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NCCA
National Council for Curriculum and Assessment
An Chomhairle Náisiúnta Curaclaim agus Measúnachta

School Development Planning Support

School Development Plannir

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA | DEPARTMENT OF EDUCATION AND SCIENCE

SCOIL ÍDE
Salthill

Whole School Plan For Mathematics

Revised September 2020

Planning Template: Mathematics

■ Mathematics Plan for Scoil Íde.

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■ Introductory Statement and Rationale

(a) Introductory Statement

This document is a statement of the aims, objectives, principles and strategies for the teaching and learning of mathematics in Scoil Íde. It was developed during staff conferences through a process of consultation with the teaching staff. It was approved by the Board of Management and the Parents Association.. It has been revised on a number of occasions during 2004 – 2005, 2005 – 2006, and September 2007. September 2008. September 2009. September 2010. September 2011. February 2012. January 2013 and 2014, September 2015, September 2016 , September 2017, September 2018.Setember 2019. September 2020 Mrs. Antoinette Moran is the Mathematics co-ordinator and she co-ordinates the reviews of the Mathematics plan.

(b) Rationale

It was decided to focus on developing mathematics in Scoil Íde in order to:

- Benefit teaching and learning in our school
- Conform to principles of learning as outlined in the Primary School Curriculum
- Review the existing plan for mathematics and see how mathematics will be developed through the school.

■ Vision and Aims

(a) Vision:

Our vision in Scoil Íde is to cherish all pupils equally and to aid them in achieving their true potential. In our school, children will work collaboratively in order to acquire mathematical skills and knowledge so that they may live a meaningful life and contribute to their communities.

(b)Aims:

We, in Scoil Íde, endorse the aims of the Primary School Curriculum for mathematics.

- To develop a positive attitude towards mathematics and an appreciation of both its practical and its aesthetic aspects
- To ensure that all children enjoy the subject and study it with confidence and a sense of achievement
- 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 his/her level of development and ability

- To enable the child to acquire proficiency in fundamental mathematical skills and in recall of basic number facts.

To achieve a high standard in numeracy and a range of other mathematical skills using experiment and investigation when helpful.

- To ensure the consistent development of the subject through the school.
- To enable children to continue their mathematical development in post primary school without experiencing undue difficulty in making the transition.

Objectives

We in Scoil Íde endorse the objectives of the Mathematics Curriculum as stated in the revised Primary Curriculum 1999. When due account is taken of intrinsic abilities and varying circumstances, the mathematics curriculum should enable the child to

Skills development

- Apply mathematical concepts and processes, and plan and implement solutions to problems, in a variety of contexts
- Communicate and express mathematical ideas, processes and results in oral and written form
- Make mathematical connections within mathematics itself, throughout other subjects, and in applications of mathematics in practical everyday contexts
- Reason, investigate and hypothesise with patterns and relationships in mathematics
- Implement suitable standard and non-standard procedures with a variety of tools and manipulatives
- Recall and understand mathematical terminology, facts, definitions and formulae

Number

- Understand, develop and apply place value in the denary system (including decimals)
- Understand and use the properties of number
- Understand the nature of the four number operations and apply them appropriately
- Approximate, estimate, calculate mentally and recall basic number facts
- Understand the links between fractions, percentages and decimals and state equivalent forms
- Use acquired concepts, skills and processes in problem-solving

Algebra

- Explore, perceive, use and appreciate patterns and relationships in numbers
- Identify positive and negative integers on the number line
- Understand the concept of a variable, and substitute values for variables in simple formulae, expressions, and equations
- Translate verbal problems into algebraic expressions
- Acquire an understanding of properties and rules concerning algebraic expressions
- Solve simple linear equations
- Use acquired concepts, skills and processes in problem-solving

Shape and space

- Develop a sense of spatial awareness
- Investigate, recognise, classify and describe the properties of lines, angles, and two-dimensional and three-dimensional shapes
- Deduce informally, relationships and rules about shape
- Combine, tessellate and partition two-dimensional shapes and combine and partition three-dimensional shapes
- Draw, construct and manipulate two-dimensional and three-dimensional shapes
- Identify symmetry in shapes and identify shape and symmetry in the environment
- Describe direction and location using body-centred (left/right, forward/back) and simple co-ordinate geometry
- Use acquired concepts, skills and processes in problem-solving

Measures

- Know, select and use appropriate instruments of measurement
- Estimate, measure and calculate length, area, weight, capacity and average speed using non-standard and appropriate metric units of measurement
- Estimate, measure and calculate angles, time, money and scale using non-standard and appropriate units of measurement
- Recognise and appreciate measures in everyday use
- Use acquired concepts, skills and processes in problem-solving

Data

- Collect, classify, organise and represent data using concrete materials and diagrammatic, graphical and pictorial representation
- Read, interpret and analyse tables, diagrams, bar charts, pictograms, line graphs and pie charts
- Appreciate, recognise and express the outcomes of simple random processes
- Estimate and calculate using examples of chance
- Use acquired concepts, skills and processes in problem-solving.

