



North Dublin Muslim National School

Ratoath Road

Dublin 7

20152L

Mathematics Policy
May 2020

Introductory Statement

This policy was revised following a process of consultation and collaboration with all the teaching staff, the principal, the Board of Management of North Dublin Muslim National School. Teachers worked in groups to review the original policy and to make amendments where necessary. These amendments were then discussed and agreed at whole school level. This policy was framed on the revised Curriculum in Mathematics while keeping our Islamic Ethos to the fore at all times.

Rationale

This policy describes the school's agreed approach to the teaching of Mathematics. It was formulated for the following purposes:

- To ensure conformity with the Primary School Curriculum.
- To ensure the consistency and continuity in our approach to teaching and planning.
- To help improve the children's learning of mathematics.
- To serve as part of an induction to the school for new teachers.
- To review existing practice.

Vision

The North Dublin Muslim National School endeavours to help each child reach their full potential. In conjunction with our schools vision statement, and school aims, we present our pupils with a carefully planned and coordinated curriculum that ensures sufficient opportunity for each student to acquire essential knowledge and skills to meet the requirements of the Primary Curriculum. We aim to provide an excellent educational service, one that is planned and developed to the highest professional standards so that each pupil may benefit to the full from their experience in the North Dublin Muslim National School.

Aims

The primary aims in the teaching of Mathematics at the North Dublin Muslim National School are:

- To develop a positive attitude towards mathematics and an appreciation of both its practical and aesthetic aspects.
- To develop problem-solving abilities and a facility for the application of mathematics to everyday life.
- To enable children to use mathematical language effectively and accurately.
- To enable children to acquire an understanding of mathematical concepts and processes to his/ her appropriate level of development and ability.
- To enable the child to acquire proficiency in fundamental mathematical skills and in recalling basic number facts.

Content

The strands and strand units of the Primary School Mathematics Curriculum have been divided into terms enable consistent and appropriate coverage across the school. The strands and strand units to be covered in each term for each class level are outlined below.

Numeracy Milestones – Junior Infants

Early Mathematical Activity	
Term 1	Term 2 and 3
Comparing <ul style="list-style-type: none"> Compare objects/sets according to length/height without counting Order objects according to length or height. Classifying <ul style="list-style-type: none"> Classifying objects on the basis of one attribute such as colour, shape, texture or size. Classify sets according to size, colour and quantity. Identify the components of a set. Matching <ul style="list-style-type: none"> Match equivalent/ non-equivalent sets. 	Comparing <ul style="list-style-type: none"> Compare objects/sets according to weight, capacity and quantity. – without counting. Ordering <ul style="list-style-type: none"> Order sets without counting.

Number	
Term 1	Term 2 and 3
Analysis of Number <ul style="list-style-type: none"> Combine sets of objects, totals to 5 Counting <ul style="list-style-type: none"> count the number of objects in a set 1 – 10. Comparing and ordering <ul style="list-style-type: none"> Compare equivalent and non- equivalent sets 1-5 by matching without using symbols. 	Analysis of number <ul style="list-style-type: none"> Read, write and order numerals 0-5 Develop an understanding of the conservation of number 1- 5. Explore the components of number, 1-5. Combine sets totalling to 5. Partition sets of objects 1 – 5. Identify the empty set and the numeral zero. Subitise the number of objects in a set. 1-5. Solve oral problems up to 5 Comparing and ordering <ul style="list-style-type: none"> Order sets of objects by number 1-5. Use ordinal numbers first, second, last.

Algebra	
Term 1	Term 2 and 3
Extending Pattern <ul style="list-style-type: none"> Identify, copy and extend patterns in colour, shape and size. 	

Shape and Space	
Term 1	Term 2 and 3
3D Shapes <ul style="list-style-type: none"> Sort 3D shapes, regular and irregular. Solve tasks and problems involving shape. 2D Shapes <ul style="list-style-type: none"> Sort and name 2D shapes: square, circle, triangle, rectangle. Use suitable structured materials to create pictures. Solve problems involving shape. 	Spatial Awareness <ul style="list-style-type: none"> Explore, discuss, develop and use the vocabulary of spatial awareness.

Measures	
Term 1	Term 2 and 3
Length <ul style="list-style-type: none"> Develop an understanding of the concept of length through exploration, discussion, and use of appropriate vocabulary, long, short, wide, narrow, longer, shorter, tall etc. Compare and order objects according to length or height. 	Weight <ul style="list-style-type: none"> Develop an understanding of the concept of weight through exploration, handling of objects, and use of appropriate vocabulary. Compare objects according to weight. Capacity <ul style="list-style-type: none"> Develop an understanding of the concept of capacity through exploration and the use of appropriate vocabulary. Compare and order containers according to capacity. Time <ul style="list-style-type: none"> Develop an understanding of the concept of time through the use of appropriate vocabulary. Sequence daily events or stages in a story. Money <ul style="list-style-type: none"> Recognise and use coins (up to 5cents). Solve practical tasks and problems using

	money.
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Data	
Term 1	Term 2 and 3
<p>Representing and Interpreting Data</p> <ul style="list-style-type: none"> Sort and classify sets of objects by one criterion Match sets, equal and unequal. Represent and interpret a set of mathematical data using real objects, models and pictures. 	<p>Representing and Interpreting Data</p> <ul style="list-style-type: none"> Represent and interpret a set of mathematical data using real objects, models and pictures. Match sets, equal and unequal.

Numeracy Milestones – Senior Infants

Number	
Term 1	Term 2 and 3
<p>Counting</p> <ul style="list-style-type: none"> Discover different arrays of the same number Recognise patterns and predict subsequent numbers Count the number of objects in a set, 0-20 <p>Comparing and Ordering</p> <ul style="list-style-type: none"> Compare equivalent and non-equivalent sets 0-10 by matching Order sets of objects by number, 0-10 Use the language of ordinal number: first, second, third, last. <p>Analysis of Number</p> <ul style="list-style-type: none"> Explore the components of number, 1-10 Combine sets of objects, totals to 10 Partition sets of objects, 0-10 Use the symbols + and = to construct word sentences involving addition Develop an understanding of the conservation of number, 0-10 Read, write and order numerals, 0-10 Identify the empty set and the numeral zero Estimate the number of objects in a set, 1-10 Solve simple oral and pictorial problems, 0-10 Develop an understanding of the conservation of number, 0-10 	<p>Counting</p> <ul style="list-style-type: none"> Count the number of objects in a set, 0-20 <p>Comparing and ordering</p> <ul style="list-style-type: none"> Use the language of ordinal number: first, second, third, last. <p>Analysis of Number</p> <ul style="list-style-type: none"> Explore the components of number, 1-10 Combine sets of objects, totals to 10 Partition sets of objects, 0-10 Use the symbols + and = to construct word sentences involving addition Develop an understanding of the conservation of number, 0-10 Read, write and order numerals, 0-10 Identify the empty set and the numeral zero Estimate the number of objects in a set, 1-10 Solve simple oral and pictorial problems, 0-10 Develop an understanding of the conservation of number, 0-10

