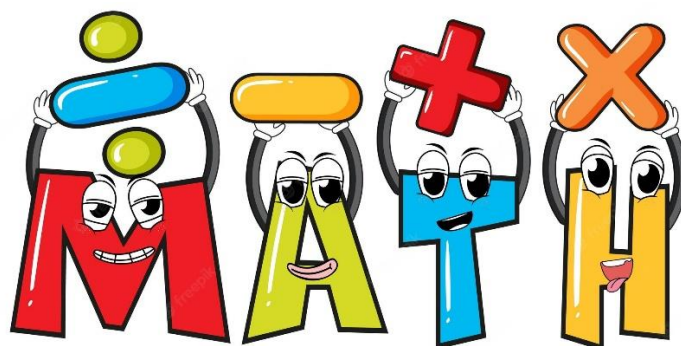




Scoil San Eoin

Whole School

Maths Plan



Introductory Statement

This plan had been formulated over a two year period from 2013, stemming largely from a School Self Evaluation in the area of Numeracy. It was then reviewed by staff in October 2018 with some adaptations made. **It has now been reviewed by staff in 2022.** It is an accumulation of thoughts and ideas from staff and parents on how to ensure best practise in both teaching and learning and how to maintain a good standard across the school in the area of numeracy. **It is also the end result of School Self Evaluation in this area which has been an ongoing process since 2014.**

Vision

In Scoil San Eoin, we believe that each pupil's development in and through mathematics should be part of their holistic development. It is our hope that on leaving school, each pupil will have been facilitated to reach his/her potential in mathematics and that this will help them in his/her everyday lives and his/her continued mathematical education. We aim to make mathematics practical, beneficial, relevant and most of all enjoyable in their lives.

Rationale

This plan has been written so as to:

- Benefit teaching and learning in our school
- To guide teachers in their planning – it will form the basis for teachers long and short term plans
- To assist all staff in the teaching of maths – it will inform new or temporary teachers of the approaches and methodologies used in our school.
- To conform to the principles of learning outlined in the Primary Curriculum
- Address the issues raised during SSE and in staff meetings.

Aims

Through the implementation of this plan we endeavour to achieve the following aims in line with the primary mathematics curriculum:

- To develop a positive attitude toward mathematics and an appreciation of both its practical and its aesthetic aspects
- To develop problem-solving abilities and a facility for the application of mathematics to everyday life
- To develop skills which may be utilised across all areas of the curriculum.
- To enable the child to use mathematical language effectively and accurately
- To enable the child to acquire an understanding of mathematical concepts, skills and processes to his/her appropriate level of development and ability
- To enable the child to acquire proficiency in fundamental mathematical skills and in recalling basic number facts.
- To develop a uniform approach to maths language, tables and problem solving in the school
- To share and utilise maths resources and effective teaching approaches with other staff members
- To use regular assessment to ascertain the progress of pupils and to identify those encountering difficulties as early as possible
- To provide support to these pupils identified as needing extra assistance
- To utilise our SEN teacher in assisting in the teaching of Maths e.g. team teaching, in class support, target groups etc, so as to ensure that all pupils are reaching their potential and attaining good levels within this subject area.
- To utilise IT in the area of maths e.g. Maths programmes and websites to consolidate learning and give all types of learner's access to maths through a variety of mediums.

Content

This plan will be addressed under the following headings:

Curriculum planning

- 1) Strands and Strand Units
- 2) Approaches and Methodologies
- 3) Assessment and Record Keeping
- 4) Children with different needs
- 5) Equality of Participation and Access

Organisational Planning

- 1) Timetable
- 2) Homework
- 3) Resources and ICT
- 4) Individual Teacher Planning
- 5) Staff Development
- 6) Parental Involvement – Home/School/ Community Links

Curriculum Planning

1) Strands and Strand Units

The content of the Mathematics programme is based on the strands and strand units of the Curriculum – (For overview see Infants Pg 17; First and Second Pg 37; Third and Fourth Pg 61 and Fifth and Sixth Pg 85)

