

Clonmoney National School



A Whole School Plan for Mathematics

Introduction

This whole school plan was drawn up following consultation between the teaching staff. It was supported by PCSP / SDPS in service and advice from the Maths Cuiditheoir. It has been modified in October 2015.

Rationale

It was decided to revise this plan to benefit the teaching and learning in our school and in order to conform to the principles outlined in the new curriculum. By following this we are ensuring a well-balanced structured programme, which facilitates the needs of every child.

Vision:

We want to provide a solid foundation in Mathematical understanding which will prepare the children for further learning through the school and enable each child to achieve his/her true potential. We also envisage that the Mathematics learned will equip the children with the necessary skills when encountered with Mathematics in real life situations now and in their future lives.

Aims:

- To develop a positive attitude towards Mathematics and an appreciation of both its practical and its aesthetic aspects.
- To develop problem-solving abilities and a facility for the application of Mathematics to everyday life.
- To 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 appropriate level of development and ability.
- To enable the child to acquire proficiency in fundamental mathematical skills and in recalling basic number facts.

Content of Plan

Curriculum

Strands and Strand Units:

The Strands and Strand units covered in each class are outlined in detail at the end of this plan. The core textbook used from Junior Infants to 2nd class is Planet Maths. The core textbook used from 3rd to 6th class is Action Maths. Figure it Out is used as a supplementary text book at all levels. Teachers will also supplement these core books with worksheets where they deem necessary.

Approaches and Methodologies:

The methodologies used in our school are listed below and a variety of these are to be used throughout the year.

- **Talk and Discussion**

Give instructions, exploring carefully, questioning and providing key vocabulary for pupils to excel themselves in the area of mathematics.

- **Active Learning/Guided Discovery/Celebrative/Co-operation Learning**

Concrete materials are used at all levels especially in junior classes and with children who have specific learning difficulties in mathematics. There is a wide range of hands on material available in the school. Those materials most frequently used are number lines, counters, hundred squares, deans blocks, abacus, lollipop sticks on the magnetic board, unifix cubes, cuisenaire rods, clocks and fraction sets. Tangram sets, measuring, weighing, and capacity materials are used when those particular areas of the curriculum are being taught i.e. metre stick, tape, measuring chart, balances, scales and weights, capacity measures.

- **Learning Skills Through Context**

Pupils using maths learned in one context to solve problems in another. These skills should be developed: - integrating and connecting, reasoning, implementing, applying problem solving, communicating and expressing understanding and recalling.

- **Problem Solving**

Problem solving skills are developed right through the classes. We encourage the children to use a variety of strategies to solve problems i.e. estimating, drawing a diagram, using concrete materials. Estimation skills are developed in all strands and at all levels.

Assessment and Record Keeping:

- In Clonmoney NS all teachers assess and keep records of all children's work on an on-going basis through:
 - Teacher observation
 - Teacher designed tests and tasks
 - Homework/ parental feedback
 - Work samples
 - Weekly & Termly tests
 - Tables tests
 - Standardised tests
 - Diagnostic tests (mainly resource/learning support)

- Children with special needs do attend learning support and smaller maths groups if their scores necessitate intervention.
- Each teacher in learning support has access to various mathematical tests, aids and resources to provide the necessary remediation in mathematics.
- Children with exceptional ability at mathematics are provided with differentiated activities to challenge pupils and support the numeracy topic, at the teacher's discretion.

Equality of Participation and Access:

- Children of all ages, backgrounds, abilities/disabilities have access to all services, facilities and amenities of the school environment to develop their mathematical skills and their understanding of numeracy concepts.

Organisation

Timetabling:

- Due to having multiple classes in our school, discretionary time will be needed to implement the new maths programme.
- Each mainstream class teacher in the school teaches maths each day for one hour as outlined in New Guidelines for teaching literacy and numeracy 2011-2020.

Homework:

Maths homework is given by each class teacher in accordance with the school's homework policy. The homework may include active learning approaches, for example gathering data, textbook work, ICT and mental arithmetic. Teachers in resource and learning support take account of the fact that children will not receive two sets of homework.

Resources & ICT:

Each classroom has a range of mathematical resources built up over time pertinent to the teaching of that class. There are also a range of shared maths resources in a storeroom. Shared school resources are listed at the end of this plan. There is a set of calculators for a double class. All equipment belongs to the school and is purchased from school grant funds. Broken equipment is replaced and new equipment purchased on an ongoing basis when requested by a teacher. The Principal purchases new equipment, usually when teachers have seen maths equipment displays in school. The resource and learning support teacher purchase equipment when needed. This is purchased from their grants or from school grants. Children have a variety of textbooks at their disposal and also additional photocopied sheets.

The school endeavours to use ICT as a teaching and motivational tool for children. All classrooms are equipped with Interactive Whiteboards. Teachers have use and share arrange of Interactives and websites to supplement their teaching of the Maths curriculum. Links to interactive websites are available through the school website (www.clonmoneyns.com) and children are encouraged to practice maths lesson and games at home. Three classrooms have computer zones with 6 personal computers each. There is also a trolley of laptops available to all classes in the school containing 16 laptops.

Arrangements for Individual Teachers, Planning and Reporting:

- **Scéim Bliana**
The Scéim bliana will be devised from the school plan.
- **Short Term Plans**
Each teacher devises a fortnightly scheme for the programme of work.
- **Cúntas Miosúil.**
A record of work is kept on monthly basis by ticking fortnightly plans.

Staff Development

All teachers are encouraged to participate in programmes for continuous professional development. Any courses in maths throughout the year are displayed in the staff room and the Principal will provide recommendations on an ongoing basis for teacher development and up skilling of staff.

Communication with Parents and their Involvement in the Learning Process.

The language and methodologies of maths, in certain areas, are explained to parents especially at parent/teacher meetings or if the parents call to see individual teachers. . Where there is a query over methodologies parents are encouraged to communicate with the teacher through the child's journal. Parents are encouraged to support topics being covered in school through practical activity at home.

Assessment

Pupils' work in mathematics is assessed through teacher observation, interview method, homework/parental feedback, teacher designed tasks and tests, e.g. weekly tests, monthly tests, table tests end of term/year tests. Results of tests are recorded.

Normative Assessment

Sigma T tests are administered yearly from first to sixth class. Parents are informed of the results, through a STEN score (and an explanation table) of these results when they are administered during the month of May of each year, through the school report card. All results are recorded in each pupil's record card and on computer disc. Test results are used to help pupils who have been identified as having learning problems in Maths.

Meeting with Individual Needs.

Children who attain very high results may be given additional work, as a result of the assessment. Some areas may need further clarification or explanation, if assessments prove a common weakness. Children scoring a low STEN score are referred to the resource teacher or the learning support teacher, for further tests or phonological assessment if necessary. Resource teachers will work in the class with specific pupils during Maths classes from time to time.