<ul style="list-style-type: none"> Partition sets of objects 0-10 	
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Algebra	
Term 1	Term 2 and 3
<p>Extending patterns</p> <ul style="list-style-type: none"> Identify, copy and extend patterns in colour, shape and size 	<p>Extending patterns</p> <ul style="list-style-type: none"> Identify, copy and extend patterns in colour, shape, size and number (3-4 elements) Discover different arrays of the same number Recognise patterns and predict subsequent numbers

Shape and Space	
Term 1	Term 2 and 3
<p>3D shapes</p> <ul style="list-style-type: none"> Sort, describe and name 3-D shapes: cube, cuboid, sphere and cylinder. Combine 3-D shapes to make other shapes <p>2D Shapes</p> <ul style="list-style-type: none"> Sort, describe and name 2-D shapes: square, circle, triangle, rectangle Combine and divide 2-D shapes to make larger or smaller shapes 	<p>Spatial Awareness</p> <ul style="list-style-type: none"> Explore, discuss, develop and use the vocabulary of spatial relations

Measures	
Term 1	Term 2 and 3
<p>Length</p> <ul style="list-style-type: none"> Develop an understanding of the concept of length through exploration, discussion, and use of appropriate vocabulary Compare and order objects according to length or height Identify as long as/as wide as/longest/shortest Estimate and measure length in non-standard units estimate, and check by measuring Select and use appropriate non-standard units to measure length, width or height. Discuss reasons for choice 	<p>Weight</p> <ul style="list-style-type: none"> Develop an understanding of the concept of weight through exploration, handling of objects and use of appropriate vocabulary Compare and order objects according to weight compare objects that differ in size, shape and weight by handling Estimate and weigh in non-standard units Select and use appropriate non-standard units to weigh objects <p>Capacity</p> <ul style="list-style-type: none"> Develop an understanding of the conservation of number, 0-10

	<ul style="list-style-type: none"> • Read, write and order numerals, 0-10 • Identify the empty set and the numeral zero • Estimate the number of objects in a set, 1-10 • Solve simple oral and pictorial problems, 0-10 <p>Time</p> <ul style="list-style-type: none"> • Develop an understanding of the concept of time through the use of appropriate vocabulary • Sequence daily and weekly events or stages in a story • Read time in one-hour intervals <p>Money</p> <ul style="list-style-type: none"> • Recognise coins up to 20 cents and use coins up to 10 cents • Solve practical tasks and problems using money
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Data	
Term 1	Term 2 and 3
<p>Representing and interpreting data</p> <ul style="list-style-type: none"> • Sort and classify sets of objects by one and two criteria • Represent and interpret data in two rows or columns 	<p>Representing and interpreting data</p> <ul style="list-style-type: none"> • Sort and classify sets of objects by one and two criteria • Represent and interpret data in two rows or columns using real objects, models and pictures

Numeracy Milestones – 1st Class

Number	
Term 1	Term 2 and 3
<p>Counting and numeration</p> <ul style="list-style-type: none"> • Read, write and order numerals 0-50. • Comparing and Ordering • Order sets of objects by number • Use the language of ordinal number, first to tenth <p>Place Value</p> <ul style="list-style-type: none"> • Group and count in tens and units using 	<p>Counting and numeration</p> <ul style="list-style-type: none"> • Read, write and order numerals 0-99. <p>Operations</p> <ul style="list-style-type: none"> • Revise two and three addends to 20. • Add numbers without/with renaming 0-99. • Subtract numbers without renaming 0-99.

<p>lollipop sticks, abacus, and notation board 0-50.</p> <p>Fractions</p> <ul style="list-style-type: none"> Identify half of sets to 20. <p>Operations</p> <ul style="list-style-type: none"> Develop two and three addends to 20. Add numbers without/with renaming 0-50. Compare equivalent and non-equivalent sets 0-20. Explore and discuss repeated addition in 2s. Construct number sentences and number stories. Develop addition tables. 	<ul style="list-style-type: none"> Construct number sentences and number stories. Develop subtraction strategies between 0-50. Develop addition tables. Subtract numbers without renaming 0-50 Explore and discuss repeated addition in 10s. Develop subtraction strategies between 0-99. Develop subtraction facts within 20. Explore and discuss repeated addition in 5s
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Algebra	
Term 1	Term 2 and 3
<p>Extending and using pattern</p> <ul style="list-style-type: none"> Explore the use of patterns in addition facts. 	<p>Extending and using pattern</p> <ul style="list-style-type: none"> Recognise pattern, including odd and even numbers. Understand the use of a frame to show the presence of an unknown number.

Shape and Space	
Term 1	Term 2 and 3
<p>Spatial awareness</p> <ul style="list-style-type: none"> Explore, discuss, develop and use the vocabulary of spatial relations. Give and follow simple directions within classroom and school settings. <p>2D shapes</p> <ul style="list-style-type: none"> Sort, describe, compare and name 2D shapes. Combine and partition 2D shapes. Construct and draw 2D shapes. Identify halves of 2D shapes. Identify and discuss the use of 2D shapes in the environment. 	<p>3D Shapes</p> <ul style="list-style-type: none"> Sort, describe, compare and name 3D shapes. Explore the relationship between 2D and 3D shapes. Discuss the use of 3D shapes in the environment Solve and complete practical tasks and problems involving 2D and 3D shapes

Measures	
Term 1	Term 2 and 3
<p>Time</p> <ul style="list-style-type: none"> • Read day, date and month using the calendar. 	<p>Time</p> <ul style="list-style-type: none"> • Read time in hours and half hours on the 12 hour analogue clock. <p>Length</p> <ul style="list-style-type: none"> • Estimate, compare, measure and record using non-standard units. • Estimate, measure and record length using standard units (the metre) • Solve and complete practical tasks and problems involving length. <p>Weight</p> <ul style="list-style-type: none"> • Estimate, compare, measure and record using non-standard units. • Estimate, measure and record weight using standard units (the kilogram) <p>Capacity</p> <ul style="list-style-type: none"> • Estimate, compare, measure and record using non-standard units. • Estimate, measure and record capacity using standard units (the litre) <p>Money</p> <ul style="list-style-type: none"> • Recognise, exchange and use coins up to the value of 50c. • Calculate how many items can be bought with a given sum.

Data	
Term 1	Term 2 and 3
<p>Representing and interpreting data</p> <ul style="list-style-type: none"> • Sort and classify objects by two and three criteria. 	<p>Representing and interpreting data</p> <ul style="list-style-type: none"> • Sort and classify objects by two and three criteria. • Interpret data in rows or columns using pictures.

