



Mathematics Policy

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1. Rationale

The intention of this policy is to describe the ways in which we meet the needs of the children in Castlebar School, all of whom experience barriers to their learning. The implementation of this policy is the responsibility of the teachers and all other professionals involved with our pupils. We also hope it will be informative to all others with an interest in the development of our pupils.

2. Aims

- To develop the basic mathematical skills and concepts to help pupils function in everyday life situations
- To present mathematics as an essential means of communication.
- To follow a significantly modified 'National Curriculum' with an individual approach to cater for a wide range of complex learning needs.
- To provide a cross-curricular approach, whenever possible, in order to provide relevance, to motivate and to support the consolidation and extension of skills and concepts.
- To ensure that mathematical skills are specific to the development, needs and understanding of the children at our school.
- To develop systematic working habits.

3. Basic Mathematical Skills

Mathematics contributes to and has practical value in all aspects of everyday life. In order to lead as independent lives as possible, it is an essential area for our pupils. We aim to provide our pupils with the basic mathematical skills needed for everyday life. The progress of each child in attaining these skills is monitored termly. New targets for using and applying and number are set termly and reviewed through the IEPs. The TLR post holder for Mathematical Development is responsible for tracking the progress of pupils and analysing data from IEPs and robust assessment tasks.

4. Planning

Planning is saved in Word Documents in 'T-share'. The Foundation Stage model of the seven areas of learning has been extended to include elements of the national curriculum mathematics programme of study. As children coming to Castlebar School are presenting with more severe and complex needs the topics chosen for study have been reviewed and curriculum maps now include the Equals SLD curriculum. The objectives listed in the maps show progression in early mathematical skills and concepts throughout the school and highlight links between numeracy topics and other areas of the curriculum. A more integrated approach helps pupils make sense of number, shapes, and patterns they see in the world around them and encourages transference and generalisation of concepts and skills. To support this, the interventions of Key to Learning and First Class @ Number, have been implemented for key children and classes across the school. Teachers acknowledge the importance of teaching certain elements of the maths curriculum e.g. time, shape, mass on a more regular basis and incidentally rather than e.g. in 4 week 'blocks' as concepts need to be constantly revisited and reinforced in different ways and in a variety of contexts. Daily numeracy lessons are planned to develop basic mathematical skills/essential life skills and the areas of shape, space, measures and data handling are incorporated into the plan to best suit topics being taught by each class and the individual needs of the pupils.

5. Medium Term & Short Term Plans

Planning now takes into account the developmental needs of the pupils. At the beginning of each half term the teacher selects objectives from the curriculum maps which are taken from the National Curriculum, P Levels and the Early Years Foundation Stage. Objectives chosen may be directly related to the pupils' IEP targets, taken from a P-Level or programme of study area where a group of pupils are functioning or what the teacher judges the next step should be. These objectives inform the medium term planning and plans to cover these

objectives are produced on a weekly basis. Assessments should be included in the planning and the school assessment sheet proforma used during the lesson. This informs future planning as well as providing evidence of progress. It is good practice for year groups to plan together where possible.

6. The Numeracy Lesson

Each child in the school has a daily numeracy lesson. We are aware of the aims of the national curriculum for mathematics education and these directives are taken into consideration when planning and carrying out the lesson. We work closely with schools within the teaching school alliance and follow advice from research in teaching Maths to SEN pupils with specific conditions, e.g. Downs Syndrome and Autism, and use a variety of specific interventions such as Intensive Interaction and Applied Behaviour Analysis/ Verbal Behaviour, Maths Mastery and findings from Lesson Study, to support key children. Pupils in the early years do not have a discrete lesson as such but follow an integrated day. This practice has continued further up the school as the nature of pupils' learning difficulties have changed and many have problems with attention control and listening. Here pupils may do shorter 'focused' maths tasks either related or not to the KUW topic and as part of a cross curricular carousel/ schedule of activities. 'Up front' teaching of whole classes may no longer be appropriate in most classes but older/more able groups of pupils still benefit from a more formal approach – a very short mental/oral starter, main teaching tasks and plenary, although each teacher is responsible for organising and structuring daily numeracy sessions there is an agreed format that all staff follow:

Short mental/oral starter (older/more able pupil) or circle time (younger/less able pupils)

At times the work will be related to rest of the lesson and at times it will be independent

Points to remember:

- A brisk pace should be maintained getting the lesson off to a clear sharp start- short listening & looking and attention 'warm-up' activity
- Questions should require rapid recall of number facts/previous learning
- Variety of multi-sensory hands - on activities, action songs/games, counting etc.
- There should be a range of questions ensuring all children take part with signs/symbols to aid understanding & communication
- There should be appropriate use of practical resources to engage interest
- Correct and focused mathematical vocabulary should be emphasised

The Main Teaching Activity

(May be used to introduce new topics, consolidate/extend previous work or to use and apply concepts and skills)

Points to remember:

- Learning objectives of the lesson should be clearly communicated at the beginning of the session in writing if appropriate or given verbally with signs/symbols
- Links to previous work should be made clear.
- Ensure children are clear about how to record their work.
- Differentiated tasks should be related to the mathematical topic/objective of the lesson.
- Opportunities for older pupils to solve problems and apply their knowledge to real life situations
- Assessment recording sheets prepared and used to support the assessment of learning within the lesson, in particular for practical activities.