Maths Language

Junior Infants	Senior Infants	1st Class	2nd Class
<p>Long/short, longer/shorter More than/less than/same as First/last Over, under, up, down, on, beside, in Shape Square, circle, triangle, rectangle Roll/Do not roll Fit/ Do not fit Round/not round, thick, thin Long/short, tall/short, wide, narrow Longer, shorter, wider than Heavy, light, heavier, lighter, balance, weigh Full/ nearly full/empty/ holds more/ holds less/ holds as much as Morning/ evening, night/day, lunchtime, bedtime, early/late, days of the week, schooldays, weekends Buy, sell, spend, coins, how much? Cent Enough, more, as many as/ less</p>	<p><i>As Junior Infants plus:</i> Ordinal number- first, second, third and last Above, below, near, far, right, left Cube, cuboid, sphere, cylinder Edge, corner, face, straight, curved, round, flat, side, corner As long as, as wide as/ longest/ shortest. Yesterday/ today/ tomorrow Seasons, soon, not yet/ birthday Price, cheap/ expensive Change, too much/ too little Pictogram, sets</p>	<p><i>As Senior Infants plus:</i> Between, underneath, on top of, around, through, left, right, Square, rectangle, triangle, circle Semi-circle Half Cube, cuboid, cylinder, sphere Length, width, height, measure, nearly A metre, a bit more than, a bit less than a metre Heavy, heavier, heaviest, light, lighter Lightest, balance Pour, fill, full, empty, holds, more, less Or the same amount as Reading day, date and month Using calendar Hour, half hour Metre, litre, kilogram</p>	<p><i>As 1st Class plus:</i> Quarter Cone, oval metre, centimetre Euro Symmetry Area Digital clock/ time Block graph Corners</p>
3rd Class	4th Class	5th Class	6th Class
<p><i>As 2nd class plus:</i> Regular, irregular shapes Sphere, triangular sphere, prism, pyramid, hexagon Sides, angles, parallel and non-parallel Tessellate Vertical, horizontal and parallel lines Clock-wise/ anti-clockwise Grammes, kilogramme Possible, impossible, might, certain, not sure</p>	<p><i>As 3rd class plus:</i> Equilateral, isosceles, scalene, triangle, parallelogram, rhombus, pentagon, octagon, Diagonal Oblique, perpendicular lines Acute, obtuse and right angles Perimeter Hundredths Chance, likely, unlikely, never, definitely Bar line graph scale</p>	<p><i>As 4th Class plus:</i> Thousandths Prime and composite number Square and rectangular numbers Factors, multiples Positive and negative numbers Equations Quadrilaterals Diameter, radius, chord, circumference Arc, sector, tangent Tetrahedron, Vertices Reflex angle, degrees Millimetre</p>	<p><i>As 5th Class plus</i> Square roots Quotients Octahedron Acres/ hectares Trend graph</p>

Roll, toss, spin, chance, random Tenths Minute Equivalent Bar graph		Square metres / centimetres Millimetres Pie chart, multiple bar chart Statistics Likelihood rotation	
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School Policies on the Teaching of Various Mathematical Areas

The following school policies on the teaching of Maths have been decided after much discussion between staff. Areas have been identified where methods can differ and in order to ensure consistency at each class level we have decided on the following:

Addition: $69 + 4 =$ Start adding from the bottom.

Subtraction: Subtraction of T and U (2nd class) will be taught using renaming.
e.g. $63 - 29$. 69 becomes 5 tens and 13 units

The rhyme 'more on the top, no need to stop, more on the floor go next door' as an aid to remind children when renaming is necessary.

When performing the operation we start with the bottom figure and use 'from'. "Take 9 from 3"

In third class, children will transition to using the borrow and pay back method of subtraction for sums using HTU. eg. $472 - 159$

'9 from 2I cannot take, borrow one ten, 9 from 12 is 3, put down the 3 and pay back the one ten'.

'1 and 5 is 6, take 6 from 7 leaves 1'.....

The rhyme can continue to be used when using borrow and payback

Multiplication

Multiplication tables are learned and consolidated in third class.

Tables are set in family groups (3,6,9,12) (2,4,8,12) (5,10)

Skip counting is introduced in 2nd class and multiplication tables are learned from third class onwards.

Simple multiplication sums – Start from the bottom.

Long Multiplication

$$\begin{array}{r}
 29 \times 46 \\
 \times 46 \\
 \hline
 174 \\
 \\

 \end{array}$$

Put down the zero

Numbers to be carried when multiplying by 4 will be written on the zero row

Division

Children are aware that division is the inverse of multiplication tables. They are not taught the division tables as rote. Children are introduced to the four different ways of presenting division – (fraction way, simple division way, long division as a number sentence, How many 3's in 12.)

Progressing to3 (into) 12. When doing the various numbers operations we use a step-by-step approach to the logic of the number operations.

Fractions

Introducing fractions it is extremely important to relate fractions to everyday experiences such as using pictorial representations.

How do we get $\frac{1}{2}$ of a number ____ we divide by 2.

How do we get $\frac{2}{3}$ of a number ____ we can't get it in one step so we get $\frac{1}{3}$ first and then multiply by 2. (We divide by the denominator and multiply by the numerator).

Find the whole number if $\frac{3}{4} = 16$ at senior level the unitary method is used. We divide by the numerator and multiply by the denominator.

When adding and subtracting fractions in Senior classes children are taught to find a common denominator to solve the sum.

Time

Addition and subtraction of time introduced in 4th class, both processes involve renaming where necessary. Addition – add hours and minutes separately and on the next line rename if necessary.

Subtraction: How do we decide when renaming is necessary – can I take all the bottom minutes from the top minutes? If not I have to rename one hour. Leave a line between the hours and minutes heading and the sum to allow space for renaming.

Maths Games

Number Bingo, patterns, matching games, shapes are played in the infant classes. 'Quick fire' questioning is used to increase speed at tables and number facts at senior level. Number bingo, Maths crosswords and Maths trails are also used.

Oral – Mental Maths

Each teacher is encouraged to include some time for oral maths in daily lessons. Activities may include

- Target boards
- Number Fans
- Recitation of tables
- Skip counting – forwards and backwards
- Problem solving
- Brain Teasers

Problem-solving

Problem solving skills are developed throughout the school. Each Friday we concentrate on problem solving lessons.

Resources used include: Prim Ed- Problem Solving Book,
Brain Snack Cards

Websites to include: <http://www.mathletics.eu/>
<http://nrich.maths.org/teacher-primary>
<http://nzmaths.co.nz/teaching-material>
<http://resources.hwb.wales.gov.uk/VTC/2008-09/maths/puppies/index.html>
<http://www.classmaths.com/>

From third class upwards children are introduced to more complicated problems involving at least one process.

For word problems the RUDE strategy can be used.

Read – Read the problem.

Underline/Understand – Identify what operation is involved.

Draw – Draw a picture of the problem.

Estimate – Estimate an answer by using rounded numbers.

Cooperative learning is encouraged in this area of maths. Children at times are given problems without guidance from the teacher and have to work together on solving it. Discussion on solving and methods of solving can follow afterwards.

