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**Maths Plan**

**Date Ratified: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Chairperson Board of Management**

**1. Introduction and Rationale**

This Maths plan review was led by the Deputy Principal and informed by the views of staff during 2020**.** This plan, drawn up in accordance with the maths curriculum, sets out the approach adopted by St. Brigid’s G.N.S. to the teaching and learning of maths. It will form the basis for teachers’ long and short term planning. It will also inform teachers of the approaches and methodologies used in the school.

**2. Vision**

This plan will focus on meeting the needs of the pupils in the area of Maths. Parental involvement will be encouraged as much as possible to support their child’s learning in Maths. Parents are encouraged to engage with our calculation plan which will detail the various methods that we use across all calculations, across all age levels. See Appendix 1 for Calculation Plan.

**3. Aims**

Mathematics enables the child to develop an understanding of particular and important dimensions of the physical world and of social interactions. It furnishes children with the means of manipulating, recording and communicating concepts that involve magnitude, number, shape and space, and their relationships (Maths Primary School Curriculum, 1999).

The aims of the primary mathematics curriculum are:

* To develop a positive attitude towards mathematics and an appreciation of both its practical and its aesthetics aspects.
* To develop problem-solving abilities and a facility for the application of mathematics to everyday life.
* To enable the child to use mathematical language effectively and accurately.
* To enable the child to acquire an understanding of mathematical concepts and processes to her appropriate level of development and ability so that it is inclusive and accessible for all.
* To enable the child to acquire proficiency in fundamental mathematical skills and in recalling basic number facts.
* To integrate maths at a cross-curricular level.

**4. Content of the Plan**

**4.1 Strands and Strand Units:**

At the start of each year, teachers will familiarise themselves with the objectives for their class and make sure that their individual planning for the year incorporates all strands of the Maths curriculum. The curriculum comprises five strands:

* Number
* Algebra
* Shape and space
* Measures
* Data

These strands, although presented in separate sections, are not isolated areas. They should be seen and taught as interrelated units. While number is essential as the medium for mathematical calculation, the other strands should receive a corresponding degree of emphasis.

The curriculum objectives are used as the objectives for each class level in our school.

The content and strand units are outlined in the Primary Mathematics Curriculum as follows:

* Junior and Senior Infants: p. 20-35
* 1st and 2nd Class: p. 40-59
* 3rd and 4th Class: p. 64-83
* 5th and 6th Class: p. 88-111

**4.2. Approaches and Methodologies**

The following approaches and methodologies will be used throughout the year:

**The use of Manipulatives**

Concrete materials will be used, where possible, to introduce, develop and reinforce mathematical concepts. Our iPads, Chromebooks and Bee-Bots also complement the implementation of the Maths curriculum. (Please see appendix 4 for an overview of the Maths equipment available in the school).

**Talk and Discussion**

Opportunities will be provided during each Maths class for children to discuss problems with the teacher, with other individual children and in groups. The aim is for the teacher to facilitate the learning.

**Active Learning / Guided Discovery/Child-led Learning**

Children will be provided with structured opportunities to engage in exploratory activities, manipulative and digital devices (while being monitored by the teacher).

**Using the Environment as a Learning Resource**

 The following resources will be used:

* Classroom
* General school building
* School grounds
* Local area
* Home
* Maths trails (SSE Focus, trails available to view upon request)

**Collaborative and Co-operative Learning**

**Problem Solving** as outlined in the Maths School Improvement Plan, problem-solving will be incorporated into teacher planning either on a daily or weekly basis.

The following strategies will be used for Problem Solving: (Please see Appendix 3 for an in depth insight into our uniform approach to problem solving, please also see Appendix 5 for problem-solving resources).

* Infants: UPS (Understand, Plan, Solve)
* First class: RUD (Read, Understand, Draw)
* 2nd - 6th class: RUD-ONE-CC (Read, Understand, Draw, Operations

Numbers Estimate, Calculate, Check)

Opportunities for problem-solving and computational thinking are also created, through Coding, using Scratch (from 1st-6th class) and the Bee-Bots (Junior and Senior Infants).

**4.3 Mathematical Language Used Across the Curriculum**

Mathematics can be reviewed as a language in itself with its own vocabulary and grammar. It is important to have a common approach to the terms used and the correct use of symbol names. A comprehensive list of mathematical language for all classes is available in Appendix 2.

**5. Assessment and Record Keeping:**

Assessment is used by teachers to inform the planning, selection and management of learning activities so that they can make the best possible provision for meeting the varied mathematical needs of the children in our school.

**Methods of Assessment Include:**

**5.1Teacher Observation**

Observations by the teacher give an overview of the child’s mathematical development.

Observations may include the following:

* The level of engagement in or attention to the activities.
* Strengths and concerns in relation to written work.
* Involvement in discussions.
* The response to and initiation of questioning during class or group-work.

**5.2 Teacher Designed Tests and Tasks**

 The following are used throughout the school to inform the class teacher

 of each child’s progress in Maths:

* Oral tests (tables, continuation of number patterns,etc).
* Written test of numerical competence.
* Problem-solving exercises that use a variety of mathematical skills. Three half termly ‘word problem’ solving tests are administered in first to sixth class.

**5.3 Work Samples**

Class teachers alongside the children may select a sample of work created by the child for their assessment portfolio on Seesaw/Google Classroom.