Curriculum:

Strands and Strand Units:

All teachers are familiar with the strands and strand units and content objectives in the Mathematics Curriculum and refer to them regularly when planning for their classes ensuring all strands and strand units are covered.

Early Mathematical activities:

- Classifying
- Matching
- Comparing
- Ordering

Number

Counting, Comparing and Ordering, Analysis of number, Addition (introduced in infants)
Numeration, Place Value, Operations – subtraction, fractions (introduced in 1^{st} / 2^{nd})
Multiplication, Division, Decimals (introduced in 3^{rd} / 4th)
Percentages, Number theory (introduced 5^{th} / 6^{th})

Alegbra

Extending Patterns (introduced in infants)
Extending and using patterns (introduced in 1^{st} / 2^{nd})
Number patterns and sequences , Number sentences (introduced in 3^{rd} / 4^{th})
Directed numbers, Rules and properties, Variables, Equations (introduced in 5^{th} / 6^{th})

Shape and Space

Spatial awareness, 2-D shapes, 3-D shapes (introduced in infants)
Symmetry, Angles (introduced in 1st / 2nd)
Lines and angles (introduced in 3rd / 4th)

Measures

- Length
- Weight
- Capacity
- Time
- Money

All introduced in infants with Area introduced in 1st / 2nd

Data

- Recognising and interpreting data

Chance (introduced in 3rd /4th)

Approaches and Methodologies:

The Mathematics Curriculum is organised and taught, in accordance with the New Revised Curriculum for Primary Schools, in Scoil Íde. All children are provided with the opportunity to access all strands of the mathematics curriculum.

Differentiation is catered for by each teacher in her plan according to

Differentiating learning objectives	Differentiation by support	Differentiation by outcome
Differentiation of pace	Differentiation by resource	Differentiation by grouping
Differentiation by teaching style	Differentiation by task	Pupils with little or no English

We, in Scoil Íde, feel that there should not be an over reliance on textbooks and workbooks and we place great emphasis on active learning.

We ensure that the text books in use are in line with content objectives for the class level

Calculators are used from fourth to sixth class to check answers, to explore the number system, to remove computational barriers for weaker children and to focus on problem solving..

The number limits (according to the Teacher Guidelines) are adhered to, particularly at first and second classes, so that there is development of the concept of place value.

Because of the emphasis on active learning in Scoil Íde formulae are being "discovered" by children rather than being taught.e.g. area

There is emphasis on fraction families in the senior classes.

In the area of data, pupils are collecting real data in various areas of the curriculum and using it to represent their findings e. g. favourite games, number of childen who walk to school.

Estimation skills are developed and refined by emphasising their use in all strands and strand units in Mathematics.

Strategies such as Front-end , clustering, rounding and special numbers (as outlined in Teacher Guidelines pp. 32 – 34.) are used depending on suitability.

We, in Scoil Íde, believe that mathematics is a subject to be enjoyed and therefore maths is taught in a creative and fun way.

Mathematical work is displayed both inside and outside the classroom.

All teachers are using breadth and balance across all the mathematical strands and strand units, using the following approaches and methodologies:

The use of manipulatives

- Children will have access to and use of a broad range of mathematical equipment during lessons. Each teacher has mathematical equipment in her classroom.

Talk and discussion

Talk and discussion is seen as an integral part of the learning process and opportunities are provided through:

- Guided discussion and discussion skills – teacher /pupil, pupil / pupil, and pupil /teacher with emphasis on mathematical language
- Scaffolding – Teacher models mathematical language.
- Integration – using a thematic approach across a number of subjects e.g. gathering data in geography and science, measuring temperatures in science.(See Teacher Guidelines pp. 53 and 57 for examples)
- Linkage – across strands (Teacher Guidelines pp 52 & 56).
- Mathematical Language in context – there is an agreed emphasis on the language of mathematics.

Active Learning and guided discovery

- As part of the maths programme for each class children are provided with structured opportunities to engage in exploratory activities under the guidance of the teacher to construct meaning, to develop mathematical strategies for solving problems and to develop self-motivation in mathematical activities.

Collabrative and co-operative learning

- We, in Scoil Íde, provide opportunities for children to learn the skills needed to work
  as a group rather than just *in* a group.
- We encourage turn-taking, learning from peers and listening to others so that they realise that others' opinions are important.
- A variety of organisational styles is used e.g. individual work/pair work/group work and whole class work to encourage co-operative and collaborative learning.