Estimation

In the teaching of all strands, an emphasis will be placed on estimation before all calculations are carried out .

TABLES

- Strong emphasis on bonding on the hundred square in 1st and 2nd class.
- Strong emphasis also on addition and subtraction tables in 1st and 2nd class.
- Emphasis on multiplication tables in third and fourth.
- Emphasis on decimals, fractions and percentages formulae in fifth and sixth.

Use of the Environment

- Shape and Space – Finding lines, angles and 2D / 3D inside and outside the classroom
- Practising practical tasks begin with the children's' own personal experiences in relation to their world i.e. measuring in the school grounds, shopping, time keeping, recording data etc
- Linkage with Green schools initiative – gathering data / recording / graph presentation
- Maths Trails
- Maths charts to support our teaching are displayed in classrooms-where possible childrens' work is displayed.

Skills Development

The following are the skills that are developed in Maths throughout the school:

- Applying and Problem solving
- Communicating and expressing
- Integrating and connecting
- Reasoning
- Implementing
- Understanding and recalling

Presentation of work

- Clear legible numbered work with use of the ruler to draw margins / to divide page. To underline sums / label diagrams / titles.
- Use of pencil is encouraged for ease of correction.
- cm.sq. copies are used in Infants and First.
- Regular squared copies are used from Second to Fourth.
- Fifth and Sixth class use normal writing A4 copies.
- ICT may be used for presentation of graphs.

Equality of Participation and Access:

All children in the school are provided with access to all strands of the Mathematics curriculum. If learning difficulties are recognised then a differentiated programme to cater for these children will be discussed and implemented by the class teacher in consultation with the learning support teacher / principal.

Staff Development:

- Attendance at in service courses.
- School In service with PDST coordinator.
- Summer Courses

School Policy on Textbooks

The teachers have decided, after careful deliberation, on the class textbooks. We may have different schemes in different classes. It is an individual choice. We may use a class text and supplementary material. Books or supplementary material may be bought on loan/rental scheme.

Infants	Planet Maths
1 st & 2 nd	Planet Maths and Figure it Out.
3 rd & 4 th	Action Maths and Figure it Out.
5 th & 6 th	Action Maths and Figure it Out.

Supplementary material may be found in the workbook with the textbook, in use, other sample textbook or supplementary book, or suitable examples from old textbooks.

Success criteria

The plan will be assessed using:

- Assessment tools on the revised curriculum documents
- Feedback from pupils/parents
- Suggestion or reports from the inspector i.e. following a WSE guidelines
- Feedback, if arises, from the secondary schools in the catchment area
- Children are capable of using mathematical language in a given situation

Implementation

Roles and Responsibilities: Each class teacher is responsible for the day to day running and implementation of the maths programme. School Principal will monitor the implementation of the programme and discuss the needs and concerns of teachers if and when they arise

We have amended this scheme in September 2015.

Review

This plan will be reviewed in the school year 2019 unless difficulties arise with its implementation. The review process will be initiated by the Principal.

Ratification and Communication

This plan was ratified by the Board of Management on -----

-----It will be reviewed in September 2019.

Clonmoney National School – Mathematics Plan

Junior Infants				
Strands	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Early Mathematical Activities	Classifying	<ul style="list-style-type: none"> Classify objects on the basis of one attribute, such as colour, shape, texture or size. Identify the complement of a set. 	Page 20	<ul style="list-style-type: none"> Matching - Pages 4-11. *Counting: pages 40, 41, 48, 49, 56, 57, 68, 69, 78, 79.
	Matching	<ul style="list-style-type: none"> Match equivalent and non-equivalent sets using one-to-one correspondence. 	Page 20	<ul style="list-style-type: none"> Sets: pages 12-19. Equivalent Sets - Pages 20-24. *Non-equivalent Sets – Pages 25-29.
	Comparing	<ul style="list-style-type: none"> Compare objects according to length, width, height, weight, quantity, thickness or size. Compare sets without counting. 	Page 21	<ul style="list-style-type: none"> Length/Height/Width: pages 30-35. Size: pages 36-38. Weight page 46.
	Ordering	<ul style="list-style-type: none"> Order objects according to length or height. Order sets without counting. 	Page 21	<ul style="list-style-type: none"> * Length/Height/Width: pages 30-35.
Number	Counting	<ul style="list-style-type: none"> Count numbers of objects in a set 1-10. 	Page 22	<ul style="list-style-type: none"> Equivalent Sets - Pages 20-24. Non-equivalent Sets – Pages 25-29. * Numerals 2, 3: page 65.
	Comparing and ordering	<ul style="list-style-type: none"> Compare equivalent and non equivalent sets 1-5 by matching without using symbols. Order sets of objects by number 1-5. Use the language of ordinal number: first, last. 	Page 22	<ul style="list-style-type: none"> Size: pages 36-38. *Counting: pages 40, 41, 48, 49, 56, 57, 68, 69, 78,79. Ordering of Number 1, 2, 3, 4, 5: page 100. Ordering of Objects 1, 2, 3, 4, 5: pg 101.
	Analysis of number (Combining, Partitioning and Numeration)	<ul style="list-style-type: none"> Explore the components of number 1-5. Combine sets of objects, totals 5. Partition sets of objects 1-5. Develop an understanding of the conservation of number 1-5. Read, write and order numerals 1-5. Identify the empty set and the numeral zero. Tell at a glance the number of objects in a set, 1-5 Solve simple oral problems, 0-5. 	Page 23-25	<ul style="list-style-type: none"> N numeral 1, 2, 3, 4, 5: pages 44, 45, 50-53, 60, 61, 63, 64, 65, 70, 71,73- 75, 80, 81, 83-85. Writing Numeral 1, 2, 3, 4, 5: page 54, 55, 62, 72, 82. N numeral 0: page 88. Numerals 0-5: pages 89, 90, 93-95. Writing Numerals 0-5: page 92. Partitioning: pages 102-105. Combining: pages 106-111.