In order to ensure that all teachers are familiar with the curriculum for their class level and that familiarity is maintained:

- All teachers will have access to copies of the primary school maths curriculum and teacher guidelines
- All teachers will have a copy of the school maths plan in their class.
- All teachers will have copies of the maths textbooks, teacher resources manuals and any other related material.
- One staff meeting per year (preferably in Sept/Oct) will be specifically geared towards the agenda of Maths within the school. **This will be mainly in relation to SSE and with the purpose of reviewing, outlining updates and changes, suggestions for further change and looking at how best to implement these changes. The aspect of curriculum planning will be included in this.**
- All teachers will be informed of the resources available and any updates to these resources.
- Specific issues relating to multi-class situations will be addressed at the specific staff meeting and during other meetings if necessary. Careful consideration will be given to the use of multiple text books, use of materials, grouping and timetabling especially with regarding to linking in with Special Education Needs for team teaching/**target groups/in class support**. In order to ensure that this familiarity is maintained when new teachers join the staff, the principal will supply and discuss the plan with the new teacher.
- Teachers will be able to access records of pupil's achievements and standards from cuntas miosuil, report cards, IEPs, test results (**standardised and classroom**) and general teachers pupil records (assessment booklets), stored in the pupil's file at the end of each year, and on the Aladdin system.

2) Approaches and Methodologies

- In order to ensure that all of the pupils have an opportunity to access all of the strands of the curriculum a yearly maths plan is followed by the class teacher. The planning grids in the Busy at Maths Teacher's resource books may be used to aid this process.
- Based on the graphed results of the Dromcondra testing, Busy at Maths pupil profiles, **educational assessment results** and teacher observation, times will be allotted to pupils for supplementary teaching (see Special Education Policy) Pupils receiving supplementary teaching from the SEN teacher will work within the classroom situation where possible. However, the class teacher and SEN teacher will establish a system best suited to the needs of all pupils involved e.g. team teaching (rotation stations), classroom support, small targeted groups etc. This will also depend on the resources and needs within the school during that year.
- The Busy at Maths series is the scheme used for teaching maths within the school. Supplementary textbooks are also available to consolidate and provide extension and differentiation. However, it is emphasised to all teachers that textbooks are there to reinforce and consolidate concepts learned through active learning strategies.
- The use of concrete materials is widely emphasised throughout the school and with the support of the BOM, and in line with suggestions from the curriculum, we are increasing and improving our Maths resources each year.
- **More emphasis has been placed in the past few years on the use of IT in the teaching and learning of Maths. This is outlined both in our Digital Learning Strategy and also our SSE documents. Programmes such as Times Tables Rock Stars, Numbots and websites such as Mangahigh and SeeSaw have been utilised for consolidation of learning. This allows all types of learners to access maths through a variety of means, approach maths in a fun way and also strengthens the home-school link. It is up to the individual class/SEN teacher to ascertain how best to utilise IT with regard to the teaching and learning of maths within their particular classroom setting.**
- We are providing opportunities for all pupils from 3rd to 6th to use calculators e.g. checking answers, explore number systems etc, especially with regard to weaker pupils. We will also follow recommendations for early use of calculators from Ed.

Approaches and Methodologies

- Psych reports when included. Each SEN pupil is given a set of maths resources, tailored to their needs at the beginning of the year which they can access at any time e.g. calculator, numberline, place value resources.
- We have agreed and developed a table of required standard for each class level in maths language, number limits and symbols (Pg 70 Teacher Guidelines)
- Real data collected in other areas of the curriculum is used to represent findings e.g. graph from SESE – cross curricular
- Estimation skills will be refined and developed across all strands in maths, not just number. Parents will be encouraged to use estimation strategies during homework and in everyday situations e.g. shopping, cooking, money, time etc.
- We will raise the profile of maths within the school by displaying pupils maths work throughout the school, each class will complete 1 maths/SESE trails a year and the whole school will take part in Maths Week. We will also involve the Parents Reps where possible to strengthen home school links