Problem solving

- We are providing opportunities for all children from infants to sixth class and including those with special needs to experience problem solving activites in a variety of ways such as – orally/visually/practically.
- Children are encouraged to use their own ideas as a context for problem solving e.g. my mum bought a bag of apples which contained six apples for €3 and her friend bought six apples at 40cent each. Was it cheaper to buy the bag of apples or individual apples?
- A variety of strategies are used by individual teachers e.g. Read/ Organise/Visualise/ Estimate/Solve/Evaluate.
- Calculators are in use from 3rd class to make problem solving more accessible and realistic for children.
- Each class teacher uses resources to solve problems in every strand and strand unit.

Using the Environment

We use the school and local environment to provide opportunities for mathematical problem solving and reinforcing mathematical language.

School Environment:

- Maths Trails e. g. – numbers on doors,
- how many: steps to classroom, doors and windows, trees in garden, benches, panes of glass in each window,
- count bars on the gate, how many paces long is the yard, spot all the even and odd numbers on doors.
- Walk from hall to front of school. Look at plaque on front of school – What year was school built? (1962).
- Hopscotch can be used in a number of ways.
- Find the shapes eg. of windows, doors, rooms and find shapes in the school building,

- Perpendicular lines, parallel lines, horizontal lines, vertical lines and different angles.
- Use of hula hoops to sort children in P. E.
- Classroom shop for money and classroom clocks for time.
- Charts – height charts, number of days in school, number of tesco vouchers etc.
- Adopt a tree to measure height and girth of tree during tree week.
- Measuring using metres, centimetres, litres and millilitres e.g. classroom, yard, lunch boxes (drinks etc.) and classroom objects.

Local Environment:

- Maths Trails – looking for numbers on house doors, buses,
- For Sale signs, bins.
- Finding shapes, angles, lines on houses, road signs, vehicles.
- The use of local newspapers to discuss banking, percentages etc.
- Children, at all levels, are encouraged to use their home environment in order to reinforce skills, concepts and knowledge of all mathematical strands.

All the above are in line with Scoil Íde Health and Safety Policy.

Skills through content

All teachers make sure that all the following skills are being actively developed

- Applying and problem solving – selecting appropriate materials depending on ability and knowledge of class e.g. in SPHE/SESE
- Communicating and expressing – pictorially e.g. art
- Integrating and connecting – maths trails
- Reasoning - music and art e.g. patterns, also in science e.g. making hypotheses, carrying out experiments and making deductions.
- Implementing – children are developing an understanding that mathematics is an every- day life skill through the use of a number of appropriate manipulatives and mental strategies.
- Understanding and recalling – children are required to understand and recall terminology, facts, definitions and formulae depending on their ability.

Mental Maths is encouraged throughout all classes in Scoil Íde.

Presentation of Work

- An agreed approach to numeral formation exists in Scoil Íde e.g. the number one, four and seven.
- A combination of copies, workbooks and work sheets are used to present written work e.g. drawing a picture to record data or through the use of ICT.

Number

The following number limits for each class will be adhered to:

Class	**Numerals**
Junior infants	0 – 5
Senior Infants	6 – 10
First class	To 99
Second class	To 199
Third class	To 999
Fourth class	To 9999

Language – Concepts/Skills:
There is a strong link between langauge and concept acquisition. We feel it is important to have a common approach to the terms used and the correct use of symbol names. This language has been agreed at whole school level in order to ensure consistency from one class to the next and also to help avoid confusion for children having difficulities with mathematics. Our agreed strategies and language are as follows:

Junior Infants:
Introduction of signs: +, =

Addition **Other maths language**	Language: and, makes, match, sort, big, small, bigger, smaller, wide, tall, taller, narrow, thick, thin, square, circle, triangle, rectangle, day, night, first, last, full, empty, holds more/less, heavy, heavier, light, lighter, short, long

Senior Infants:

Additional Language	Plus, equals, wider, shorter, longer, longest, holds most, holds least, is less than, is more than, left, right,, thinner, thinnest, narrower, narrowest, cube, cuboid, cylinder,

	sphere, o'clock, days of the week, today, yesterday, tomorrow, seasons,
2 +1 3	Top down: 2 plus/and 1 equals/makes 3
2 + 1 = 3	Reads 2 plus 1 equals 3 or 2 and 1 makes 3