Junior Infants

Junior Infants				
Strands	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Algebra	Extending Patterns (Integration)	<ul style="list-style-type: none"> Identify, copy and extend patterns in colour, shape and size. 	Page 26	<ul style="list-style-type: none"> Identifying Patterns: page 39. 2-D shapes/Pattern: page 59. 2-D shapes-rectangle: pages 98, 99. Pattern: page 120. Numerals 1, 2, 3, 4: page 73.
Shape and Space	Spatial Awareness	<ul style="list-style-type: none"> Explore, discuss, develop and use vocabulary of spatial relations. 	Page 28	<ul style="list-style-type: none"> Vocabulary: between, underneath, on top of, around, through, left and right. (Use of simple directions using the above.)
	3-D shapes	<ul style="list-style-type: none"> Sort 3-D shapes, regular and irregular. Solve tasks and problems involving shape. 	Page 28	<ul style="list-style-type: none"> 3-D shapes/numeral 5: pages 86, * 3-D shapes: page 87.
	2-D shapes (Integration)	<ul style="list-style-type: none"> Sort and name 2-D shapes: square, circle, triangle, rectangle. Use suitable structured materials to create pictures. Solve problems involving shape. 	Page 29	<ul style="list-style-type: none"> 2-D shapes: circle – pages 42, 43. 2-D shapes: square - page 58. 2- D shapes/ pattern: page 59. 2-D shapes: Triangle pages 66, 67. * 2-D shapes- rectangle – pages 98, 99.
Measures	Length (Integration)	<ul style="list-style-type: none"> Develop and understanding of the concept of length through exploration, discussion and use of appropriate vocabulary. Compare and order objects according to length or height. 	Page 30	<ul style="list-style-type: none"> Length/Height/Width: pages 30-35. Size: pages 36-38. Length: pages 30 –33.
	Weight (Integration)	<ul style="list-style-type: none"> Develop and understanding of the concept of weight through exploration, handling of objects, and the use of appropriate vocabulary. Compare objects according to weight. 	Page 31	<ul style="list-style-type: none"> * Weight: pages 46, 47.
	Capacity	<ul style="list-style-type: none"> Develop and understanding of the concept of capacity through exploration and the use of appropriate vocabulary. Compare containers according to capacity. 	Page 32	<ul style="list-style-type: none"> Capacity: pages 76, 77.
	Time (Integration)	<ul style="list-style-type: none"> Develop and understanding of the concept of time through the use of appropriate 	Page 33	<ul style="list-style-type: none"> Time: pages 96, 97.

		vocabulary. <ul style="list-style-type: none"> • Sequence daily events or stages in a story. 		
	Money	<ul style="list-style-type: none"> • Recognise and use coins (up to 5 cents). • Solve practical tasks and problems using money. 	Page 34	<ul style="list-style-type: none"> • Money: pages 112-116.
Data	Recognising and interpreting data	<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 simple mathematical data using real objects and pictures 	Page 35	<ul style="list-style-type: none"> • Sets: pages 12-19. • Equivalent Sets - Pages 20-24. • Non-equivalent Sets – Pages 25-29. • Length/Height/Width: pages 30-35. • 2-D shapes: circle – pages 42, 43. • 2-D shapes –square: page 58. • 2-D shapes: Triangle page 66. • 3-D shapes/numeral 5: pages 86. • 3-D shapes: page 87.

Senior Infants				
Strands	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Early Mathematical Activity (Revision)	Classifying, Matching (Revision)	<ul style="list-style-type: none"> Classify objects on the basis on one attribute. Identify the complement of a set. Match equivalent and non-equivalent sets. 	(Revision)	<ul style="list-style-type: none"> Pages 6-11
Number	Counting	<ul style="list-style-type: none"> Count the number of objects in a set, 0-20. 	Page 22	<ul style="list-style-type: none"> Pages 12-18, 22,39, 52, 57, 58, 71, 72, 79, 80, 91, 92, 98, 103, 124, 125
	Comparing and ordering	<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. 	Page 22	<ul style="list-style-type: none"> Pages 34, 35, 63, 65-67, 69, 118
	Analysis of number (Combining, Partitioning and Numeration)	<ul style="list-style-type: none"> Explore the components of number 1-50. 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 numbers 0-10. Identify the empty set and numeral zero. Estimate the number of objects in a set, 2-10. Solve simple oral and pictorial problems, 0-10. 	Page 23-25	<ul style="list-style-type: none"> Pages 19, 23, 29, 36-38, 42-45, 48, 49, 56, 59-62, 64, 68, 70, 73-75, 78, 81-83, 93-97, 99-102, 115, 119-121, 128
Algebra	Extending Patterns (Integration)	<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. 	Page 26	Pages 20, 21, 26-28

Senior Infants				
Strands	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Algebra	Extending Patterns (Integration)	<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. 	Page 26	Pages 20, 21, 26-28
Shape and space	Spatial Awareness	<ul style="list-style-type: none"> Explore, discuss, develop and use the vocabulary of spatial relations. 	Page 28	<ul style="list-style-type: none"> Pages 88-90
	3-D shapes	<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. Solve tasks and problems involving shape. 	Page 29	<ul style="list-style-type: none"> Pages 53-55, 116, 117,
	2-D shapes (Integration)	<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. Solve problems involving shape and space. Give simple moving and turning directions. 	Page 29	<ul style="list-style-type: none"> Pages 30-32
Measures	Length (Integration)	<ul style="list-style-type: none"> Develop and understanding of the concept of length through exploration, discussion, and use of appropriate vocabulary. Compare and order objects according to length or height. Estimate and measure length in non-standard units. Select and use appropriate non-standard units to measure length, width or height. Discuss reasons for choice. 	Page 30	<ul style="list-style-type: none"> Pages 104-107
	Weight (Integration)	<ul style="list-style-type: none"> Develop and understanding of the concept of weight through exploration, handling of objects and use of appropriate vocabulary. Compare and order objects according to weight. 	Page 31	<ul style="list-style-type: none"> Pages 126, 127

		<ul style="list-style-type: none"> • Estimate and weigh in non-standard units • Select and use appropriate non-standard units to weigh objects. 		
	Capacity	<ul style="list-style-type: none"> • Develop and understanding of the concept of capacity through exploration and the use of appropriate vocabulary • Compare and order containers according to capacity. • Estimate and measure capacity in non-standard units. • Select and use appropriate non-standard units to measure capacity. 	Page 32	<ul style="list-style-type: none"> • Pages 122, 123
	Time (Integration)	<ul style="list-style-type: none"> • Develop and 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. 	Page 33	<ul style="list-style-type: none"> • Pages 84-87
	Money	<ul style="list-style-type: none"> • Recognise coins up to 20cents and use coins up to 10 cents. <p>Solve practical tasks and problems using money.</p>	Page 34	<ul style="list-style-type: none"> • Pages 108-114
Data	Recognising and interpreting data	<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. 	Page 35	<ul style="list-style-type: none"> • Pages 24, 25, 46, 47, 76, 77