The Plenary Session may:

- Reflect on lesson and address misconceptions
- Allow children to present and talk about their work
- Describe any homework that is being set
- Explain what the children will be doing next

7. Methodology

It is school policy that our pupils should experience a wide range of teaching and learning styles. At all levels we ensure that their mathematical experience is as wide and fulfilling as possible. At Castlebar School we are aware that the ability to calculate 'in your head' is an important part of mathematics and an important part in coping with society's demands and managing everyday events. Children not only need to recall a wide range of facts but need to know mental strategies for quickly finding from known facts a range of related facts, this is taught in small steps to develop this concept for our pupils to understand the elements needed to achieve this goal.. Informal recording and the use of tools such as Numicon shapes & pegs, number lines & rods, partition cards, hundred squares and multi-base equipment are used to develop an understanding of number at all stages. In order to acquire basic mathematical skills, children must be able to use and apply their knowledge. This is a particular area of difficulty for many of our pupils.

To achieve success we:

- use a practical approach followed up by recording tasks (Maths Mastery approach)
- use 'real life' situations when possible
- take a cross curricular approach

8. Mathematical Vocabulary

In order for our pupils to make progress in mathematics and to acquire basic life skills, their mathematical vocabulary must be developed.

It is good practice:

- To introduce new words in a suitable context using signs & symbols alongside tangible/visual apparatus. It may be necessary to delay the introduction of some correct terms e.g. 'fewer' instead of 'less' when comparing numbers and '2D/3D' when exploring shapes until the pupils can really understand.
- To refer to them on a regular basis
- To encourage the pupils to respond and use new vocabulary in activities across the curriculum and in a variety of contexts.
- To use open and closed questions to sort out any ambiguities

After carrying out a focus on Numeracy vocabulary in a whole school Lesson Study Research cycle, it was evident that Numeracy vocabulary needs to be concise and focused by all staff and repeated throughout the lesson to ensure pupils understanding. Key vocabulary needs to be thought out prior to the lesson to ensure pupils understand the meaning behind the concept being taught e.g. add needs to be clear before plus is introduced. The use of Numeracy vocabulary is monitored through planning and during Learning walks carried out by the Numeracy TLR.

9. Equal Opportunities (including Gender Awareness) and Special Needs

Our aim is to ensure that all pupils make progress and gain positively from each mathematics lesson. Our challenge is to ensure that every child has access to the curriculum at the appropriate level, irrespective of their individual needs.

To achieve this we will:

- differentiate tasks and activities
- liaise with other professionals
- organise the class and deploy support staff
- use a multi-sensory approach
- ensure our teaching materials take account of ages, gender interests and cultural background of our pupils

Due to disproportionate numbers of boys to girls staff are aware of the need to ensure girls have equal access to the numeracy curriculum.

10. Pupil Progress and Achievement– Tracking and Assessment

At Castlebar we are continually assessing our pupils. We see assessment as an integral part of the teaching process and endeavour to make our assessments purposeful, allowing us to match the correct level of work to the needs of our pupils, thus benefiting the pupils and ensuring success.

- At the beginning of each academic year a baseline assessment is made of each pupil. This is reviewed termly and a final assessment made at the end of the year.
- Each child has an individual electronic Progress Tracker in which teachers record progress in Number, U&A, and SSM and this follows the child through the school.
- Each term our pupils are given two mathematical targets in their I.E.P.'s, one in Number and one in Using and Applying. I.E.P.'s. are reviewed termly and new targets set if the pupil has achieved the previous one. A bank of samples of moderated work is collected during staff training opportunities to ensure judgement of levels is consistent. .
- Pupils that have completed P8a in the PIVATs system will be assessed against 'I Can' statements linked to the new programmes of study.
- Pupils in Year 6 are encouraged to take pride in their achievements by selecting their best work to be put in their Records of Achievement Books.

11. Focused Interventions

A small group of children working just below the National Curriculum programmes of study are currently taking part in the intervention of First Class @ Number, which is part of the Every Child Counts programme, led by three Teaching Assistants who have been trained to deliver this programme and over seen by the TLR. The intervention focuses on Number tasks with a Post Office theme e.g. the children use letters, postcards and parcels with house numbers to support their mathematics and write to their class teacher about their achievements.

12. Information and Communication Technology

Regular use of ICT in the daily mathematics lesson supports pupil activities and the teaching strategies related to the learning objective of the lesson. The school has interactive whiteboards in all classrooms and classes use control technology e.g. Beebots and remote control technology to deliver aspects of the curriculum. All Departments are equipped with interactive programmes which are used on a daily basis as part of the numeracy lesson and the use of touch screen programmes is also available. Symphony Maths is in place for children who are able to work independently at a computer following mathematical questions and instructions to answer questions.

13. Resources

Numeracy is a well-resourced subject at Castlebar School. Numicon has been adopted as the core multi-sensory apparatus and its accompanying software is used throughout the school. All teachers have access to Numicon resources and all classes are equipped with a range of other resources appropriate to the learning needs of the pupils. Staff often design, prepare and share their own resources as a growing number of pupils with complex learning difficulties benefit from tailor made activities.

CASTLEBAR SCHOOL

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