First Class:
Introduction of sign: -

Subtraction:	"-" is introduced as a symbol in first class.
Additional Language	Take, take away, less than, left, minus, subtract, from, share, half, semi-circle, metre, litre, kilogram, on top of, between, underneath, around, through, half past (read time in half-hour intervals), span, stride, words related to weather, change (related to money), cent, months,
16 -4 12	Top to bottom
6 – 2 = 4	Horizontal: read from left to right using the words take away or minus. 6 take away/minus 2 equals 4

Place Value: Renaming/regrouping will be the method used throughout the school
Second Class:
Introduction of signs: > , <, €

Addition:	
8 + 2 + 1 = 11	8 plus/and 2 plus/and 1 equals 11
8 2 +1 11	8 plus/and 2 plus/and 1 equals 11
Subtraction:	Difference introduced
Additional Language	Greater than, oval, cone, centimetre, read time in quarter-hour intervals.
35 -19 16	9 from 5 I cannot take so I change a 'ten' to ten units (so I am left with 2 tens instead of 3), 10+ 5 = 15. 9 from 15 equals 6. I take 1 ten from 2 tens which leaves 1 ten.

Third Class/ Fourth Class:

Introduction of signs: ÷, x in Third Class.

Multiplication/ Division:	
Additional Language	Division, divisible by, divide, divided by, split, share, shared between, group, multiply, multiplication, times, of, gram, millilitre, hexagon, triangular prism, pyramid, read time in five-minute intervals, 3rd class : additional fractions 1/8 and 1/10 4th class : kilometre, parallelogram, rhombus, pentagon, octagon, triangles: equilateral, isosceles, scalene. Fractions up to twelveths
Short multiplication Long multiplication Multiply by 10 Multiply by 100	Start with 4 groups of 3 move on to . . 4 threes 4 times 3 4 multiplied by 3 From bottom From bottom Units first (language as above) Add a zero Add two zeros
Fractions	
¼ of 24 8/2	Share 24 among 4 / 24 divided by 4 8 divided by 2 ½ is equivalent to 2/4 (4th class) ½ is the same as 2/4 ½ is equal to 2/4
Decimals	1/10 is equal to 0.1 4th class 1/100 is equal to 0.01 *Include 0 before decimal point*
Tesselation	Fit together with no spaces

Fifth / Sixth classes

Number: Multiplication / Divison/Addition/Subtraction Language	Square, prime, composite, rectangular numbers, Finding common multiples by listing numbers Finding common factors by listing factors The word product and quotient are introduced. Problems involving sum, difference, products, quotients

Fractions Language	All children are taught to memorise table of equivalent fractions, decimals and percentages and should know these by the end of 6th class. Numerator and denominator
½ + ¼	
½ - ¼	
Mixed numbers + and – 3 ½ - 1 ¾	
Multiplication	Multiply top number by top number Bottom number by bottom number Simplify / break down
Division of whole number by fraction	5 ÷ ¼ = Change a whole number into a fraction and turn your second fraction upside down and multiply Visual aid used by teacher
Decimals	1/10 , 1/100 , 1/1000, - tenths, hundredths, thousandths
Addition Subtraction Rounding decimals Multiplication of decimals Division by decimals Converting a fraction to a decimal	To 3 decimal places (with / without calculator) To 3 decimal places (with / without calculator) To nearest whole number To 1 decimal place To 2 decimal places Multiplying a decimal by a whole number Multiplying a decimal by a decimal Count the number under the decimal points in question and make sure that there are the same amount of numbers behind the decimal point in the answer Change the denominator into a whole number (whatever you did to the denominator do same to the numerator) You divide the numerator by the denominator (divide the top by the bottom) or if possible change the number to tenths / hundredths and then convert to decimal (look out for ½ , ¼ , 1/5, 1/10 , 1/100
Percentages Converting a fraction to a percentage	You multiply by 100/1 or if possible change the fraction to hundredths

Time Addition	Add minutes to minutes Hours to hours and simplify (changing minutes to

Subtraction	hours) Hrs mins hrs mins 4 35 3 95 - 2 45 - 2 45 _____ _____ 1 50 If minutes number is bigger on the bottom line, convert ….. take hour and change into minutes. Add to other minutes and rewrite sum. When this method is well understood crossing out is done rather than rewriting sum
Co-ordination	Introduce (x,y) axes Explain x comes before y in the alphabet. This will help them to remember which comes first.
Area	Rectangle and square Length by width (l x w), breadth = width Ares (1 Are = 100m, 1 hectare = 10,000 m) Relationship of sq.m to sq. cm Area of room from scale plan Surface area Find the area of one face. Count the faces and multiply by number of faces. Cube and cuboid
Circle	Radius, diameter, circumference, arc, sector Relate the diameter of a circle to its circumference by measurement Measure the circumference of a circle by using a piece of string Construct a circle of given radius / diameter Examine area by counting squares
Length	millimetre Irregular shapes Look for regular shapes Divide the shape and draw diagrams Add areas
Lines and Angles	Angles: acute, obtuse, reflex, straight, degrees, protractor, ruler
2 D shapes 3 D Shapes	Quadrilateral, trapezium, Sum of the angles in a triangle = 180˚ Sum of the angles in a quadrilateral = 360˚ Sum of angles in a circle = 360˚ Tetrahedron octahedron Identify regular tetrahedrons, nets, construct (net kits are part of our resources)