First Class				
Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Number	Counting and numeration	<ul style="list-style-type: none"> Count the numbers of objects in a set. Read, write and order numerals 0-99. Estimate the number of objects in a set 0-20. 	Page 40	<ul style="list-style-type: none"> Pages 14, 16, 18, 20, 24, 26, 36, 38, 50, 52
	Comparing and Ordering	<ul style="list-style-type: none"> Compare equivalent and non-equivalent sets 0-20. Order sets of objects by number. Use the language of ordinal number, first to tenth. 	Page 41	<ul style="list-style-type: none"> Page 13, 43, 44
	Place Value (addition and subtraction)	<ul style="list-style-type: none"> Explore, identify and record place value 0=99. 	Page 41	<ul style="list-style-type: none"> 59-61, 72-74, 97, 98, 110, 111
	Operations	<ul style="list-style-type: none"> Addition: Develop and understanding of addition by combining or partitioning sets, use concrete materials 0-20. Explore, develop and apply the commutative, associative and zero properties of addition. Develop and/or recall mental strategies for addition facts within 20. Construct number sentences and number stories; solve problems involving addition within 20. Add number without and with renaming within 99. Explore and discuss repeated addition and group counting. Subtraction: Develop an understanding of subtraction as deducting, as complementing and as difference 0-20. Develop and/or recall mental strategies for subtraction 0-20. Construct number sentences and number stories; solve problems involving subtraction. Estimate differences within 99. Use the symbols +, -, = . Solve one-step problems involving addition and subtraction. 	Pages 42-45	<ul style="list-style-type: none"> Addition- Pages 10, 11,12, 15, 17, 19, 21, 25, 27, 29, 37, 39, 41, 51, 53, 55, 70, 81-85, 112, 113, 119, 120, 137-142, Subtraction- pages 91, 92, 99-101, 130-132, 148-150
Number	Fractions (Linkage)	<ul style="list-style-type: none"> Establish and identify half of sets to 20 	Pages 45	<ul style="list-style-type: none"> Pages 114-118

First Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Algebra	Extending and using patterns	<ul style="list-style-type: none"> Recognise pattern, including odd and even numbers. Explore and use patterns in addition facts. Understand the use of a frame to show the presence of an unknown number. 	Page 46	<ul style="list-style-type: none"> Pages 66-68
Shape and Space	Spatial awareness	<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. 	Pages 48	<ul style="list-style-type: none"> Pages 79, 80, 103
	2-D shapes (Linkage, integration)	<ul style="list-style-type: none"> Sort, describe, compare and name 2-D shapes: square, rectangle, triangle, circle, semicircle. Construct and draw 2-D shapes. Combine and partition 2-D shapes. Identify halves of 2-D shapes. 	Page 49	<ul style="list-style-type: none"> Pages 33- 35
	3-D shapes (Linkage)	<ul style="list-style-type: none"> Describe, compare and name 3-D shapes, including cube, cuboid, cylinder and sphere. Discuss the use of 3-D shapes in the environment. Solve and complete practical tasks and problems involving 2-D and 3-D shapes. Explore the relationship between 2-D and 3-D shapes. 	Page 50	<ul style="list-style-type: none"> Pages 121-124
	Symmetry		Page 51	
	Angles (Integration)		Page 51	
	Area (Linkage)		Page 53	
Measures	Weight	<ul style="list-style-type: none"> Estimate, compare and record weight using non-standard units. Select and use appropriate non-standard measuring units and instruments. Estimate, measure and record weight using standard unit (the kilogram) and solve simple problems. 		<ul style="list-style-type: none"> Pages 93-96

First Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Measures	Capacity	<ul style="list-style-type: none"> Estimate, compare, measure and record capacity using non-standard units. Select and use appropriate non-standard measuring units and instruments. Estimate, measure and record capacity using standard unit (the litre) and solve simple problems. 	Page 55	Pages 104-106
	Length	<ul style="list-style-type: none"> Estimate, compare, measure and record length using non-standard units Select and use appropriate non-standard measuring units and instruments Estimate measure and record using the standard unit (the metre) 		Pages 75-78
	Time	<ul style="list-style-type: none"> Use the vocabulary of time to sequence events. Read and record time using simple devices. Read time in hours and half-hours on 12-hour analogue clock. Read day, date and month using a calendar. 	Page 56	<ul style="list-style-type: none"> Pages 22, 23 Pages 49 Pages 133-136
	Money	<ul style="list-style-type: none"> Recognise, exchange and use coins up to the value of 50 cents. Calculate how many items may be bought with a given sum. 	Page 57	<ul style="list-style-type: none"> Pages 62-65, 151-154
Data	Representing and interpreting data (Integration).	<ul style="list-style-type: none"> Sort and classify objects by two and three criteria. Represent and interpret data in two, three or four rows or columns using real objects, models and pictures. 	Page 58	<ul style="list-style-type: none"> Pages 45-48
Tables		<ul style="list-style-type: none"> Addition (1-12) Subtraction (1-12) 		<ul style="list-style-type: none"> Spellings and Tables Book

Second Class				
Strand	Strand Unit	Content/Activities	Curriculum	Resource: Planet Maths
Number	Counting and numeration	<ul style="list-style-type: none"> Count the number of objects in a set. Read, write and order numerals 0-199. Estimate the number of objects in set 0-20. 	Page 40	<ul style="list-style-type: none"> Pages 15, 25-27, 30-31, 41, 81, 82, 111-112
	Comparing and Ordering	<ul style="list-style-type: none"> Compare equivalent and non-equivalent sets 0-20. Use the language of ordinal number. 	Page 41	<ul style="list-style-type: none"> Pages 37-39
	Place Value (addition and subtraction)	<ul style="list-style-type: none"> Explore, identify and record place value 0-99. 	Page 41	<ul style="list-style-type: none"> Pages 22- 24, 61-63, 93, 94, 117, 118,
	Operations	<ul style="list-style-type: none"> Addition: Develop an understanding of addition by combining or partitioning sets. Explore, develop and apply commutative, associative and zero properties of addition. Develop and recall mental strategies for addition facts within 20. Construct number sentences and number stories; solve problems involving addition within 99. Add numbers without and with renaming within 99. Explore and discuss repeated addition and group counting. Subtraction: Develop and understanding of subtraction as deduction, as complementing and as difference. Develop and recall mental strategies for subtraction 0-20. Construct number sentences involving subtraction of whole numbers; solve problems involving subtraction. Estimate differences within 99. Subtract numbers without and with renaming within 99. Use the symbols +, -, =, <, >. Solve one-step and two-step problems involving addition and subtraction. 	Pages 42-45	<ul style="list-style-type: none"> Addition: Pages 10-13, 17, 18, 83-86, 113, 136-138 Subtraction: Pages: 14-16, 19-21, 58-60, 87, 114-116 Estimating: 111-112 Fractions: pages 66-70

Second Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
Shape and space	Spatial awareness	<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, including turning directions using half and quarter turns 	Pages 48	<ul style="list-style-type: none"> • Locating: pages 30-31 • Spatial Awareness: 104-105
	2-D shapes (Linkage, integration)	<ul style="list-style-type: none"> • Sort, describe, compare and name 2-D shapes: square, rectangle, triangle, circle, semicircle, oval. • Construct and draw 2-D shapes. • Combine and partition 2-D shapes. • Identify half and quarter of shapes. • Identify and discuss the use of 2-D shapes in the environment. 	Page 49	<ul style="list-style-type: none"> • 2-D Shapes: pages 33-36, • Fractions: pages 66-70
	3-D shapes (Linkage)	<ul style="list-style-type: none"> • Describe, compare and name 3-D shapes, including cube, cuboid, cylinder, sphere and cone. • Discuss the use of 3-D shapes in the environment. • Solve and complete practical tasks and problems involving 2-D and 3-D shapes. • Explore the relationship between 2-D and 3-D shapes. 	Page 50	<ul style="list-style-type: none"> • 3-D Shapes: pages 106-107
	Symmetry	<ul style="list-style-type: none"> • Identify line symmetry in shapes and in the environment. 	Page 51	<ul style="list-style-type: none"> • Symmetry: pages 64-65
	Angles (Integration)	<ul style="list-style-type: none"> • Explore and recognise angles in the environment. 	Page 51	
Measures	Length (Linkage)	<ul style="list-style-type: none"> • Estimate, compare, measure and record length using non-standard units. • Select and use appropriate non-standard measuring units/instruments. • Estimate, measure and record length using metre and centimetre. • Solve and complete practical tasks and problems involving length. 	Pages 52,53	<ul style="list-style-type: none"> • Length: pages 121-124

