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School Davalanment Plannir



DSCIENCE

SCOIL ÍDE **Salthill**

Whole School Plan For **Mathematics**

Revised October 2022

Mathematics Plan for Scoil Íde.

■ 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, September 2021. 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 Ide 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 Ide 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 threedimensional 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 nonstandard 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 5th / 6th)

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 5th / 6th)

Shape and Space

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

Measures

- Length
- Weight
- Capacity
- Time
- Money

All introduced in infants with Area introduced in $1^{st} / 2^{nd}$

Data

• Recognising and interpreting data

Chance (introduced in $3^{rd}/4^{th}$)

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	Differentiation by support	Differentiation by
learning		outcome
objectives		
Differentiation	Differentiation by resource	Differentiation by
of pace		grouping
Differentiation	Differentiation by task	Pupils with little or
by teaching style		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 3^{rd} 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	То 99
Second class	To 199
Third class	То 999
Fourth class	То 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	Language: and, makes,
Other maths language	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,	
$\frac{2}{\frac{+1}{3}}$	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	Top to bottom
<u>-4</u>	
12	
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: > , <, \in

Addition:	
8 + 2 + 1 = 11	8 plus/and 2 plus/and 1 equals 11
8	8 plus/and 2 plus/and 1 equals 11
2	
<u>+1</u>	
11	
Subtraction:	Difference introduced
Additional Language	Greater than, oval, cone, centimetre, read time in
	quarter-hour intervals.
35	9 from 5 I cannot take so I change a 'ten' to ten
<u>-19</u>	units (so I am left with 2 tens instead of 3), $10+5 =$
16	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, 3 rd class : additional fractions 1/8 and 1/10 4 th class : kilometre, parallelogram, rhombus, pentagon, octagon, triangles: equilateral, isosceles, scalene.
Short multiplication	Start with 4 groups of 3 move on to 4 threes 4 times 3 4 multiplied by 3 From bottom
Long multiplication	From bottom Units first (language as above)
Multiply by 10	Add a zero
Multiply by 100	Add two zeros
Fractions	
¹ / ₄ of 24 8/2	Share 24 among 4 / 24 divided by 4 8 divided by 2 ¹ / ₂ is equivalent to 2/4 (4 th class) ¹ / ₂ is the same as 2/4 ¹ / ₂ is equal to 2/4
Decimals	1/10 is equal to 0.1 4 th class 1/100 is equal to 0.01 <i>Include 0 before decimal point</i>
Tesselation	Fit together with no spaces

Fifth / Sixth classes

Number: Multiplication /	Square, prime, composite, rectangular numbers,
Divison/Addition/Subtraction	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
Language	

Fractions	All children are taught to memorise table of
	equivalent fractions, decimals and percentages and
	should know these by the end of 6^{th} class.
Language	Numerator and denominator
$\frac{1}{2} + \frac{1}{4}$	
1/2 - 1/4	
Mixed numbers	
+ and –	
3 1/2 - 1 3/4	
Multiplication	Multiply top number by top number
	Bottom number by bottom number
	Simplify / break down
Division of whole number by	$5 \div \frac{1}{4} =$
fraction	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	To 3 decimal places (with / without calculator)
Subtraction	To 3 decimal places (with / without calculator)
Rounding decimals	To nearest whole number
C C	To 1 decimal place
	To 2 decimal places
Multiplication of decimals	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
Division by decimals	
	Change the denominator into a whole number
	(whatever you did to the denominator do same to
Converting a fraction to a	the numerator)
decimal	
	You divide the numerator by the denominator
	(divide the top by the bottom) or it possible change
	the number to tenths / hundredths and then convert
	to decimal (look out for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{100}$
Percentages	
Converting a fraction to a	You multiply by 100/1 or it possible change the
percentage	traction to hundredths

Time	
Addition	Add minutes to minutes
	Hours to hours and simplify (changing minutes to
	hours)
Subtraction	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.
	r
Area	Rectangle and square
	Length by width $(1 \times w)$, breadth = width
	Ares $(1 \text{ Are} = 100 \text{ m}, 1 \text{ hectare} = 10,000 \text{ m})$
	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	Quadrilateral, trapezium,
	Sum of the angles in a triangle = 180°
	Sum of the angles in a quadrilateral $= 360^{\circ}$
	Sum of angles in a circle = 360°
3 D Shapes	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.