Assessment, Record Keeping and Reporting:

Assessment in Scoil Íde is being used to direct teachers' planning and management of learning and for learning so that they can make the best possible provision for meeting the varied mathematical needs of the children in our school. Assessments are done throughout the year. Every year teachers look at the results of Sigma T to see what areas of mathematics that can be improved. The results are referred to on a regular basis by the individual class teacher. Sigma T will be done every year by classes from first to sixth. Students may be excluded from standardised testing if, in the view of the school principal and /or the class teacher and / or Special Education Teacher, they have a learning or physical disability which would prevent them from attempting the tests or, in the case of migrant students, where the level of English required in the test would make attempting the test inappropriate. The results of the standardised tests are maintained carefully by the principal and are available for inspection by Department officials.

- Assesment for learning and assessment of learning is done throughout the school by using a broad range of assessment tools
    - Teacher observation, discussion, questioning, homework and analysis of written assignments
    - Worksheets and work in copies
    - Assessment games
    - Extension and enrichment activities
    - Oral tests (tables, continuation of number patterns)
    - Problem solving exercises
    - Teacher –designed tests and tasks
    - Work samples, projects
    - Assessments based on book used by children
    - Sigma T , we follow the instructions given with this test (from first class to sixth)

Following assessment teachers may do the following:

- Give extra help to any individual who needs it
- Decide to increase time spent using concrete materials
- Discuss the situation with the forwarding teacher at the beginning of the new school year
- Discuss concerns with parents and encourage parents to help children both formally and informally, if necessary
- Consult with the support teachers who will provide support when needed using available resources within the school.
- Continued positive feedback is given to the children on a regular basis, with extra encouragement given to children experiencing difficulties. Steps are identified that need to be taken.

At the start of each school year, each teacher gets the previous years assessments

- Records are kept by the class teacher and the Sigma T test results are kept by the Principal's office. The teacher keeps a copy of the results.
- Records are stored in a locked office which is in line with the Data Protection Act.

Reporting

Teachers will report on children's progress to their parents or guardians twice during each school year. One of these will be a written report using one of the NCCA standard report templates and the other will be a meeting.

The results of any standardised test administered by the school will be included in the written report as a standard score or as a STen score.

Children with Different Needs:

The Mathematics Curriculum is organised and taught in accordance with the New Revised Curriculum for Primary Schools in Scoil Íde. All children are provided with the opportunity to access all strands of the mathematics curriculum. This will be achieved by every teacher varying pace, content, learning objectives, resources, groups, tasks and teaching styles to ensure learning for all children.

The Special Education Teachers give one to one, in-class support or group sessions depending on individual needs.

2019/ 20

Class	Class Teacher	Special Education Team (SET)	Selection Criteria
Junior Infants	Rebecca Flannery		
Junior Infants	Karen Keane		
Senior Infants	Valerie O'Gorman	Mary Rose	Individual and group based on needs and/or ability
Senior Infants	Paula O'Connor	Mary Rose	Individual and group based on needs and/or ability
1 st Class	Paul Colleran	Sharon / Margo	Individual and group based on needs and/or ability
1st Class	Fiona Duffy	Sharon / Margo	Individual and group based on needs and/or ability
2nd Class	Claire Gardener	Antoinette	Individual and group based on needs and /or ability
3rd Class	Eileen Ostheimer	Trócaire	Individual and group based on needs and/or ability
3rd Class	Eileen Chambers	Trócaire	Individual and group based on needs and/or ability
4th Class	Ailbhe Bn Uí Fhátharta	AnneMarie	Individual and group based on needs and/or ability
5th Class	Amanda Bowe	Trócaire	Individual and group based on needs and/or ability
6th Class	Deirdre Conneely	AnneMarie Trócaire	In-class mixed ability, otherwise individual and/or group based on needs and / or ability

Differentiation is catered for by each teacher in her plan

Differentiating learning objectives	Differentiation by support	Differentiation by outcome
Differentiation of pace	Differentiation by resource	Differentiation by grouping
Differentiation by teaching style	Differentiation by task	Non Irish pupils with little or no English