Second Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Planet Maths
	Area (Linkage)	<ul style="list-style-type: none"> Estimate and measure area using non-standard units. 	Page 53	<ul style="list-style-type: none"> Pages: 119-120
	Capacity	<ul style="list-style-type: none"> Estimate, compare, measure and record the capacity of a wide variety of containers using non-standard units. Select and use appropriate non-standard measuring units and instruments. Estimate, measure and record capacity using litre, half-litre and quarter-litre bottles and solve simple problems. 	Page 55	<ul style="list-style-type: none"> Liquids: pages 132-135
	Time	<ul style="list-style-type: none"> Use the vocabulary of time to sequence events. Read and record time using simple devices. Read time in hours, half-hours and quarter-hours on 12-hour analogue clock. Read time in hour and half-hours on digital clock. Read day, date and month using calendar and identify the season. 	Page 56	<ul style="list-style-type: none"> Time: pages 99-103 The Calendar/Week/Months of the Year: pages 43-47
	Money	<ul style="list-style-type: none"> Recognise, exchange and use coins up to the value of 2 euro. Write the value of a group of coins; record money amount as cents and later as euro. 	Page 57	<ul style="list-style-type: none"> Money: pages 76-80, 150 -154
Data	Representing and interpreting data (Integration).	<ul style="list-style-type: none"> Sort and classify objects by two and three criteria. Represent, read and interpret simple tables and charts (pictograms). Represent, read and interpret simple block graphs. 	Page 58	<ul style="list-style-type: none"> Data: Pages 146-149

Tables		<ul style="list-style-type: none"> Addition (1-12) Subtraction (1-12) 		<ul style="list-style-type: none"> 4 plus 0 equals 4 etc. 9 minus 0 equals to 9 etc.
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Third Class			*common to other strands	
Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
Number	Place Value	<ul style="list-style-type: none"> Explore and identify place value in whole numbers 0-999. Read, write and order three-digit numbers. Round whole numbers to the nearest ten or hundred. Explore and identify place value in decimal numbers to one place or decimals. 	Page 64	<ul style="list-style-type: none"> Unit 2: Place Value – pages 10-16.
	Operations (Addition, subtraction, multiplication and division)	<ul style="list-style-type: none"> Addition and Subtraction. Add and subtract, without and with renaming, within 999. Subtraction: Borrow Pay Back method to be introduced at the end of January Know and recall addition and subtraction facts. Solve word problems involving addition and subtraction. Multiplication. Develop and understanding of multiplication as repeated addition and vice versa. Explore, understand and apply the zero, commutative and distributive properties of multiplication. Develop and/or recall multiplication facts within 100. Multiply a one-digit or two-digit number 0-10. Solve and complete practical tasks and problems involving multiplication of whole numbers. Division. 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. 	Pages 65-68	<ul style="list-style-type: none"> Unit 3: Addition – pages 17-22. Unit 4: Subtraction – pages 23-28. Unit 6: Multiplication (1) – pages 39-42. Unit 17: Multiplication (2) – pages 108-111. Unit 7: Division (1) – pages 43- 47. Unit 18: Division (2) – pages 112-118.

Third Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	Fractions	<ul style="list-style-type: none"> • Identify fractions and equivalent forms of fractions with denominations 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 calculate a number, given a unit fraction of the number. • Solve and complete practical tasks and problems involving fractions. 	Pages 68-69	<ul style="list-style-type: none"> • Unit 8: Fractions (1) – pages 48-53. • Unit 20: Fractions (2) – pages 124-128.
	Decimals	<ul style="list-style-type: none"> • Identify tenths and express in decimal form. • Order decimals on the number line. • Solve problems involving decimals. 	Pages 69	<ul style="list-style-type: none"> • Unit 9: Decimals – pages 54-58.
Shape and space	2-D shapes (Linkage and Integration)	<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. 	Page 72	<ul style="list-style-type: none"> • Unit 12: 2-D shapes – pages 78-83.

Third Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	3-D shapes (Integration)	<ul style="list-style-type: none"> • Identify, describe and classify 3-D shapes, including cube, cuboid, cylinder, cone, sphere, triangular prism, and pyramid. • Explore, describe and compare the properties of 3-D shapes. • 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. 	Page 73	<ul style="list-style-type: none"> • Unit 24: 3-D Shapes – pages 146-150.
	Symmetry (Linkage)	<ul style="list-style-type: none"> • Identify line symmetry in the environment. • Identify and draw lines of symmetry in two-dimensional shapes. 	Page 74	<ul style="list-style-type: none"> • Unit 16: Symmetry – pages 103-107.
	Lines and angles (Integration)	<ul style="list-style-type: none"> • Identify, describe and classify vertical, horizontal and parallel lines. • Recognise and 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. 	Page 75	<ul style="list-style-type: none"> • Unit 5: Lines and Angles – pages 29-35.
Measures	Length (Integration)	<ul style="list-style-type: none"> • Estimate, compare, measure and record length of a wide variety of objects using appropriate metric units (m, cm). • Rename units of length in m and cm. • Solve and complete practical tasks and problems involving the addition and subtraction of units of length (m, cm). 	Page 76	<ul style="list-style-type: none"> • Unit 13: Length – pages 84-89.
	Area (Linkage)	<ul style="list-style-type: none"> • Estimate, compare and measure the area of regular and irregular shapes. 	Page 77	<ul style="list-style-type: none"> • Unit 21: Area – pages 132-134.

Third Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	Time (Integration)	<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. • 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. • Solve and complete practical tasks and problems involving times and dates. 	Pages 79,80	<ul style="list-style-type: none"> • Unit 11: Time – pages 65-71.
	Money (Integration)	<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. 	Page 81	<ul style="list-style-type: none"> • Unit 10: Money – pages 59-64.
Data	Representing and interpreting data (Linkage and Integration)	<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. 	Page 82	<ul style="list-style-type: none"> • Unit 22: Graphs – pages 135-140.
	Chance (Integration)	<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. 	Page 83	<ul style="list-style-type: none"> • Unit 25: Chance – pages 151-155.