Talk and Discussion

There is an emphasis on guided discussion and development of discussion skills throughout the school across all areas of the curriculum. Peer/self-correcting is common in the senior class and pupils are provided with the opportunity to explain how they got an answer and clarify ideas. Pupils are also encouraged to comment on other pupils work and help them work out any issues. Common approaches to both language and procedures will ensure an easier transgression for students from Junior to Senior classes and parents will be informed of these approaches, so these can be also used constructively in homework.

Scaffolding

Teachers model language both the language to be used and the procedure especially when talking through the problem-solving process.

Integration/Linkage

Mathematics is used as a tool in other areas of the curriculum e.g. graphs, scale, order, measuring in SESE and shape and space in art. There is also linkage within maths itself e.g. decimals in money, measurement and data

Mathematical Language in Context

Maths has its own vocabulary and there is an agreed emphasis on the importance of the language of maths for each pupil. In 2014, the staff of Scoil San Eoin has, while referencing the curriculum, established a list of terminology and language that is to be taught at each class level (**Appendix 1**). This was then reviewed in 2018 **and again in 2022**. This language is reinforced with reference to the environment both at home and at school.

Number Facts

The staff of Scoil San Eoin has also discussed approaches and methodologies to the learning and teaching of number facts within the school. Agreed common approaches for Addition, Subtraction, Multiplication and Division, have been decided upon and these are outlined in **Appendix 1**. These will be examined and discussed each year and refreshed if necessary, and further agreed strategies for the other areas will be added into this plan each year where applicable.

Active Learning and Guided Discovery

All classes have access to concrete materials to facilitate active teaching and guided discovery across all strands

Maths games, both physical and ICT, are also available and are utilised on a weekly basis. Laptops and I pads are available to all classes and for use in SEN setting.

Login codes for any programmes will be sent home so that they can be accessed at home. SeeSaw will be utilised as a means of consolidating learning in the current topic. Parents (at PT meetings and via email) and pupils will be encouraged to logon when possible and utilise these activities.

Collaborative and Co-Operative Learning

Teachers will allow as much time as possible for a variety of opportunities for learning e.g. group work, paired work, whole class work. **Where possible each classroom will have an opportunity to do a stint of rotation stations.** This will occur once a week with the SEN teacher. Its aim is to consolidate learned concepts and skills while utilising concrete resources and ICT in differentiated groups. These opportunities will be subject to timetabling, resources etc.

Problem – Solving

It has been agreed, from standardised test results (graphs on Aladdin) and teacher observation, that problem-solving is an area which needs to be improved within the school. Below are some approaches which the school staff has agreed on as part of a whole school approach to improvement in this area.

- Use equipment, environmental objects, pictures and diagrams to build up a picture of the information that is given, and to help to focus on the exact information being sought. This will be modelled by the teacher and then completed independently by the senior classes (5th and 6th)
- Highlight key words
- Analyse the exact question asked
- RUDE– Read, Underline, Draw/Diagram and Estimate
- Use real life situations where possible to draw comparisons
- Incorporation of estimation
- Use of calculators for larger numbers and checking answers
- Oral discussions on problems and how particular answers were arrived at
- Pupils to compose word sentences linked to mathematical equations as an introduction.
- Have a problem solving ‘workshop’ yearly, coordinating with the SEN teacher

Using the environment

The school environment will be a maths friendly one. Children will be exposed to maths in a variety of ways e.g. displaying maths work in hallway, numbers and shapes throughout the school. Pupils will also use the school during maths trails and maths week e.g. measuring, weight, data, area.