Books / Assessments in use 2020/21

Junior Infants: Busy at Maths

Senior Infants: Planet Maths
Assessments from Teacher's book

First Class: Busy at Maths
Busy at Maths Assessments

Second Class: Busy at Maths
Master your Maths 2
Assessment book

Third Class: Planet Maths (Folens)
Master Your Maths
Assessment from Teacher's book

Fourth Class: Planet Maths (Folens)
Planet Maths Satellite Activity Book
Master your Maths 4
Assessment from Teacher's book

Fifth Class: Planet Maths (Folens)
Master Your Maths 5
Assessment from Teacher's book

Sixth Class: Planet Maths 6 (Folens)
Planet Maths Satellite Activity Book
Master Your Maths 6
Assessment from Teacher's book

The Special Education Teacher as well as the mainstream teacher will try to ensure that appropriate mathematical language is reinforced particularly for those childen who have English as an additional language

- The Special Educaion teachers sometimes use: the "Maths Together" from Startups -6 Programme and Numicon year 1 kit.

    - Children in Junior and Senior Infants generally do not attend the Special Education Teacher for Maths, however, it may be possible, on occasion for the child to receive some help for his/her maths work as part of the supplementary teaching sessions.
    - Children with exceptional ability in maths will be given extra work based on the concept being taught in class. I. C. T. allows children to work at their own level and challenges children of all abilities. Parents will be consulted and opportunities for further development will be explored.

Equality of Participation and Access:

It is the aim of Scoil Íde to provide all children with equal opportunities to participate in all activities such as: discussions, use of manipulatives and presentations within the mathematics curriculum.

Homework:

It is the intention of Scoil Íde to give mathematics homework as a support, through such tasks as:

- The learning of tables
- Specific tasks set periodically by teachers which may involve gathering data or completing work started at school
- Regular exercises from textbooks/workbooks/teacher designed worksheets
- Mathematical games.
- Use of the home environment to reinforce strands and strand units being covered in class

See the Homework policy in Scoil Íde student school journal..

Resources and ICT:

We, in Scoil Íde, acknowledge the importance of concrete materials in the development of mathematical concepts for children in all classes. Individual teachers are responsible for storing their mathematical equipment in their classrooms. Extra shared equipment, such as balances, items used for capacity, trundle wheels and scales are stored in the presses on the landing upstairs. If teacher needs larger maths equipment she should ask Maths co-ordinator to organise purchase of same. Each class teacher is responsible for reporting lost or broken equipment to the Mathematics Co- ordinator who will replace same. All mathamatical equipment bought with school funds remains the property of the school.

Textbooks are in line with content objectives for each class level. Textbooks reinforce the concept taught and give adequate practice in each activity.

Mathematical Equipment:

Number:

- Number lines
- Magnetic number strips
- Counters
- Beads
- String
- Buttons
- Unifix cubes
- Spools
- Sorting trays
- Peg boards and pegs
- Hundred squares
- Fraction, percentage, decimals walls
- Auntie Pasta's fraction game
- Pie in the sky – fraction game
- Playing cards
- Division dominoes
- Fraction dominoes
- Decimal fraction dominoes
- Equivalence dominoes
- Percentage dominoes
- Fraction – decimal quivalence dominoes
- Multiplication dominoes
- Maths wheel flash cards – multiplication, addition, subtraction, division
- Bingo – multiplication, division, addition, subtraction
- Space chase – maths game Addition, subtraction, place value to one hundreds
- Playing and learning cards – number families
- Percentage cubes
- Fraction cubes
- Decimal cubes
- Think of number – fascinating look at a world of numbers
- Fun with 1,2,3 puzzle

Shape and Space:

- 2 D shapes
- 3 D shapes
- Geo-boards
- Tangrams
- Direction compass
- Set squares
- Blackboard compass
- Blackboard set squares
- Blackboard protractor
- Gummed paper, paper shapes
- Construction straws
- Construction kits
- Fun with shapes – box of magnetic shapes

Measures:

Length

- Metre sticks
- Trundle –wheels
- Height charts
- Tape measures
- Rulers
- Ribbons
- String

Weight

- Balance
- Kitchen Scales
- Bathroom scales
- Weights
- Spring balances

Capacity

- Litre contrainers
- ½ litre containes
- ¼ litre containers
- Varied collection of containers for comparison/estimation

Time

- Clock faces
- Rubber stamps
- Clocks
- Calendars
- Sequencing pictures
- Match Me cards – telling time
- What's the time Mr Wolf – game

Money

- Facsimile money

General Mathematical Equipment in various classes

- Lego
- Knex
- Water or sand tray
- Scissors (left and right handed)
- Magnifying glass
- Magnets
- Microscope
- Thermometer
- Calculators
- Selection of dice