Tables	<ul style="list-style-type: none"> • Addition • Subtraction • Multiplication • Division 	<ul style="list-style-type: none"> • 5 plus 1 equals 6 etc. • 9 minus 3 equals 6 etc. • 3 5s equals 15 etc. • 6 into 6 goes once etc.
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Fourth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
Number	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. 	Page 64	<ul style="list-style-type: none"> • Unit 2: Place-Value – pages 10-16.
	Operations (Addition, subtraction, multiplication and division)	<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. • Develop and understanding of multiplication as repeated addition and vice versa. • Explore, understand and apply the zero, commutative and distributive properties of multiplication. • Develop and/or recall multiplication facts within 100. • Multiply a two-digit or three digit number by a one or two-digit number. • Use a calculator to check estimates. • 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 three-digit number by a one-digit number without and with remainders. • Use a calculator to check estimates. • Solve and complete practical tasks and problems involving division of whole numbers. 	Pages 65-68	<ul style="list-style-type: none"> • Unit 3: Addition – pages 17-24. • Unit 4: Subtraction – pages 25-31. • Unit 6: Multiplication – pages 42-48. • Unit 7: Division – pages 49-55.

Fourth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	Fractions	<ul style="list-style-type: none"> • Identify fractions and equivalent forms of fractions with denominations 2, 3, 4, 5, 8, 9, 10 and 12. • Compare and order fractions with appropriate denominators and position on the number line. • 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. • Solve and complete practical tasks and problems involving fractions. 	Pages 68-69	<ul style="list-style-type: none"> • Unit 11: Fractions (1) – pages 79-85. • Unit 16: Fractions (2) – pages 115-120.
	Decimals	<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. • Multiply and divide a decimal number up to two places by a single-digit whole number. • Solve problems involving decimals. 	Pages 69	<ul style="list-style-type: none"> • Unit 12: Decimals (1) – pages 86-91. • Unit 17: Decimals (2) - pages 121-125.
Algebra	Number patterns and sequences	<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. 	Page 70	<ul style="list-style-type: none"> • Unit 13: Patterns – pages 92-97.
	Number sentences	<ul style="list-style-type: none"> • Translate and 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. 	Page 71	<ul style="list-style-type: none"> • Unit 22: Number Sentences – pages 155-159.

Fourth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	2-D shapes (Linkage and Integration)	<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. 	Page 72	<ul style="list-style-type: none"> • Unit 10: 2-D Shapes – pages 70-75.
	3-D shapes (Integration)	<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. 	Page 73	<ul style="list-style-type: none"> • Unit 24: 3-D shapes – pages 166-171.
	Symmetry (Linkage)	<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. 	Page 74	<ul style="list-style-type: none"> • Unit 15: Symmetry – pages 105-111.
	Lines and angles (Integration)	<ul style="list-style-type: none"> • Identify, describe and classify oblique and perpendicular lines. • 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. 	Page 75	<ul style="list-style-type: none"> • Unit 5: Lines and Angles – pages 32-38.

Fourth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	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) and selecting suitable instruments of measurement. Rename units of weight in kg and g. Rename units of weight using decimal or fraction form. Solve and complete practical tasks and problems involving the addition, subtraction, multiplication and simple division of units of weight (kg and g). 	Page 77	<ul style="list-style-type: none"> Unit 18 Weight – pages 126-131.
	Capacity	<ul style="list-style-type: none"> Estimate, compare, measure and record capacity using appropriate metric (l, ml) and selecting suitable instruments of measurement. Rename units of capacity in l and ml 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). 	Page 78	<ul style="list-style-type: none"> Unit 23: Capacity – pages 160-165.
	Time (Integration)	<ul style="list-style-type: none"> Consolidate and develop further a sense of time. 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. Solve and complete practical tasks and problems involving times and dates and the addition and subtraction of hour and minutes. 	Pages 79,80	<ul style="list-style-type: none"> Unit 8: Time – pages 56-62.
	Money (Integration)	<ul style="list-style-type: none"> Rename amounts of money as euro or cents and record using euro 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. 	Page 81	<ul style="list-style-type: none"> Unit 9: Money – pages 63-69.

Fourth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Spellings and Tables
	Tables	<ul style="list-style-type: none">• Addition• Subtraction• Multiplication• Division		<ul style="list-style-type: none">• 5 plus 1 equals 6 etc.• 9 minus 3 equals 6 etc.• 3 5s equals 15 etc.• 6 into 6 goes once etc.

Fifth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
Number	Place Value	<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. 	Page 88	<ul style="list-style-type: none"> • Unit 2: Place-Value: pages 9-13.
	Operations	<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. • Divide a decimal number by a whole number, without and with a calculator. 	Pages 88,89	<ul style="list-style-type: none"> • Unit 5 Numbers: pages 26-34.
	Fractions	<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. • Multiply a fraction by a whole number. • Express tenths, hundredths and thousandths in both fractional and decimal form. 	Pages 89,90	<ul style="list-style-type: none"> • Unit 7 Fractions (1): pages 41-51. • Unit 12 Fractions (2): pages 86-92.
	Decimals and percentages (Linkage and Integration)	<ul style="list-style-type: none"> • Develop and understanding of simple percentages and relate them to fractions and decimals. • Compare and order fractions and decimals. • Solve problems involving operations with whole numbers, fractions, decimals and simple percentages. 	Page 91	<ul style="list-style-type: none"> • Unit 10 Decimals (1): pgs 71-78. • Unit 14 Decimals (2): pgs 103-108. • Unit 19 Percentages (1): pages 136-143. • Unit 21 Percentages (2): pages 157-162.
	Number theory	<ul style="list-style-type: none"> • Identify simple prime and composite numbers. • Identify square and rectangular numbers. • Identify factors and multiples. 	Page 92	<ul style="list-style-type: none"> • Unit 17 Number Sequences: pages 123-129.

Fifth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
Algebra	Directed numbers (Integration)	<ul style="list-style-type: none"> Identify positive and negative numbers in context. 	Page 94	<ul style="list-style-type: none"> Unit 13 Directed Numbers: pages 93-96.
	Rules and properties	<ul style="list-style-type: none"> Explore and discuss simple properties and rules about brackets and priority of operation. Identify relationships and record verbal and simple symbolic rules and number patterns. 	Page 95	<ul style="list-style-type: none"> See unit 5.
	Variables		Page 96	
	Equations	<ul style="list-style-type: none"> Translate number sentences with a frame into word problems and vice versa. Solve one-step number sentences and equations. 	Page 97	Unit 25 Number Sentences: pages 182-185.
Shape and space	2-D shapes	<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. Identify the properties of the circle. Construct a circle of given radius or diameter. Tessellate combinations of 2-D shapes. Classify 2-D shapes according to their lines of symmetry. Use 2-D shapes and properties to solve problems. 	Pages 98,99	<ul style="list-style-type: none"> Unit 8 2-D Shapes: pages 58-65. Unit 23 Symmetry: pages 172-176.
	3-D shapes (Integration)	<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. 	Page 99	<ul style="list-style-type: none"> Unit 16 3-D Shapes: pages 118-122.
	Lines and angles	<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. 	Pages 100, 101	<ul style="list-style-type: none"> Unit 3 Lines and Angles: pages 14-20.