Skills through Content

Pupils are given the opportunity and encouraged to apply all the skills outlined in the maths curriculum through integration and application of all subjects as much as possible and throughout their school life. The use of mental maths is encouraged in all classes and is timetabled as part of Maths each week. See Teacher Guidelines Mathematics Pg 68-69

Presentation of Work

Neat clear presentation of maths work and copies is expected. All maths work is to be completed in pencil, with red pen being used for ruling, date, Page numbers, heading and numbers in the senior classes. Use of rough work column and margins is encouraged.

Estimation

Rounding is the most common method of estimating within the school. However, other methods such as clustering, front end and special number strategies will be explored where necessary. These methods are taught exclusively during Place Value/Addition and Subtraction at the beginning of the year.

Calculators

Calculators will be accessible to pupils from 3rd class, and pupils where it as a recommendation on a report. Pupils will be taught basic usage and techniques. Calculators may make problem-solving more accessible to low achieving pupils and also allow able students to increase independence through self-correction and analysing where they may have made a mistake.

3) Assessment and Record Keeping

Assessment is a continuous and dynamic part of teaching and learning in Scoil San Eoin. The results of assessment will feed back into the teaching and learning process. A broad range of assessments take place during the year such as:

- Teacher designed tests and tasks on a weekly/monthly/termly basis.
- Teacher observation and record keeping – Diagnostic tests/Profiles of individual pupil or whole class (From Busy at Maths Teacher Resource book), **assessment booklets** and class oral discussions.
- Work samples and projects – **scrapbooks or class folder**
- Standardised Testing – Dromcondra at end of May. Results are recorded on Aladdin and analysed to ascertain where improvements are needed, if any, and from these teachers will devise strategies to remedy any common difficulties.
- Pupils daily work in copies and homework.
- **Peer and Self-Assessment – Traffic Light System**
- End of year reports – link with parents.
- Testing completed by SEN teacher

Results of assessment are communicated with parents during parent/teacher meetings, end of year reports and also logged in our Assessment Booklet on a weekly basis, which is signed by parents/guardians. Information on assessment are shared with other teachers and/or professionals in line with our Special Education Needs policy and all information is stored in line with Departmental Policy on record keeping.

4) Children with Different Needs/Differentiation

Pupils with special education needs are given access to all strands of the maths curriculum. However, a differentiated programme will be established between the class teacher and SEN teacher where necessary. The system of supplementary teaching will be created depending on the teaching resources and number of pupils in each classroom that year. IT is used specially to assist the teaching and learning of pupils with special needs.

4) Children with Different Needs/Differentiation

Within the classroom, the teacher will differentiate the pace, content and methodologies to ensure learning and success for all pupils according to their potential.

Pupils in the senior class who are identified as having SEN in the area of maths, either through teacher observation and school-based testing or through NEPS assessment, will be provided with the following options for differentiation –

- Buy the BAM pupil books, this is so that they can write directly into them, alleviating time restraints writing work into a copy
- Use of Master you Maths – Level to be decided by SEN and Class teacher – instead of Shadow Book. This is to ensure revision of all aspects of maths on a weekly basis, with a weekly test and a layout which alleviates lots of writing.
- A schedule will be devised within the SEN timetable to group all these pupils together and provide weekly opportunities for group learning where the SEN teacher basis her lessons on common difficulties that have occurred in the homework/tests that week.

The Junior Room caters for the Junior Infant Early Mathematical activities by withdrawing them from the room and are timetabled to attend the SEN teacher. This active learning and guided discovery enable the Junior Infant Pupils to use concrete materials while working on their oral Mathematical Language development vocabulary. This collaborative learning allows the children to work in small groups as they engage in the active learning activities. This also, enables the class teacher to focus on teaching the remaining three classes.

Team teaching is planned and incorporated in the SEN time table, this planning enables the class teacher to spend more time with her mathematical class (First & Second/Infants) and the pupils benefit from experiencing more one to one teaching.