Differentiation is catered for by each teacher in her plan according to

Differentiating learning objectives	Differentiation by support	Differentiation by outcome
Differentiation of pace	Differentiation by resource	Differentiation by grouping
Differentiation by teaching style	Differentiation by task	Non Irish pupils with little or no English

Organisation:

Time given to maths per week
In accordance with the Revised Curriculum regulations in 2011

Three hours and 25 minutes for Mathematics is allocated for Junior and Senior Infants Classes
Four hours and 10 minutes for First to Sixrh Classes

Special Education Mathematical Resources

The Special Education teachers share:

- "Maths Together Startups (1-6) Programme".
- Numicon Resources

ICT:

Teachers familiarise themselves with material on appropriate websites prior to use by the children and there is ongoing monitoring of these.

Individual Teachers' Planning and Reporting:

Teachers should base their long and short term plans on the approaches, skills and concepts as set out in this whole school plan for mathematics. Work covered is outlined in the Cúntas Míosúil which is submitted to the Principal. The forwarding year's teacher has the opportunity of viewing the previous year's Cúntas Míosúil which will help them plan and prepare for the following year.

Staff Development:

Teachers are made aware of any opportunities for further professional development in the area of mathematics through participation in courses available in Education Centres or other venues. Many teachers have done summer courses and courses during the school in the area of maths and ICT which has included mathematics.
Teachers are encouraged to visit mathematics related websites.
Time will be allocated to discuss the Mathematics Curriculum during staff meetings.
Skills and expertise within the school are shared and developed through inputs at staff meetings or informally at break or lunch time. Collaboration is very important to the staff in Scoil Íde.

Parental Involvement - Home School Links:

Parents are encouraged to support the school programme for mathematics. Parent/teacher meetings will be held in October or November generally. A part of the function of these meetings is to inform parents of the mathematicas programme for the year. Particular attention is drawn to:

- The importance of trial and error, estimation, the use of concrete materials and the role of calculators
- The school's approach to, e.g. subtraction, division, calculations using fractions
- The fact that maths homework may be used in practical activities- emphasis on use of the environment
- The use of homework journals as a vehicle for two-way communication between teachers and parents on the progress in mathematics

Opportunities to meet with Class Teacher are by appointment apart from the parent/teacher meetings in October or November.

Community Links:

Scoil Íde wishes to encourage links with the local community.
Members of the local community may be invited to assist in the school's mathematics programme.
Proposed invitation will be discussed in advance with the Principal.

- **Success Criteria**

The success of this plan will be measured using the following criteria:

- Ongoing assessment, formal and informal, will show that pupils are acquiring an understanding of mathematical concepts and proficiency in mathematical skills appropriate to their age and ability.
- Implementation of the school plan is evident in teachers' preparation and Cúntas Míosúil.
- Teachers will know from their new classes in September what work/approaches outlined in the plan have been covered by the previous teacher.

Implementation

(a) Roles and Responsibilities:

Class teachers are responsible for the implementation of the mathematic's programme for their own classes. The post holder with responsibility for mathematics, Antoinette Moran,

supports the implementation of the maths programme and is responsible for the distribution and monitoring of resources and also for reviewing and updating the school plan for mathematics.

(b) Timeframe:

Progress made during the school year will be reviewed every June and will be based on results of assessments across all classes and on teachers' views as to effectiveness of the plan.

Review

(a) Roles and Responsibilities:

This plan will be reviewed by principal, Antoinette Moran (maths coordinator) , teachers, Board of Management and members of The Parents' Council.

(b) Timeframe:

The plan will be reviewed annually.

■ Ratification and Communication

This plan was ratified by the Board of Management in September 2007. The plan was communicated to teachers and implemented in classes from September 2007. It was updated in September 2008, 2009, 2010, February 2012. December 2012 and January 2014, October 2014, October 2015, September 2016, September 2017

Strategies for Supporting Children whose English is an additional language

- Allow children with poor levels of English to listen without having to answer.
- Simplify the language used.
- Organise group or pair work as this is a much safer arrangement than whole class work.
- Give individual help where difficulities arise with tasks whenever possible.
- Have plenty of visual supports.
- Allow visual responses rather than written responses all the time.
- Introduce a buddy system where a child is paired off with another child for support.

- Allow the child to do computer work to reinforce strands.
- Give child less work to do, ensuring a high success rate.
- Ask for help ! Other teachers, language support teacher, resource teacher or learning support teacher.
- Use authentic materials where possible.

Reference Section

- Curriculum documents for Mathematics
- Primary School Curriculum. Your child's learning Guidelines for Parents.
- NCCA Draft guidelines
- A list of other reference books relating to Mathematics is available on the PCSP website.