**5.4 Self-Assessment/Peer Assessment:**

The children will be given opportunities to self-assess and peer-assess their work. They will do this by looking at their work/the work of their peers. They will use the success criteria for that particular lesson and following this, celebrate the success of the task completed while also making recommendations for the learning, moving forward.

**5.5 Standardised tests**

 (1) Sigma T: These tests are administered for first to sixth class annually. Copies of results are retained by the class teacher, SET teachers and the principal. Aggregate standardised test results for second, fourth & sixth class are reported annually to the Department of Education & Skills. Parents (1st – 6th class) are informed of their child’s result in the end of year school report.

(2) DTEN-S (Drumcondra Test of Early Numeracy – Screening) will be

administered at the end of Senior Infants.

**5.6 Special Educational Team Support (SET)**

 The MaLT is used with our Special Education Department for the purpose of diagnostic assessment.

**6. Meeting the Needs of all Children**

All children are provided with equal access to all aspects of the Maths curriculum.

The Maths programme aims to meet the needs of all the children in the school. This will be achieved by teachers varying the pace, content and methodologies to ensure that all children experience success in their learning.

**6.1 Supplementary Teaching in Maths**

Those children who receive scores at or below the 15th percentile, on the standardised test, will be considered for supplementary teaching in Maths. Also, those children who score at or above the 98th percentile receive supplementary teaching in Maths. If a teacher has concerns about a child’s progress in maths he/she will draw up a classroom support plan before a referral is made to SET. The child will remain on the Classroom Support Plan for 6-8 weeks. Special Education Teachers will engage in both ‘in-class’ support and withdrawal of pupils, depending on the needs of the pupils/class.

**7. Resources**

The following resources are used in the school:

* Manipulatives
* Calculators
* Textbooks and workbooks - Cracking Maths is the scheme used throughout the school. Junior Infants are also using the Ready, Set Go-Maths programme (co-teaching)
* Apple iPads
* Bee-Bots
* Chromebooks

See the Appendices 4 and 5 for the maths inventory

**8. Timetable**

Each teacher will allocate the appropriate time allowance per week for maths. This is as follows:

Infant Classes: 3 hours and 25 minutes

First to Sixth Classes: 4 hours and 10 minutes

These times are in accordance with the Numeracy and Literacy Strategy.

**9. Homework**

Teachers will allocate mathematical homework in line with the school Homework Policy.

**10. Individual Teachers Planning and Reporting**

Teachers base their yearly and short-term plans on the approaches set out in this whole school plan for Maths. Work covered will be outlined in the Cúntas Míosúil which is submitted to the principal monthly.

**11. Parental Involvement/Community:**

Parents are encouraged to support the school’s programme for Maths.

‘Welcome Meetings’ are held in September and individual parent/teacher meetings are held annually in November.

Teachers and parents are afforded a chance, at the welcome meetings, to outline the maths targets for the coming year and at the parent/teacher meeting to discuss each child’s individual progress in Maths and other areas and ways of assisting that progress. Parents and teachers are welcome to make individual arrangements to discuss matters of relevance at other times throughout the school year.

Sigma-T results (1st - 6th) are communicated to parents in the end of year school report.

Our school calculation plan is also communicated to parents so that parents can assist their children at home with the teaching methodology that is consistent amongst our teaching staff. See Appendix 1 for our calculation plan.

**12. Success Criteria:**

Success of this plan will be measured using the following criteria:

* Implementation of revisions in the Maths curriculum will be evident in the teacher's work.
* Continuity of content and methodology will be evident in teachers’ preparation and monthly reports.
* Ongoing assessment, formal and informal, will show that pupils are acquiring an understanding of mathematical concepts and a proficiency in maths skills appropriate to their age and ability.

**13. Staff Development**

Teachers are made aware of any opportunities for further professional development through participation in courses available in Education Centres or other venues. Skills and expertise within the school are shared and developed through input at staff meetings.

**14. Roles and Responsibilities:**

* It is the responsibility of the BOM to ratify the Plan and support its implementation.
* Parents play an important role in providing input and familiarising themselves with the school Plan, as well as supporting the teaching of maths through involvement in homework. It is the responsibility of the Principal to oversee the implementation of the Plan and support staff in the teaching of Maths.
* Teachers have a responsibility to implement and follow the school plan.
* The Deputy Principal has the responsibility for leading and overseeing the development and organisation of maths teaching within the school.

**15. Policies**

The following policies support aspects of this Maths plan:

* Assessment and Recording
* Health and Safety
* Acceptable Use Policy
* Digital Learning Plan
* Calculation Plan

**16. Linkage and Integration:**

Maths pervades almost every area of a child’s life and it can be integrated/linked to all curriculum areas. Some examples are as follows:

* SESE: chronology and sequencing, maths trails, maps, measuring and data analysis (SSE link)
* PE: symmetry and measuring
* Music: number rhymes, long/short notes
* Art: shapes, angles
* Oral Language: position, size, shape, time, comparison, word problems etc
* Digital Learning: Using the Bee-bots (at Junior and Senior Infant Level) and Scratch (from 1st Class to 6th CLass) for the purpose of developing computational thinking

**17. Ratification and Communication**

This Maths Plan was reviewed during October 2020, by the Deputy Principal and was ratified by the Board of Management on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The Board will monitor its implementation and will review it again, on or before September 2022 or as the need arises.