4) Children with Different Needs/Differentiation

Mathematical Target groups are arranged after incorporating the following strategies: teacher observation, informal assessment, weekly/termly assessments, members of a Mathematical website results, correction of work both written and orally. In class support occurs with these Target groups with the SEN teacher and/or the class teacher would focus her teaching and learning with the Target groups in the SEN room.

5) Equality of participation and access

Equal opportunities are given to all pupils to participate in discussions, use of manipulatives, presentation and all mathematical activities. All pupils have access to services, facilities and amenities in the school environment. Pupils experiencing any form of disadvantage and/or disability may gain more access to concrete materials and one to one time with class teacher and/or SEN teacher where possible. Homework may be differentiated and simplified and where necessary, parents/guardians can avail of extra assistance in the area of homework from the class teacher.

Organisational Planning

1) Timetable

As per curriculum guidelines, the time allocation for Mathematics is as follows:

- Junior/Senior Infants – 3 hours 25 minutes per week
- 1st to 6th class – 4 hours 10 mins
- Additional time may be allocated from discretionary time on the timetable, especially to accommodate the use of maths games and activities/ ICT
- Maths may also be linked/integrated into other subjects within the curriculum where possible.

Timetable

Ideally, maths time should include mental maths, oral maths, and correction of homework, administration of new homework and teaching/continuation of the core lesson. This may not always be possible in a multi class situation and teachers may use other techniques such as peer/self correction to utilise the time best.

Class teachers and SEN teachers work collaboratively throughout the year on timetabling, content, strategies and techniques to suit the needs of the pupils at that time and to make best use of the resources available.

2) Homework

In line with the school Homework policy, pupils receive maths homework on a daily basis.

Since Covid, homework is corrected and administered on a Monday and sent home until pupils return it again on a Friday. This removes the distraction of correction of homework for the remainder of the week.

- The purpose of homework is to consolidate and reinforce the concepts and methodologies used in class that week. It also provides opportunities for pupils to utilise what they learned in the home environment e.g. measuring.
- Tables or mental maths e.g. percentages/fractions/times are included as part of daily homework
- Collaboration will exist between class teacher and SEN teacher to establish who outlines the homework for each pupil and the type of homework set. SEN teacher corrects and marks the homework for the Maths SEN senior group.
- The amount of homework will vary depending on the class level, topic and pupils ability. If a pupil is experiencing difficulty completing homework on a long term basis, the class teacher will take the necessary steps to combat this issue after speaking to the parent/guardian.

Homework

Maths homework also allows parents to take an active role in helping their child learn. Parents will be assisted in this role by the class teacher throughout the year where possible, especially at PT meetings. Information and appropriate links can also be found on the school website. A booklet 'How we teach Maths' is available for the Junior pupils parents.

3) Resources and ICT

Appendix 2 contains a list of software and physical/concrete maths resources available within the school. Shared resources are stored in the **SEN** room and other daily resources are stored in individual classrooms. **The SEN teacher has responsibility for organisation and storage of these resources.**

There are **four** interactive whiteboards within the school to which both classroom and SEN teachers have access.

Busy at Maths is the scheme used across all class levels. However, supplementary books are available in the store room.

Ms Nuzum has responsibility for researching, assessing and updating new ICT programmes for the school. A list of the most useful websites **and Apps** is also available in **Appendix 2**. Internet usage is governed by our ICT policy.

4) Individual Teacher Planning

In consultation with staff members, both mainstream and support, changes have been made to the format of short term and long term planning and IEPs, in Scoil San Eoin. There is now a standard format for monthly/yearly planning which also includes a Cuntas Míosiúl.