Websites

Each mainstream class has access to an interactive whiteboard.
Examples of websites used :

http://www.thatquiz.org

http://www.mathletics.com

http://www.akidsheart.com/flash3/mathskills1.exe

http://www.mathfactcafe.com

http://www.superkids.com/aweb/tools/math/

http://www.aplusmath.com/Worksheets/index.html

http://themathworksheetsite.com

http://www.senteacher.org/main/print.php

http://www.homeschoolmath.net/worksheets

http://www.bbc.co.uk/skillswise/numbers/wholenumbers/multiplication/timestables/flash3.shtml

http://www.woodlands-junior.kent.sch.uk/maths/index.html

http://www.crickweb,co.uk/ks2numeracy.html

http://www.sums.co.uk/playground.htm

http://www.ictgames.com/index.html

http://www.multplication.com/interactive_games.htm

http://www.rainforestmaths.com

http://www.ixl.com/

http://www.interactivemaths.co.uk/

http://www.learningmedia.co.nz/international/online

http://www.coolmath4kids.com/fractions/index.html

http://www.sumdog.com

http://arcademicskillbuilders.com/

www.ilearn.ie

www.mata.ie

www.mathszone.co.uk

- wwww.folensonline.ie
- ww.ngfl.com
- primarygames.com
- primaryresources.co.uk
- topmarks.com
- teachingmoney.co.uk
- http://resources.woodlands-junior.kent.sch.uk/maths/
- Mangahigh.com

- scoilnet.ie
- www.ixl.com
- Teachingresources.co.uk
- Fun4the brain.com
- Mathplayground.com
- Timemonsters.com
- Mathsdrills,
- Numbershark
- mathsflash.com
- resources.oswego.org
- iboard.co.uk
- schoolhub.com
- SuperTeacher worksheets
- Mathsplayground.com
- Themathsworksheetsite.com
- Mathsdrills
- Mathsflash

Downloadable Maths teaching programs:

Gordon's

ITPs http://clg.coventry.gov.uk/ccm/csln/private/curriculum/mathematics-file-storage-items/gordons/gordons.en;jsessionid=bH9SjK--O1Fd

ITPs http://nationalstrategies.standards.dcsf.gov.uk/search/primary/results/nav:49909

http://www.sumdog.com/

Maths - Online Puzzle Generators

http://www.superkids.com/

http://www.aplusmath.com/Worksheets/index.html

http://themathworksheetsite.com

http://www.senteacher.org/main/print.php

http://www.homeschoolmath.net/worksheets

Ready Set Go Maths for Junior and Senior Infants – Using this programme from September 2018 – team teaching in class.

Izac9 – problem solving . 5th class are using this from September 2018

SSE Numeracy Plan 2019

TARGET	REQUIRED ACTION	PERSONS RESPONSIBLE	SUCCESS CRITERIA

• We aim to continue with our targets and actions as already established during our earlier engagement with SSE. We will include the following targets as we continue to engage with SSE Numeracy.			
To improve by 4% the number of children scoring 50% and over, in the Problem Solving Strand in 4th, 5th, 6th, by 2022.	One Session per week of team-teaching – Izak9 – 4th,5th,6th. To build Problem Solving Competence and Confidence by the use of concrete materials at the Senior end of the school. To encourage higher order thinking, use of concrete materials, collaborative, child-led problem solving. We will ensure our timetables reflect the requirements of: 250 mins – Senior Level 205 mins – Junior Level.	Eileen Ostheimer Class teachers of 4th, 5th, 6th.	An improvement of 4% in the number of children scoring 50% and over, in the Problem-Solving Strand in 4th, 5th, 6th by 2022. Teachers timetables will reflect the additional time allocated to Numeracy Development.
For those children in our school scoring Sten4 or less in SigmaT, we aim to maintain their scores or improve within the percentile, by 2022.	Each class is assigned a member of SET team – move towards team teaching where relevant/ where deemed of more benefit, children may be withdrawn for support.The SET team will target children at risk of under-achievement.	Class Teachers SET team	That children scoring Sten 4 or less in Sigma T will maintain their scores or improve the percentile, by 2022.

That children will display a more confident, analytical approach to problem solving and Maths in general in Junior Classes.	To provide in-class support and use station teaching to provide hands-on activities in Maths in Junior and senior Infants. Ready, Set Go Maths programme to be implemented in these classes. Teachers to receive training/share ideas.	Teachers of Junior and senior Infants Set Team assigned to work with Junior and Senior Infant Classes.	Pupils work in small groups and teachers to assess levels of Mathematical Attainment through regular teacher-designed tests.