provided with a wide range of practical experiences before the underlying mathematical ideas become assimilated into their thinking. Children acquire early mathematical concepts through activities involving sorting, matching, comparing, classifying and making patterns and sequences in a variety of contexts.

Pupils should be allowed to make use of concrete materials for as long as they need to. A wide variety of materials should be made available since no single set of materials can provide sufficient opportunity for the development of mathematical concepts. Young children will invariably wish to explore unfamiliar materials and should be given the time and opportunity to do so.

In the Foundation Stage, learning through play is an essential part of the development process. Children learn best when they are exploring, investigating, talking and reflecting on what they are doing. They can apply problem-solving methods and processes in a natural way, free from the restrictions of an expected outcome. Teachers and classroom assistants are able to exploit and extend the learning which happens while pupils are engaged in meaningful play, so opportunities to develop mathematical language and concepts should be given in the context of well-planned play. This should include opportunities for pupils to estimate number, size, length, weight and capacity, and should also allow them to explore ideas related to number, size, shape, pattern, order and relationships.

Experiences provided during role-play, at sand and water play and with construction materials can provide opportunities for pupils to sort, match, count, measure and to become aware of size and shape. Through these everyday experiences mathematical terms can be introduced and developed in an informal way and with small groups of children. This is really where children begin to learn to work effectively in groups.

Time needs to be given for pupils to verbalise and share their ideas and experiences with each other, with the teacher at hand to encourage confidence and guide the development of mathematical concepts. Further experiences can then be provided as the need arises.

In P3, aspects of Mathematics are similarly reinforced in Activity Based Learning. P3 pupils also have opportunities to engage in problem-solving investigations - individually, paired and as a group.

**PROGRESSION AND CONTINUITY**

Dundela Infants’ School and Nursery Unit aims to ensure that all children have equal access to the full Mathematics and Numeracy curriculum. All children will be encouraged to work through planned activities at a pace appropriate to their abilities and needs.

* A scheme of work provides an appropriate structure for teachers to plan short- and medium-term learning experiences for all pupils.
* Half-termly notes take account of the scheme of work.
* Continuity is ensured by regular meetings at each year group level.
* Relevant observations and test results are passed on to and discussed with the next class teacher.
* End-of-year test results are collated and passed to Strandtown Primary School with copies of MaLT tests and a Numeracy results table.
* SLT collect copies of assessment results and Numeracy groups. The Numeracy Co-ordinator compiles school evaluation reports.

**DIFFERENTIATION**

Differentiation usually takes the form of:

1. Differentiation by outcome
2. Differentiation by task
3. Individualised learning

Teachers are aware of the need for differentiation within all classes and aim to provide learning experiences appropriate to the individual needs of each child in their class. Differentiation facilitates pupils in making progress by taking into account any additional needs the individual may have. Teachers also differentiate their resource materials according to the needs of the pupils. Effective use is made of classroom assistants in supporting some children with specific aspects of Mathematics. This enables each child to develop confidence and to progress at his/her own pace.

**SPECIAL EDUCATIONAL NEEDS**

All teachers are aware of the Code of Practice and their responsibility for supporting children with additional learning needs. Children with additional needs are identified through teacher observation, standardised testing and pupil tracking.

The school makes use of additional Maths withdrawal support for children in P2 and P3, where it is deemed necessary and appropriate. In addition to this, classroom assistants, with guidance from the class teacher, give support within the classroom or play area.

**INCLUSION AND EQUAL OPPORTUNITIES**

Dundela Infants’ School and Nursery Unit prides itself on being an inclusive school which takes practical steps in the classroom and beyond, to meet pupils’ needs effectively so that they can achieve their potential within Numeracy. Every classroom is an environment which is encouraging of mathematical enquiry and development, and inclusive of the following groups of pupils:

* All genders
* Ethnic minorities, travellers, asylum-seekers and refugees
* Pupils who need support to learn English as an additional language (EAL)
* Pupils with special educational needs
* Gifted and talented pupils
* ‘Looked after’ children
* Pupils with emotional health and wellbeing issues.