Numeracy Milestones – 2nd Class

Number	
Term 1	Term 2 and 3
<p>Counting and Numeration</p> <ul style="list-style-type: none"> Estimate the number of objects in a set. Count the number of objects in a set, estimate first and recheck by counting. Read, write and order numerals 0-199. <p>Comparing and ordering</p> <ul style="list-style-type: none"> Compare equivalent and non-equivalent sets. Use symbols <, > and =. Use the language of the ordinal number. <p>Place Value</p> <ul style="list-style-type: none"> Explore, identify and record place value to 99 <p>Operations</p> <ul style="list-style-type: none"> Combine and partition sets to 20. Have two and three addends to 20. Explore, develop and apply commutative and associative properties of addition. Develop recall strategies for addition facts to 20. Add numbers with and without renaming within 99. Use symbols +, -, =, <, and >. Subtracting as deducting, difference and complementing 0-20. Subtracting without renaming within 99. Solve one step problems involving subtraction. 	<p>Place Value</p> <ul style="list-style-type: none"> Explore, identify and record place value to 199. <p>Operations</p> <ul style="list-style-type: none"> Solve two step problems involving addition. Estimate differences within 99 using rounding strategies. Solve two steps problems involving subtraction. Repeat and explore pattern in 2s, 3s, 4s, 6s and 10s. Solve problems involving addition (number stories) Subtraction with renaming within 99. Solve two step problems involving addition and subtraction. Subtraction with renaming within 99. <p>Fractions</p> <ul style="list-style-type: none"> Identify $\frac{1}{2}$ and $\frac{1}{4}$ of sets to 20 (early in term 2). Discuss the relationship between $\frac{1}{2}$ and $\frac{1}{4}$.

Algebra	
Term 1	Term 2 and 3
<p>Extending and using pattern</p> <ul style="list-style-type: none"> Recognise patterns and predict subsequent numbers. Recognise and explore patterns in addition facts. Recognise and explore pattern using the hundred square. Understand the use of a frame to show the presence of an unknown number. Recognise and explore pattern in 2s, 3s, 4s, 6s, and 10s. 	<p>Extending and using pattern</p> <ul style="list-style-type: none"> Recognise and explore pattern in 2s, 3s, 4s, 6s, and 10s. Recognise and explore patterns using the 100 square.

Shape and Space	
Term 1	Term 2 and 3
<p>2D Shapes</p> <ul style="list-style-type: none"> Sort, describe, compare and name 2D shapes. Combine and partition 2D shapes. Construct and draw 2D shapes. Identify and discuss the use of 2D shapes in the environment. Identify $\frac{1}{2}$ and $\frac{1}{4}$ of 2D shapes. 	<p>Spatial Awareness</p> <ul style="list-style-type: none"> Explore, discuss, develop and use the vocab of spatial awareness. Give and follow simple directions within the classroom and school settings including turning directions (including $\frac{1}{2}$ and $\frac{1}{4}$ turns). <p>Angles</p> <ul style="list-style-type: none"> Explore and recognise angles in the environment. <p>Symmetry</p> <ul style="list-style-type: none"> Identify line symmetry in shapes and in the environment. <p>3D Shapes</p> <ul style="list-style-type: none"> Describe, compare and name shapes (cube, cuboid, cylinder, sphere and cone Discuss the use of 3D shapes in the environment Explore the relationship between 2D and 3D shapes Solve and complete practical tasks and problems involving 2D and 3D shapes

Measures	
Term 1	Term 2 and 3
<p>Time</p> <ul style="list-style-type: none"> Read day, date and the month using calendars. Use vocabulary to sequence events. <p>Money</p> <ul style="list-style-type: none"> Recognise, exchange and use coins to value of €2. Record money amounts as cents and later as euros. Calculate change up to €1. Write the value of a group of coins. 	<p>Time</p> <ul style="list-style-type: none"> Record time using simple devices. Read the time in hours and half-hours on the 12 hour analogue and digital clock. Read the time in quarter hours. <p>Length</p> <ul style="list-style-type: none"> Estimate, compare, measure using non-standard units. Estimate, compare, measure and record length using the metre. Estimate, compare, measure and record length using $\frac{1}{2}$ m and $\frac{1}{4}$ m. Estimate, compare, measure and record using centimetre. Solve and complete practical tasks and problems

	<p>Area</p> <ul style="list-style-type: none"> • Compare and measure surface area. • Estimate and measure surfaces using non-standard units. <p>Weight</p> <ul style="list-style-type: none"> • Estimate, compare, measure and record weight using non-standard units of measure. • Select and use appropriate non-standard measuring units and instruments. • Estimate, measure and record weight using 1kg, $\frac{1}{2}$ kg and $\frac{1}{4}$ kg. • Explore and discuss instances where objects or substances that weigh 1kg vary greatly in size. • Solve simple problems involving weight. <p>Capacity</p> <ul style="list-style-type: none"> • Estimate, compare, measure and record capacity using non-standard units. • Estimate compare, measure and record capacity using the litre. • Estimate, compare, measure and record capacity using the $\frac{1}{2}$ litre and $\frac{1}{4}$ litre.
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Data	
Term 1	Term 2 and 3
	<p>Representing and interpreting data</p> <ul style="list-style-type: none"> • Sort and classify objects by 2 or 3 criteria. • Read and interpret pictograms. • Represent, read and interpret block graphs. • Represent, read and interpret simple tables and charts. • Use or make a table. • Use logical reasoning.

Numeracy Milestones – 3rd Class

Number	
Term 1	Term 2 and 3
<p>Place Value</p> <ul style="list-style-type: none"> • Explore and identify place value in whole numbers, 0-999 	<p>Operations</p> <ul style="list-style-type: none"> • Multiply a two-digit number by 0-10 • Explore, understand and apply the zero,

<ul style="list-style-type: none"> • Read, write and order three-digit numbers • Round whole numbers to the nearest ten • Explore and identify place value in decimal numbers to one place of decimals • Round whole numbers to the nearest hundred <p>Operations</p> <ul style="list-style-type: none"> • Add and subtract, without and with renaming, within 999 • Know and recall addition and subtraction facts • Solve word problems involving addition and subtraction • Develop an understanding of multiplication as repeated addition and vice versa • Develop and/or recall multiplication facts within 100 • Multiply a one-digit number by 0-10 • Solve and complete practical tasks and problems involving multiplication of whole numbers • Develop an understanding of division as sharing and as repeated subtraction, without and with remainders • Develop and/or recall division facts within 100 • Divide a one-digit or two-digit number by a one-digit number without and with remainders • Solve and complete practical tasks and problems involving division of whole numbers <p>Fractions</p> <ul style="list-style-type: none"> • Identify fractions and equivalent forms of fractions with denominators 2, 4, 8 and 10 • Compare and order fractions with appropriate denominators and position on the number line • Calculate a fraction of a set using concrete materials • Develop an understanding of the relationship between fractions and division • Calculate a unit fraction of a number and 	commutative and distributive properties of multiplication
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<p>calculate a number, given a unit fraction of the number</p> <ul style="list-style-type: none"> Solve and complete practical tasks and problems involving fractions <p>Decimals</p> <ul style="list-style-type: none"> Identify tenths and express in decimal form express one tenth as 0.1 Order decimals on the number line Solve problems involving decimals. 	
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Algebra	
Term 1	Term 2 and 3
<p>Number sentences</p> <ul style="list-style-type: none"> Translate an addition or subtraction number sentence with a frame into a word problem (frame not in initial position) Solve one-step number sentences 	<p>Number patterns and sequences</p> <ul style="list-style-type: none"> Explore, recognise and record patterns in number, 0-999 Explore, extend and describe (explain rule for) sequences Use patterns as an aid in the memorisation of number facts