Fifth Class				
Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
Measures	Length (Integration)	<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. 	Page 102	<ul style="list-style-type: none"> • Unit 15 Length: Pages 109-117.
	Area	<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. 	Page 103	<ul style="list-style-type: none"> • Unit 11 Area: pages 79-85.
	Weight	<ul style="list-style-type: none"> • Select and use appropriate instruments of measurement. • Estimate and measure weight using appropriate metric units. 	Page 104	<ul style="list-style-type: none"> • Unit 20 Weight: pages 152-156.
	Capacity	<ul style="list-style-type: none"> • Select and use appropriate instruments of measurement. • Estimate and measure capacity using appropriate metric units. 	Pages 104, 105	<ul style="list-style-type: none"> • Unit 24 Capacity: pages 177-181.
	Time (Linkage and Integration)	<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. 	Page 105	Unit 9 Time: pages 66-70.
	Money (Linkage)	<ul style="list-style-type: none"> • Compare 'value for money' using unitary method. 	Pages 106, 107.	Units 6 Money: pages 35-40.
Data	Representing and interpreting data (Linkage and Integration)	<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 • Compile and use simple data sets • Explore and calculate averages of simple data sets • Use data sets to solve problems 	Pages 108, 109	<ul style="list-style-type: none"> • Unit 22 Graphs: pages 163-171. • Unit 4 Averages: pages 21-25.
	Chance (Integration)	<ul style="list-style-type: none"> • Identify and list all possible outcomes of simple random processes • Estimate the likelihood of occurrence of events 	Pages 109-111	<ul style="list-style-type: none"> • Unit 18 Chance: pages 130-135.

		<ul style="list-style-type: none"> • Construct and use frequency charts and tables 		
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Tables		<ul style="list-style-type: none"> • Addition • Subtraction • Multiplication • Division 		<ul style="list-style-type: none"> • 5 plus 1 equals 6 etc. • 9 minus 3 equals 6 etc. • 3 5s equals 15 etc. • 6 into 6 goes once etc.
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Sixth Class				* common to other stands
Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
Number	Place Value	<ul style="list-style-type: none"> • Read, write and order whole numbers and decimals. • Identify place value in whole numbers and decimals. • Round decimals. 	Page 88	<ul style="list-style-type: none"> • Unit 5 Numbers and Decimals: pages 45-54.
	Operations	<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. • Divide a decimal number by a decimal, without and with a calculator. 	Pages 88,89	<ul style="list-style-type: none"> • Unit 2 Numbers: pages 18-23. • * Unit 11 Time and Speed: pages 104-110.
	Fractions	<ul style="list-style-type: none"> • Compare and order fractions and identify equivalent forms of fractions. • 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. • Multiply a fraction by a fraction. • Express tenths, hundredths and thousandths in both fractional and decimal form. • Divide a whole number by a unit fraction. • Understand and use simple ratios. 	Pages 89,90	<ul style="list-style-type: none"> • Unit 4 Fractions: pages 34-44.
	Decimals and percentages (Linkage and Integration)	<ul style="list-style-type: none"> • Use percentages and relate them to fractions and decimals. • Compare and order percentages of numbers. • Solve problems relating to profit and loss, discount, VAT, interest, increases, decreases. 	Page 91	<ul style="list-style-type: none"> • Unit 9 Percentages: pages 91-99. • Unit 6 Money: pages 55-66.
	Number theory	<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. • Write whole numbers in exponential form. 	Page 92	<ul style="list-style-type: none"> • * Unit 17 Number Sequences: pages 149-151.

Sixth Class				
Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	Variables	<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 variables. 	Page 96	<ul style="list-style-type: none"> See Unit 13.
	Equations	<ul style="list-style-type: none"> Translate word problems with a variable into number sentences. Solve one-step number sentences and equations. 	Page 97	<ul style="list-style-type: none"> Unit 13: Equations: pages 123-126.
Shape and space	2-D shapes	<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 and angles Identify the properties of the circle. Construct a circle of given radius or diameter. Tessellate combinations of 2-D shapes. Classify 2-D shapes according to their lines of symmetry. Plot simple co-ordinates and apply where appropriate. Use 2-D shapes and properties to solve problems. 	Pages 98,99	<ul style="list-style-type: none"> Unit 8 2-D Shapes: pages 81-90 Unit 15 Co-ordinates: pages 134-137.
	3-D shapes (Integration)	<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. Recognise, classify and describe angles and relate angles to shape. Recognise angles in terms of rotation. Estimate, measure and construct angles in degrees. Explore the sum of the angles in a quadrilateral. 	Page 99	<ul style="list-style-type: none"> Unit 16 3-D Shapes: pages 138-141 . Unit 7 Lines and Angles: pages 73-80.
	Length	<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. 		<ul style="list-style-type: none"> Unit 3 Length: pages 24-33.

Sixth Class

Strand	Strand Unit	Content/Learning Objectives	Curriculum	Resource: Action Maths
	Area	<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. Measure the surface area of specified 3-D shapes. Calculate the area using acres and hectares. Identify the relationship between square metres and square centimetres. Find the area of a room from a scale plan. 	Page 103	<ul style="list-style-type: none"> Unit 19 Area and Perimeter: pages 158-165.
	Weight	<ul style="list-style-type: none"> Select and use appropriate instruments of measurement Rename measures of weight. 	Page 104	<ul style="list-style-type: none"> Unit 14 Weight: pages 127-133.
	Capacity	<ul style="list-style-type: none"> Select and use appropriate instruments of measurement. Rename measures of capacity. Find the volume of cuboid experimentally. 	Pages 104, 105	<ul style="list-style-type: none"> Unit 20 Capacity: pages 166-172.
	Time (Linkage and Integration)	<ul style="list-style-type: none"> Explore international time zones. Explore the relationship between time, distance and average speed. 	Page 105	<ul style="list-style-type: none"> * Unit 11 Time and Speed: pages 104-110.
	Money (Linkage)	<ul style="list-style-type: none"> Explore value for money. Convert other currencies to euro and vice versa. 	Pages 106, 107.	<ul style="list-style-type: none"> * Unit 6 Money: pages 55-66.
Data	Representing and interpreting data (Linkage and Integration)	<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. Compile and use simple data sets. Explore and calculate averages of simple data sets. Use data sets to solve problems. 	Pages 108, 109	<ul style="list-style-type: none"> Unit 18 Data Representation: pages 152-157.
	Chance (Integration)	<ul style="list-style-type: none"> Identify and list all possible outcomes of simple random processes. 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. 	Pages 109-111	<ul style="list-style-type: none"> Unit 21 Chance: pages 173-179.

Tables		<ul style="list-style-type: none">• Addition• Subtraction• Multiplication• Division		<ul style="list-style-type: none">• 5 plus 1 equals 6 etc.• 9 minus 3 equals 6 etc.• 3 5s equals 15 etc.• 6 into 6 goes once etc.
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