- Teachers will base their long term and short term plan on the approaches and methodologies set out in this whole school plan.
- Teachers are expected to utilise this format only for their planning throughout the year.
- **Since 2022 all plans are to be uploaded onto Aladdin and should be available for all teachers to view.**

Individual Teacher Planning

1. Cuntas Miosiúl are to be **put up on Aladdin** by the first Friday of each month to outline progress made on the maths programme. **These will be viewed there by the Principal.**
2. Teachers are also encouraged to use the planning guide within the Busy at Maths Teachers Resource book as a guide.
3. A yearly plan (Appendix 3) was compiled for the Senior classes and the Busy at Maths Assessment Booklets were adapted to suit this plan.

5) Staff Development

Time is set aside at staff meetings for maths planning/decision making. One staff meeting per year (preferably in Sept/Oct) will be specifically geared towards the agenda of Maths within the school. Sharing of expertise, information and new ideas is done at this meeting. Maths courses offered by Blackrock Education Centre are communicated to the staff through the staff notice board. **Yearly SSE is completed in the area of Maths.**

6) Parental Involvement – Home/School/ Community Links

We endeavour to communicate information and involve parents as much as possible in the teaching and learning of the maths programme within the school, especially at the junior level. This is done through:

- The Parents Reps involvement in Maths Week and Maths trails.
- Outlining the various methodologies e.g. subtraction, long division and learning number facts, to parents
- Emphasising the importance of ‘everyday maths’ so that pupils are actively using maths around the home environment e.g. homework – measuring, weighing, money etc.
- Sending home maths games for parents to complete with the pupils over the week.
- **Seesaw activities assigned to pupils and all access codes to maths programmes sent home also.**
- Outlining how they can assist with the learning of number facts at all levels and also how to assist with estimation and mental maths skills.

Parental Involvement – Home/School/ Community Links

At junior level, making parents (especially first time parents) aware of the methodologies for number formation and problem solving strategies.

- Providing a list of useful websites and apps on the school website.

Success Criteria

The aim of this plan is to ensure that the vision and aims of Scoil San Eoin as outlined at the start of this document are achieved. The success of this plan will be measured using all or some of the following:

- Teachers preparation and planning are based on this plan
- Continuity of content and methodology and effective use of mathematical resources will be evident in teacher's preparation and monthly reports
- Scores on standardised tests are in line with school's expectations and SIP.
- Pupils are acquiring understanding of concepts and proficiency in mathematical skills appropriate to their age and ability
- There is a standardisation of methodologies and level of maths language and skills at each class level, across the school.
- Feedback from teachers, parents, pupils, secondary schools and inspectors
- Enjoyment and attitude towards maths within pupils and parents has increased.

Implementation

Roles and Responsibilities

- Ms Nuzum is mathematics coordinator. Her responsibilities include supporting and aiding the implementation of this plan. Ms Nuzum will encourage and accept feedback on the plan's implementation and report any findings at staff meetings.
- The principal, Ms Greene, will be responsible for the development of the whole school maths plan and the coordination of staff members, who may have expertise or interests in an area, in contributing to the development and reviewing of the plan.
- The Board of Management are responsible in supporting and facilitating the school approach to Mathematics and to approve this approach with the context of the school plan.
- Parents are responsible for being proactive in all communication regarding methodologies being used, approaches to homework, and to how their child is progressing, through test results, reports and PT meeting.
- Class teachers will familiarise themselves with the school plan, with particular emphasis on methodologies, language and assessment procedures. Class teachers will liaise with the SEN personnel to provide a programme which caters for the needs of each pupil.

Review

This plan was created in September 2014 and was reviewed in Oct 2018 and again in 2022. It will be necessary to review this plan on a regular basis to ensure correct implementation throughout the school. Regular feedback at staff meetings and planning days, together with changes in best practise, may lead to the need for change. These changes will be implemented by the Principal.

Ratification and Communication

The final document will be implemented following ratification by the Board of Management. This will be then circulated to all teachers to be kept in their class folder. It will be available in the office to be viewed by parents and also on the school website if they so wish.

This plan was ratified on: _____

Signed: _____ **Signed :** _____

Chairperson

Principal

Date: _____

Date: _____