Shape and Space	
Term 1	Term 2 and 3
<p>Lines and angles</p> <ul style="list-style-type: none"> Identify, describe and classify vertical, horizontal and parallel lines Recognise an angle in terms of a rotation classify angles as greater than, less than or equal to a right angle Solve problems involving lines and angles. 	<p>2-D shapes</p> <ul style="list-style-type: none"> Identify, describe and classify 2-D shapes: square, rectangle, triangle, hexagon, circle, semicircle, oval and irregular shapes Explore, describe and compare the properties (sides, angles, parallel and non-parallel lines) of 2-D shapes Construct and draw 2-D shapes Combine, tessellate and make patterns with 2-D shapes Identify the use of 2-D shapes in the environment Solve and complete practical tasks and problems involving 2-D shapes <p>3-D shapes</p> <ul style="list-style-type: none"> Identify, describe and classify 3-D shapes, including, cube, cuboid, cylinder, cone, sphere, triangular prism, pyramid Explore, describe and compare the properties of 3-D shapes Explore and describe the relationship of

	<p>3-D shapes with constituent 2-D shapes</p> <ul style="list-style-type: none"> • Construct 3-D shapes • Solve and complete practical tasks and problems involving 2-D and 3-D shapes.
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Measures	
Term 1	Term 2 and 3
Time	Length
<ul style="list-style-type: none"> • Consolidate and develop further a sense of time passing • Read time in five-minute intervals on analogue and digital clock (12-hour) record time in analogue and digital forms • Solve and complete practical tasks and problems involving times and dates 	<ul style="list-style-type: none"> • Estimate, compare, measure and record lengths of a wide variety of objects using appropriate metric units (m, cm) • Rename units of length in m and cm - $125\text{ cm} = 1\text{ m }25\text{ cm}$ • Solve and complete practical tasks and problems involving the addition and subtraction of units of length (m, cm)
Money	Area
<ul style="list-style-type: none"> • Rename amounts of euro or cents and record using symbols and decimal point • Solve and complete one-step problems and tasks involving the addition and subtraction of money. 	<ul style="list-style-type: none"> • Estimate, compare and measure the area of regular and irregular shapes
	Weight
	<ul style="list-style-type: none"> • Estimate, compare, measure and record the weight of a wide variety of objects using appropriate metric units (kg, g) • Solve and complete practical tasks and problems involving the addition and subtraction of units of weight (kg and g)
	Capacity
	<ul style="list-style-type: none"> • Estimate, compare, measure and record the capacity of a wide variety of objects using appropriate metric units (l, ml) • Solve and complete practical tasks and problems involving the addition and subtraction of units of capacity (l, ml)
	Time
	<ul style="list-style-type: none"> • Read and interpret simple timetables • Rename minutes as hours and hours as minutes • Read dates from calendars and express weeks as days and vice versa

Data	
Term 1	Term 2 and 3
Representing and interpreting data <ul style="list-style-type: none"> Collect, organise and represent data using pictograms, block graphs and bar charts read and interpret tables, pictograms, block graphs and bar charts Use data sets to solve and complete practical tasks and problems 	Chance <ul style="list-style-type: none"> Use vocabulary of uncertainty and chance: possible, impossible, might, certain, not sure Order events in terms of likelihood of occurrence Identify and record outcomes of simple random processes

Numeracy Milestones – 4th Class

Number	
Term 1	Term 2 and 3
Place Value <ul style="list-style-type: none"> Explore and identify place value in whole numbers, 0-9999 Read, write and order four-digit numbers and solve simple problems Round whole numbers to the nearest thousand Explore and identify place value in decimal numbers to two places of decimals. Operations - Addition and Subtraction <ul style="list-style-type: none"> Add and subtract, without and with renaming, within 9999 Know and recall addition and subtraction facts Solve word problems involving addition and subtraction Operations – Multiplication and Division <ul style="list-style-type: none"> Develop an understanding of multiplication as repeated addition and vice versa. Explore, understand and apply the zero, commutative, distributive and associative properties of multiplication Develop and recall multiplication facts within 100 Multiply a two-digit or three-digit number by a one digit number Solve and complete practical tasks and problems involving multiplication of whole numbers 	Operations- Multiplication and Division <ul style="list-style-type: none"> Multiply a two-digit or three-digit number by a two-digit number Use a calculator to check estimates Divide a three-digit number by a one-digit number without and with remainders Fractions <ul style="list-style-type: none"> Calculate a fraction of a set using concrete materials Calculate a number, given a multiple fraction of the number Express one number as a fraction of another number Decimals <ul style="list-style-type: none"> Multiply and divide a decimal number up to two places by a single-digit whole number Solve problems involving decimals.

<ul style="list-style-type: none"> Develop an understanding of division as sharing and as repeated subtraction, without and with remainders Develop and/or recall division facts within 100 Divide a three-digit number by a one-digit number without and with remainders use calculator to check estimates <p>Fractions</p> <ul style="list-style-type: none"> Identify fractions and equivalent forms of fractions with denominators 2, 3, 4, 5, 6, 8, 9, 10 and 12 Compare and order fractions with appropriate denominators and position on the number line Solve and complete practical tasks and problems involving fractions <p>Decimals</p> <ul style="list-style-type: none"> Express tenths and hundredths as fractions and decimals Identify place value of whole numbers and decimals to two places and write in expanded form Order decimals on the number line add and subtract whole numbers and decimals up to two places 	
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Algebra	
Term 1	Term 2 and 3
	<p>Number patterns and sequences</p> <ul style="list-style-type: none"> Explore, recognise and record patterns in number, 0-9999 Explore, extend and describe sequences Use patterns as an aid in the memorisation of number facts <p>Number sentences</p> <ul style="list-style-type: none"> Translate an addition, subtraction, multiplication or division number sentence with a frame into a word problem (frame not in initial position) Translate a one-step word problem into a number sentence Solve one-step number sentences

Shape and Space	
Term 1	Term 2 and 3
<p>Lines and angles</p> <ul style="list-style-type: none"> Identify, describe and classify oblique and perpendicular line Draw, discuss and describe intersecting lines and their angles Classify angles as greater than, less than or equal to a right angle Solve problems involving lines and angles. <p>Symmetry</p> <ul style="list-style-type: none"> Identify line symmetry in the environment Identify lines of symmetry as horizontal, vertical or diagonal Use understanding of line symmetry to complete missing half of a shape, picture or pattern 	<p>2-D shapes</p> <ul style="list-style-type: none"> Identify, describe and classify 2-D shapes: equilateral, isosceles and scalene triangle, parallelogram, rhombus, pentagon, octagon Explore, describe and compare the properties (sides, angles, parallel and non-parallel lines) of 2-D shapes Construct and draw 2-D shapes Combine, tessellate and make patterns with 2-D shapes Identify the use of 2-D shapes in the environment Solve and complete practical tasks and problems involving 2-D shapes. <p>3-D shapes</p> <ul style="list-style-type: none"> Identify, describe and classify 3-D shapes, including cube, cuboid, cylinder, cone, sphere, triangular prism, pyramid Establish and appreciate that when prisms are sliced through (in the same direction) each face is equal in shape and size Explore and describe the relationship of 3-D shapes with constituent 2-D shapes Construct 3-D shapes Solve and complete practical tasks and problems involving 2-D and 3-D shapes