**MATHEMATICS ACROSS THE CURRICULUM**

The application of Using Mathematics across other areas of learning is a very important aspect of developing the fundamental concepts within Mathematics and Numeracy. These other areas provide the context for the application of Numeracy in everyday life situations.

**ICT**

ICT is used to enhance and develop the mathematical understanding of the children where it is most appropriate to do so. All pupils have access to computers, iPads and an Interactive Whiteboard in their classrooms. Interactive Whiteboards are used in every classroom to enhance the learning experiences of the children within Numeracy and other areas of the curriculum.

We also have a number of BeeBots and Spheros available which children use at Numeracy or Play/Activity Based Learning times. In addition to these, children have access to cameras, monitors, calculators and other audio visual equipment appropriate to their developmental needs. Pupils are encouraged to become independent in the use of ICT and progression is tracked across year groups.

**Learning through Play**

During Play or Activity Based Learning activities children can investigate and discover independently or as part of a group. They can apply problem-solving methods and processes in a natural way and find out about the world as an important part of the learning process. Mathematical language can easily be introduced in a natural development through role play, using money and introducing measuring and capacity skills. Using construction toys to build models helps with the concepts of shape and space.

**PDMU**

Personal Development and Mutual Understanding can contribute to and enhance learning in Numeracy. Pupils are encouraged to share resources and work collaboratively, interact effectively and support classmates. Practical Maths activities and problem-solving investigations completed in groups give children opportunities to develop respect for other people’s ideas and opinions. They learn the importance of team work and valuing other

people’s contributions. Children receive praise and encouragement for their efforts in completing activities and this helps to enhance their self-esteem and sense of value.

**Thinking Skills and Personal Capabilities**

These are developed when children apply the strategies and methods involved in problem-solving and investigative activities. Pupils are given opportunities to develop skills in self- management, managing information and being creative. This develops the social and interpersonal skills necessary to enable effective teamwork as well as developing their confidence to work independently.

**RESOURCES**

In addition to essential equipment in each classroom and play area, appropriate to the needs of the children, a range of centrally stored resources is available. These are for the use of all classes and should be borrowed as required and returned as soon as possible after use. There is also a wide range of Mathematics reference material and commercially produced schemes, worksheets and games for teachers’ use.

**PARENTAL INVOLVEMENT**

Parental involvement is recognised as a crucial influence on a child’s development in Mathematics and is actively sought by the school. Parents may ask for information and advice from teachers through the class Seesaw app. In addition to this, regular communication with parents includes

* School website
* Homework
* Open afternoons
* Twice yearly parent teacher meetings
* Annual Pupil Profiles (written reports)
* Personal Learning Plans (where applicable).

**HOMEWORK**

Homework is used to support and consolidate learning in Numeracy. Parents are encouraged to develop their children’s skills by helping with the acquisition of number facts or carrying out written or practical Maths tasks or challenges.

Pupils who are experiencing difficulty with any particular aspect of Mathematics are sometimes given homework targeted to their specific needs. Parents are asked to sign all work which is completed at home and are given advice from teachers on how best to fulfil their role in consolidating the work initiated in school.

Completed work is sent home on a regular basis. This helps parents monitor their child’s progress and enjoy reading over the work they have produced in school. Pupils are encouraged to take pride in sharing this work with their parents.

**BOARD OF GOVERNORS**

The school’s Numeracy Policy, in line with the Numeracy Curriculum, is submitted to governors for their approval. Governors also receive copies of annual Numeracy Action Plans and are updated regarding progress on a regular basis at Board of Governors’ meetings.

**STAFF DEVELOPMENT AND SUPPORT**

It is the school’s policy to provide as much support to all of its teachers in delivering the NI Curriculum and enable them to provide the highest quality learning experiences for all our pupils. This is achieved mainly through in-service training and collegial support. At times

there are opportunities for teachers to attend appropriate courses organised by EA and other third parties.

**POLICY REVIEW**

This policy will be agreed with the school’s Board of Governors and shared with teachers and parents. It will be reviewed every three years by the Numeracy Co-ordinator and uploaded to the school website.

J Davidson

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