- Assessment 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 Ide. 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.

Differentiation is catered for by each teacher in her plan

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

Books / Assessments in use 2022/23

Junior Infants: Busy at Maths

Senior Infants: Planet Maths Text Book and Practce Book

First Class: Busy at Maths

Table Toppers

- Second Class: Planet Maths (Folens) Master your Maths 2
- Third Class: Planet Maths (Folens) Planet Maths Activity book Master Your Maths
- Fourth Class: Planet Maths (Folens) Planet Maths Satellite Activity Book Master your Maths 4 Geometry set Calculator
- Fifth Class: Planet Maths (Folens) Master Your Maths 5 Planet Maths Satellite Activity Book
- Sixth Class: Planet Maths 6 (Folens) Planet Maths Satellite Activity Book Master Your Maths 6

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
- ¹/₂ litre containes
- ¹/₄ 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

ſ	Differentiating	Differentiation by support	Differentiation by
	learning		outcome
	objectives		
	Differentiation	Differentiation by resource	Differentiation by
	of pace		grouping
	Differentiation	Differentiation by task	Non Irish pupils

by teaching style	with little or no English	0
_		
Organisation:		
Time given to maths p In accordance with the H	er week Revised Curriculum regulations in 2011	
Three hours and 25 n	ninutes for Mathematics is allocated for Junior and	d Senior Infants
Four hours and 10 m	inutes for First to Sixrh Classes	
Special Education Mathematic	al Resources	
The Special Education	teachers share:	
 "Maths Together Start Numicon Resources 	ups (1-6) Programme".	
<u>ICT:</u>		
Teachers familiarise themselves and there is ongoin	s with material on appropriate websites prior to us g monitoring of these.	e by the children
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, September 2018, October 2019,

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.s html

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

- <u>wwww.folensonline.ie</u>
- <u>ww.ngfl.com</u>
- primarygames.com
- primaryresources.co.uk
- topmarks.com
- teachingmoney.co.uk
- http://resources.woodlands-junior.kent.sch.uk/maths/
- Mangahigh.com
- scoilnet.ie
- <u>www.ixl.com</u>
- 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 <u>http://clg.coventry.gov.uk/ccm/csln/private/curriculum/mathematics-file-</u> storage-items/gordons/gordons.en;jsessionid=bH9SjK--O1Fd

ITPs http://nationalstrategies.standards.dcsf.gov.uk/search/primary/results/nav:4 9909

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	One Session per week	Fileen Ostheimer	An improvement of 4%
number of children	of team-teaching –	Class teachers of 4 th , 5 th .	in the number of
scoring 50% and over.	$I_{zak9} - 4^{th} . 5^{th} . 6^{th}$. To	6 th .	children scoring 50%
in the Problem Solving	build Problem Solving		and over, in the
Strand in 4 th , 5 th , 6 th , by	Competence and		Problem-Solving Strand
2022.	Confidence by the use		in 4 th , 5 th , 6 th by 2022.
	of concrete materials at		
	the Senior end of the		
	school. To encourage		
	higher order thinking,		
	use of concrete		
	materials, collaborative,		
	child-led problem		
	solving.		
	timetables reflect the		reflect the additional
	roquiroments of:		time allocated to
	250 mins - Senior Level		Numeracy
	205 mins – Junior Level		Development
			Development.
For those children in	Each class is assigned a	Class Teachers	That children scoring
our school scoring	member of SET team –	SET team	Sten 4 or less in Sigma T
Sten4 or less in SigmaT,	move towards team		will maintain their
we aim to maintain	teaching where		scores or improve the
their scores or improve	relevant/ where		percentile, by 2022.
within the percentile,	deemed of more		
by 2022.	benefit, children may		
	be withdrawn for		
	support.The SET team		
	will target children at		
	risk of under-		
	achievement.		
That children will	To provide in-class	Teachers of Junior and	Pupils work in small
display a more	support and use station	senior Infants	groups and teachers to
confident, analytical	teaching to provide		assess levels of
approach to problem	nands-on activities in	Set Leam assigned to	Iviathematical
solving and waths in	iviaths in Junior and	work with Junior and	Attainment through
general in Junior	senior infants.	Senior Infant Classes.	regular teacher-

Classes.	Ready, Set Go Maths	designed tests.
	programme to be	
	classes.	
	Teachers to receive training/share ideas.	