Measures	
Term 1	Term 2 and 3
<p>Time</p> <ul style="list-style-type: none"> Consolidate and develop further a sense of time passing Read time in one-minute intervals on analogue and digital clock (12-hour) Express digital time as analogue time and vice versa Read and interpret simple timetables. Rename minutes as hours and hours as minutes Read dates from calendars and express weeks as days and vice versa 	<p>Length</p> <ul style="list-style-type: none"> Estimate, compare, measure and record lengths of a wide variety of objects, using appropriate metric units, and selecting suitable instruments of measurement Rename units of length using decimal or fraction form Understand, estimate and measure the perimeter of regular 2-D shapes Solve and complete practical tasks and problems involving the addition, subtraction, multiplication and simple

<ul style="list-style-type: none"> solve and complete practical tasks and problems involving times and dates and the addition and subtraction of hours and minutes <p>Money</p> <ul style="list-style-type: none"> Rename amounts of money as euro or cents and record using € symbol and decimal point Solve and complete practical one-step and two-step problems and tasks involving the addition, subtraction, multiplication and simple division of money. 	<p>division of units of length (m, cm, km).</p> <p>Area</p> <ul style="list-style-type: none"> Estimate, compare and measure the area of regular and irregular shapes <p>Weight</p> <ul style="list-style-type: none"> Estimate, compare, measure and record the weight of a wide variety of objects using appropriate metric units (kg, g) and selecting suitable instruments of measurement Rename units of weight in kg and g Rename units of weight using decimal or fraction form <p>Capacity</p> <ul style="list-style-type: none"> Estimate, compare, measure and record capacity using appropriate metric units (l, ml) and selecting suitable instruments of measurement Rename units of capacity in l and ml $1500 \text{ ml} = 1 \text{ l}$ Rename units of capacity using decimal and fraction form Solve and complete practical tasks and problems involving the addition, subtraction, multiplication and simple division of units of capacity (l, ml).
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Data	
Term 1	Term 2 and 3
<p>Representing and interpreting data</p> <ul style="list-style-type: none"> Collect, organise and represent data using pictograms, block graphs, bar charts and bar-line graphs incorporating the scales 1:2, 1:5, 1:10, and 1:100 Read and interpret bar-line graphs and simple pie charts Use data sets to solve and complete practical tasks and problems. 	<p>Chance</p> <ul style="list-style-type: none"> Use vocabulary of uncertainty and chance: chance, likely, unlikely, never, definitely Order events in terms of likelihood of occurrence Identify and record outcomes of simple random processes

Numeracy Milestones – 5th Class

Number	
Term 1	Term 2 and 3
<p>Place Value</p> <ul style="list-style-type: none"> • Read, write and order whole numbers and decimals • Identify place value in whole numbers and decimals • Round whole numbers and round decimals <p>Operations</p> <ul style="list-style-type: none"> • Estimate sums, differences, products and quotients of whole numbers • Add and subtract whole numbers and decimals (to three decimal places) without and with a calculator • Multiply a decimal (up to three places) by a whole number, without and with a calculator • Divide a three-digit number by a two-digit number, without and with a calculator • Fractions • Compare and order fractions and identify equivalent forms of fractions with denominators 2 - 12 • Express improper fractions as mixed numbers and vice versa and position them on the number line • Express tenths, hundredths and thousandths in both fractional and decimal form • Number Theory • Identify simple prime and composite numbers • Identify square and rectangular numbers • Identify factors and multiples 	<p>Operations</p> <ul style="list-style-type: none"> • Divide a decimal number by a whole number, without and with a calculator • Fractions • Add and subtract simple fractions and simple mixed numbers • Multiply a fraction by a whole number <p>Decimals & Percentages</p> <ul style="list-style-type: none"> • Compare and order fractions and decimals • Solve problems involving operations with decimals • Develop an understanding of simple percentages and relate them to fractions and decimals • Solve problems involving operations with whole numbers, fractions, decimals and simple percentages

Algebra	
Term 1	Term 2 and 3
<p>Equations</p> <ul style="list-style-type: none"> • Translate number sentences with a frame into a word problem and vice versa • Solve one step number sentences and equations 	<p>Directed Numbers</p> <ul style="list-style-type: none"> • Identify positive and negative numbers in context <p>Rules & Properties</p> <ul style="list-style-type: none"> • Explore and discuss simple properties

	<p>and rules about brackets and priority of operations</p> <ul style="list-style-type: none"> Identify relationships and record verbal and simple symbolic rules for number patterns
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Shape and Space	
Term 1	Term 2 and 3
<p>2-D Shapes</p> <ul style="list-style-type: none"> Make informal deductions about 2-D shapes and their properties Use angle and line properties to classify and describe triangles and quadrilaterals Classify 2-D shapes according to their lines of symmetry Tessellate combinations of 2-D shapes Use 2-D shapes and properties to solve problems 	<p>2-D Shapes</p> <ul style="list-style-type: none"> Identify the properties of the circle Construct a circle of given radius or diameter <p>3-D Shapes</p> <ul style="list-style-type: none"> Identify and examine 3-D shapes and explore relationships, including tetrahedron (faces, edges and vertices) Draw the nets of simple 3-D shapes and construct the shapes <p>Lines & Angles</p> <ul style="list-style-type: none"> Recognise, classify and describe angles and relate angles to shape and the environment Recognise angles in terms of a rotation Estimate, measure and construct angles in degrees Explore the sum of the angles in a triangle

Measures	
Term 1	Term 2 and 3
<p>Length</p> <ul style="list-style-type: none"> Select and use appropriate instruments of measurement Estimate and measure length using appropriate metric units Estimate and measure the perimeter of regular and irregular shapes. <p>Time</p> <ul style="list-style-type: none"> Read and interpret timetables and the 24-hour clock (digital and analogue) Interpret and convert between times in 12-hour and 24-hour format 	<p>Area</p> <ul style="list-style-type: none"> Discover that the area of a rectangle is length by breadth Estimate and measure the area of regular and irregular 2-D shapes Calculate area using square centimetres and square metres Compare visually square metres and square centimetres. <p>Weight</p> <ul style="list-style-type: none"> Select and use appropriate instruments of measurement choose measurement Estimate and measure weight using

	<p>appropriate metric units</p> <p>Capacity</p> <ul style="list-style-type: none"> • Select and use appropriate instruments of measurement • Estimate and measure capacity using appropriate metric units <p>Money</p> <ul style="list-style-type: none"> • Compare 'value for money' using unitary method
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Data	
Term 1	Term 2 and 3
<p>Representing & Interpreting Data</p> <ul style="list-style-type: none"> • Collect, organise and represent data using pictograms, single and multiple bar charts and simple pie charts • Read and interpret pictograms, single and multiple bar charts, and pie charts 	<p>Chance</p> <ul style="list-style-type: none"> • Identify and list all possible outcomes of simple random processes • Estimate the likelihood of occurrence of events • Explore and calculate averages of simple data sets • Construct and use frequency charts and table

Numeracy Milestones – 6th Class

Number	
Term 1	Term 2 and 3
<p>Place Value</p> <ul style="list-style-type: none"> • Read, write and order whole numbers and decimals • Identify place value in whole numbers and decimals • Round decimals <p>Operations</p> <ul style="list-style-type: none"> • Estimate sums, differences, products and quotients of decimals • Add and subtract whole numbers and decimals (to three decimal places) without and with a calculator • Multiply a decimal by a decimal, without and with a calculator • Divide a four-digit number by a two-digit number, without and with a calculator 	<p>Fractions</p> <ul style="list-style-type: none"> • Multiply a fraction by a whole number • Multiply a fraction by a fraction <p>Decimals & Percentages</p> <ul style="list-style-type: none"> • Solve problems relating to profit and loss, discount, VAT, interest, increases, decreases.

<ul style="list-style-type: none"> Divide a decimal number by a decimal, without and with a calculator <p>Fractions</p> <ul style="list-style-type: none"> Compare and order fractions and identify equivalent forms of fractions with denominators 2 – 12 Express improper fractions as mixed numbers and vice versa and position them on the number line Add and subtract simple fractions and simple mixed numbers Express tenths, hundredths and thousandths in both fractional and decimal form <p>Decimals & Percentages</p> <ul style="list-style-type: none"> Use percentages and relate them to fractions and decimals Compare and order percentages of numbers <p>Number Theory</p> <ul style="list-style-type: none"> Identify simple prime and composite numbers Identify and explore square numbers Explore and identify simple square roots Identify common factors and multiples in exponential form 	
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Algebra	
Term 1	Term 2 and 3
	<p>Directed Numbers</p> <ul style="list-style-type: none"> Identify positive and negative numbers on the number line Add simple positive and negative numbers on the number line <p>Rules & Properties</p> <ul style="list-style-type: none"> Know simple properties and rules about brackets and priority of operation Identify relationships and record symbolic rules for number patterns <p>Variables</p> <ul style="list-style-type: none"> Explore the concept of a variable in the context of simple patterns, tables and simple formulae and substitute values for

	<p>variables</p> <p>Equations</p> <ul style="list-style-type: none"> Translate word problems with a variable into number sentences Solve one-step number sentences and equations
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Shape and Space	
Term 1	Term 2 and 3
<p>2-D Shapes</p> <ul style="list-style-type: none"> Make informal deductions about 2-D shapes and their properties Use angle and line properties to classify and describe triangles and quadrilaterals Construct triangles from given sides or angles Classify 2-D shapes according to their lines of symmetry Use 2-D shapes and properties to solve problems. Tessellate combinations of 2-D shapes 	<p>The Circle</p> <ul style="list-style-type: none"> Identify the properties of the circle Construct a circle of given radius or diameter Plot simple co-ordinates and apply where appropriate <p>3-D Shapes</p> <ul style="list-style-type: none"> Identify and examine 3-D shapes and explore relationships, including octahedron (faces, edges and vertices) Draw the nets of simple 3-D shapes and construct the shapes <p>Lines & Angles</p> <ul style="list-style-type: none"> Recognise, classify and describe angles and relate angles to shape Recognise angles in terms of a rotation Estimate, measure and construct angles in degrees Explore the sum of the angles in a quadrilateral

Measures	
Term 1	Term 2 and 3
<p>Length</p> <ul style="list-style-type: none"> Select and use appropriate instruments of measurement Rename measures of length Estimate and measure the perimeter of regular and irregular shapes Use and interpret scales on maps and plans 	<p>Time</p> <ul style="list-style-type: none"> Explore international time zones Explore the relationship between time, distance and average speed <p>Area</p> <ul style="list-style-type: none"> Recognise that the length of the perimeter of a rectangular shape does not determine the area of the shape Calculate the area of regular and irregular 2-D shapes

	<ul style="list-style-type: none"> • Measure the surface area of specified 3-D shapes • Calculate area using ares and hectares • Relationship between square metres and square centimetres. • Find the area of a room from a scale plan <p>Weight</p> <ul style="list-style-type: none"> • Select and use appropriate instruments of measurement • Rename measures of weight <p>Capacity</p> <ul style="list-style-type: none"> • Select and use appropriate instruments of measurement • Rename measures of capacity • Find the volume of a cuboid experimentally <p>Money</p> <ul style="list-style-type: none"> • Explore value for money • Convert other currencies to euro and vice versa
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Data	
Term 1	Term 2 and 3
<p>Representation & Interpreting Data</p> <ul style="list-style-type: none"> • Collect, organise and represent data using pie charts and trend graphs • Read and interpret trend graphs and pie charts 	<p>Chance</p> <ul style="list-style-type: none"> • Estimate the likelihood of occurrence of events; order on a scale from 0 to 100%, 0 to 1 • Construct and use frequency charts and tables • Identify and list all possible outcomes of simple random processes

Approaches and Methodologies

The following approaches and methodologies will be used:

- **The use of manipulatives:** Children will have access to and use of a broad range of mathematical equipment during lessons to support their learning. Children move from activities using concrete resources to activities using pictorial resources to abstract activities to promote understanding.
- **Talk and Discussion:** Talk and discussion is seen as an integral part of the learning process. Opportunities should be provided during the mathematics class for pupils to discuss problems and given a chance to explore and discuss alternative ways of approaching a problem with the teacher, other individual pupils and in groups.
- **Active Learning/ Guided Discovery:** As part of the mathematics programme for each class, children are provided with structured opportunities to engage in exploratory activities. Under the teacher's guidance they are encouraged to construct meaning, to develop mathematical strategies for problem solving and to develop self-motivation. These activities should be outlined in teachers' planning.
- **Language:** There is a strong link between language and concept acquisition. We feel it is important to have a common approach to the terms used and the correct use of symbol name. A list of language that the pupils are expected to be introduced to at each class level can be found at appendix 1.
- **Tables:** Number facts up to ten will be memorised by the end of 2nd class. Addition facts will be memorised in First Class. Subtraction facts will be memorised in Second Class. Multiplication and division facts will be memorised throughout Third and Fourth class. All tables will be revised in Fifth and Sixth Class. In keeping with the Literacy and Numeracy Strategy classes from 1st to 6th class will practice tables each day outside of their normal mathematics lesson times.
- **Skills:** The following skills will be acquired by the pupils through the study of the various strands in the Curriculum:
 - Applying and Problem Solving
 - Communicating and Expressing
 - Integrating and Connecting
 - Reasoning
 - Implementing
 - Understanding and Recalling
 - EstimationEvery strand provides opportunities for acquiring these skills. Opportunities should also be provided to develop these skills in other curricular areas such as Science and Geography. Teacher's planning should include evidence as to how these skills are being developed.
- **Problem Solving:** Pupils are encouraged to apply the following strategies when problem solving:

- RUDE (Read, Underline, Draw, Estimate)
 - RUCSAC (Read, Understand, Choose, Solve, Answer, Check)
- **Estimation:** Estimation is a part of every mathematics lesson. Pupils are encouraged to use the following strategies (as outlined on pages 32-34 of the Teacher Guidelines for Mathematics) to develop their estimation skills:
 - Front End
 - Clustering
 - Rounding
 - Special Numbers
- **Maths Wall:** To increase pupils' awareness of mathematics in the environment we introduced a maths wall. The maths wall is located on the main corridor. Every two months a team of teachers update the maths wall with a new theme. The themes are chosen by the teachers and should link with a variety of strands and strand units in the maths curriculum. Questions are differentiated so that the board can be used for all class levels. Examples of themes covered include "The Hungry Caterpillar", "On the Farm" and "public transport".
- **Station Teaching:** Classes from 3rd to 6th class are encouraged engage in station teaching in mathematics one day a week for the entire school year. Depending on the number of support teachers assigned to the class and the number of pupils in the class, there can be up to four groups of pupils. Pupils are engaged in a range of activities during the session; the lesson does not need to be related to the topic being taught that week but should focus on skill development.
- **Maths Week:** Each year the school celebrates maths week in term 1. A range of activities take place throughout the week to promote the importance of mathematics among the whole school community.
- **Calculations Strategy:** A calculations strategy is in use in the school to ensure that operations are taught in a systematic manner throughout the school at all class levels.
- **Ready, Set, Go - Maths**
 Ready, Set, Go is a mathematics programme for the teaching of Number & Early Maths Activities along with the other strands of the Irish Primary School Mathematics Curriculum. Three days a week are focussed on the teaching and learning of Number and Early Maths Activities whilst the remaining two days address another strand and strand unit.

Ideally, on the Number and Early Maths Activities days the groups be similar-ability based and on the other strand days they be mixed- ability groups. Station teaching is recommended on the Number and Early Maths Activities days.

The suggested sequence for the teaching and learning of the other strands and strand units (referred to as 'topic' in the plan) is modified accordingly at the teacher's discretion based on the needs of the class. However, the sequence for Number and Early Maths Activities is in line with the Ready, Set, Go – Maths programme and it is recommended that these lines of development are adhered to. This is to ensure that pupils logically build on previous related concepts and do not acquire gaps in their number knowledge.

Organisation and Structure

- **Assessment and Record Keeping**

Assessment is used by teachers to inform their 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.

Teachers use a number of tools for assessing pupils' work including:

- self-assessment
- conferencing
- portfolios
- concept-mapping
- questioning
- teacher observation
- teacher designed tasks and tests
- pupil profile
- standardised testing
- Worksheets and work in copies
- Assessment games
- Extension and enrichment activities based on the strand unit being taught.
- Children will bring termly topic tests and weekly tables tests home for signing.
- Test results are kept by the class teacher.
- Oral tests (tables, continuation of number patterns, ...)
- Problem solving exercises that use a variety of mathematical skills
- Standardised Assessment

- **Children of differing needs**

The North Dublin Muslim National School is dedicated to helping each child to achieve. It is the policy of our school that all children will participate in Mathematics within their class. Children with particular special needs will receive extra support from Special Education Teachers to provide a mathematical education at an appropriate level which allows the child to succeed. This may be in-class or withdrawn support.

Extension material will be available in each classroom for gifted children who finish work early or need additional challenges. Work at a more accessible level will also be available for those who need it. The responsibility for providing this work will be discussed and agreed at the monthly planning meeting. Normal practice involves each teacher preparing work to meet the needs of all pupils in their group.

- **Equality of Participation and Access**

Children are provided with equal access in so much as possible (ability determining) to all aspects of the Mathematics curriculum. Boys and girls are given equal opportunities to engage in mathematical activities.

- **Timetable**

As a minimum, Infant Classes will receive 2 hours and 15 minutes formal instruction per week and from 1st to 6th class pupils will receive a minimum of 3 hours as outlined in the *1999 Revised Primary Curriculum*.

In accordance with the Literacy and Numeracy Strategy an additional 70 minutes is allocated to the teaching of mathematics each week. Junior and Senior Infant classes can, where possible, integrate math into other subjects including Aistear where applicable. Second to Sixth Class use this extra time to practice tables.

The following strategies are being used by teachers to support this initiative:

- Skip counting
- Reciting tables
- Use of the inversion method
- Table patterns
- Multiplication squares

Suggested games for practising tables include:

- Buzz Fizz
- Around the World
- King and Queen of the Castle
- Bingo
- Team Tag
- War
- Maths karate
- Sparkles

- **Withdrawal of Pupils for Supplementary Teaching**

Pupils from First Class to Sixth Class complete SIGMA-T tests each year and may receive learning support the following school year based on these results – in line with the school's assessment policy.

Collaboration between the class teacher and Special Education Teacher is vital to ensure needs are identified and met. There is a planning meeting each month where the plans for the coming month are outlined and the previous month is evaluated. This allows both the mainstream and Special Education Teacher to plan collaboratively and discuss the progress of the pupils. Pupils who are withdrawn for mathematics should also be present for the mainstream mathematics lesson.

- **Homework**

Homework will be given in accordance with the school's homework policy. It will:

- Reinforce work done in the classroom during the school day
- Be achievable and therefore differentiate according to children's needs as appropriate
- Foster independent work skills
- Link what is happening in the classroom and the home
- Increase in quantity in accordance with class grouping
- Ask children on occasions to record and engage in active learning depending on the Strand being taught

1st to 6th classes will be given tables to learn as part of their mathematics homework.

Resources and ICT

- **Manipulatives**
We acknowledge the importance of concrete materials in the development of mathematical concepts for children in all classes. Teachers are encouraged to introduce all topics using physical resources, before moving to pictorial and finally the use of the abstract. We have well- resourced maths presses with resources for each strand of the mathematics curriculum. Teachers must sign for resources borrowed and return them to the pressed after use. A member of the school management team will be responsible for the storage and maintenance of the maths presses. There is a full list of resources available in the maths drive folder.
- **Textbooks**
Chosen textbooks reflect the objectives of the Primary School Curriculum in Mathematics. The scheme currently in use for the school is Planet Maths, published by Folens. Teachers are encouraged to use ancillary materials to support the textbook.
- **Calculators**
From Third Class upwards pupils are permitted to use calculators alongside traditional paper and pencil methods. Calculators are useful for handling large numbers, to check answers, to explore the number system and to remove computational barriers for low attaining pupils.
- **ICT in the classroom**
Interactive whiteboards and accompanying software are available for use within all mainstream classrooms. In addition, there are laptops and iPads available for use in all classes. A timetable has been devised for the use of the iPads. Internet resources can be used to enhance learning in mathematics through games and activities. All internet use must be in line with the school's Internet Acceptable Use policy.

Other Organisational Considerations

- **Individual Teacher's Planning and Reporting**
Teacher's termly, fortnightly and weekly plans should be based on the content set out in this policy. Approaches and methodologies are provided in this policy for teacher's use and should be followed accordingly. Each month there is a planning meeting with each class teacher and the support teachers. The strands and strand units for the month are outlined at this meeting along with the duties of each teacher. The planning meetings also provide a forum to review the previous months work. Teachers are encouraged to evaluate the teaching and learning by discussing what worked well, what did not work well and what could be changed for future months.
- **Integration**
Opportunities will be sought to meaningfully integrate mathematics with other curricular areas. Class teachers will work in collaboration with Religion and Arabic teachers to ensure opportunities for integration are maximised.
- **Staff Development**
Teachers are made aware of any opportunities for continuous professional development and are encouraged to up skill themselves through participation in these courses. Skills and expertise within the school are shared and developed through input at staff meetings. In

addition, teachers are also invited to participate in the Continual Professional Development programme in the school as well as in informal observations which take place regularly each year.

- **Parental Involvement**

Parents are encouraged to support the school's plan for mathematics. Parent / teacher meetings are held annually. Teachers and parents are afforded the opportunity to discuss each individual child's progress in mathematics and ways of supporting the child at home. Parents and teachers are welcome to make individual arrangements to discuss matters of relevance at other times throughout the school year.

- **Community Links**

Members of the local community may be invited into the school to contribute to the teaching and learning of mathematics if appropriate. Permission for this will be sought from the school's management in advance.

The local environment may be used to carry out elements of the mathematics curriculum, for example, maths trails. Two members of staff must accompany each class if they are leaving the school grounds.

Implementation

- **Roles and Responsibilities**

This plan will be supported, implemented and reviewed by the Board of Management, the principal and the teaching staff in the North Dublin Muslim National School. Class teachers and support teachers should show evidence of using this plan in their short and long term planning. The principal will inspect planning to ensure the plan is being followed in each class.

- **Timeframe**

This plan will be implemented from September 2020 and reviewed in 2023/2014 or as necessary.

- **Success Criteria**

It will be evident that the mathematics plan has been implemented successfully when:

- Teacher's long and short term planning is based on this school plan. Both continuity of content and methodologies should be evident in teacher's planning and preparation.
- Procedures and activities outlined in this plan are followed.
- Progression is evident from year to year.

The indicators that the plan has achieved its aims will be based on:

- The results of annual standardised tests.
- The results of on-going assessments both formal and informal which should indicate whether pupils are acquiring an understanding of mathematical concepts and a proficiency in mathematical skills appropriate to their age and ability.
- Inspectorate reports.

- Feedback from teachers implementing the plan.
 - Feedback from parents.
 - The pupils have a positive attitude towards mathematics and an appreciation of its importance in their daily lives.
- **Ratification and Communication**
This mathematics plan was ratified by the Board of Management in May 2020. The ratified policy is displayed on the school website and made available through the school's Google Drive account. Parents may view a hard copy of the policy in the school office by appointment.

Signed: _____ (Chairperson)

Signed: _____ (Principal)

Date: _____

Appendix 1: Mathematical Language by Class Level

Junior Infants:

sort	object	colour
same as,	match/mark, join	same
length, weight, height	big, bigger, biggest	tall, taller, tallest
full, empty, ‘holds’	small, smaller, smallest	long, longer, longest
short, shorter, shortest	all terms re. time moving.	to, from, before, after
short	lighter, lightest	early, late
set	curved, round	inside, above
more, less	few/fewer	others
straight, corner,	outside, inside	below, above
too many, enough	circle, rectangle, square	roll, stacked
triangle		
how many more?	who? how? why?	pattern
first, second, third etc.	zero	coins
shape	numerals one, two etc.	how much

Senior Infants as Junior Infants: plus the following:

compare	least	most, heaviest, etc
add	same as	how far/how far more?
greater than/less than	money	break up groups
high, low	count on / back	wide/narrow
today, yesterday, tomorrow		thick/thin
days of week etc.	holds more than/less than	months, seasons
holds most/least/the same	over, under, on, in, open,	o'clock
joined, between, next to	closed	amount
straight	charts,	how long, short, heavy
out, front, back, high low	subtract/take away, go back	measure
around,	3D shapes, names,	copy
cube/cuboid	number strip	words for numerals

1st Class: as infants plus the following:

less, more, number	addition, subtraction	missing numeral make the same as single digit
smaller, greater	rest of them	centimetre
take away	measure	group, order
how many more	change	calendar
days of week	tens/ones/unit	subtract, steps
between	months	half past
clock,	make tens	abacus
problem	dienes blocks	bar chart
circle, square, rectangle	graph	pictogram
triangle, side, corner	cube, cuboid, pyramid	counting in 2's
faces, edges	sphere, cylinder, cone	
etc.		
left over	magic square	symmetry
number line	100 square	capacity
fraction	odd, even.	

2nd Class: as 1st plus the following:

missing numbers	half quarters	forward, backwards
shaded set	rename	place value
in order	grid	add, group
metre, centimetre	sign	difference between
hundred	decimetre	counting
shaped	base 10's etc.	distance
number sentence	minutes/hours, quarter past/to	different
digital	code	midnight
subtract	midday	magic square
timetable	seasons	2D, 3D hexagon
tessellate	a.m. p.m.	pictogram
prism, cuboid, cylinder	black graph.	

3rd Class: as 2nd plus the following:

symmetry
language of division and multiplication
mathematic sentence versus written $2 \times 3 = 6$
divide,/divided by/division etc.
product
factors
set
angle, right angle, horizontal, vertical, diagonals
rectangle, cuboid, triangle, perimeter

covering area

capacity/liquid/litres, kls
weight - grammes / kgs
length - metres, cms, mms.
pictogramme
decimal
fractions - halves, quarters

4th Class: as 3rd plus the following:

capacity
division and multiplication - estimate, remainder
quantity
more, less
weight
G. kg. Light, lighter, etc. heavy objects.
parallel, congruent,
Pointed, straight, square, solid, angle, acute,
shade, frame,
Obtuse etc.

more/less. Litre, millilitres
into, by, from, under, value,

shapes
Horizontal, vertical, sloping,

half, quarter, eighth etc/divide,

figure.

5th & 6th Class: as 4th plus the following:

fractions
percentage
area
length, width, surface, diameter
circumference, radius, base, perpendicular height,
cuboid, pyramid
axis, reflection, image, parallel,
protractor.

shapes,
octagon,
rhombus, quadrilateral,
oval, polygon
3D - cylinder - sphere, cone, cube,

triangular prism, tetrahedron
rotation, symmetrical

Operational Language

Addition	Subtraction	Equals
More than	Less than	Means
Total	Minus	Will be
And	Decrease	Represents
Sum of	Subtract	Is
Plus	Difference	Answer is
Add	Take away	Same as
Increase		
Multiplication	Division	
Multiply	Divide	
Square	Give	
Power of	Share	
Times	Split	
Product of	Group	
Of	Give	
	How many	