

Term	Week	Content Area / Units	Outcomes	Assessment
1	1 and 2	Assessment	SENA 1 – Recording Sheet SENA 1 – Resources/Activities SENA 3 – Recording Sheet SENA 3 – Resources/Activities <u>For required prior knowledge refer back to Stage 2 Year 3 outcomes</u>	
	3 and 4	Whole Numbers 2 Data 2	<p>MA2-4NA applies place value to order, read and represent numbers of up to five digits</p> <ul style="list-style-type: none">• Recognise, model, represent and order numbers to at least tens of thousands<ul style="list-style-type: none">- Identifies numbers before and after a given two-, three-, four or five-digit number- Arranges numbers of up to five digits in ascending and descending order- Uses the terms and symbols for 'is less than' (<) and 'is greater than' (>) to show the relationship between two numbers• Apply place value to partitioning, rearranging and regrouping numbers to at least tens of thousands<ul style="list-style-type: none">- States the place value of digits in numbers of up to five digits- Partitions numbers in non-standard forms, e.g. $500 + 670 = 500 + 170$, so $500 + 670 = 500 + 500 + 170$, which is $1000 + 170 = 1170$ <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p> <p>MA2-18SP selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs</p> <ul style="list-style-type: none">• Select and trial methods for data collection, including survey questions and recording sheets<ul style="list-style-type: none">- Creates a survey and related recording sheet, considering the appropriate organisation of categories for data collection- Refines survey questions as necessary after a small trial- Conducts a survey to collect categorical data- Compares the effectiveness of different methods of collecting and recording data. <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 1, Week 3 and Week 4 Program

1	5 and 6	Addition and Subtraction 2	<p>MA2-5NA – uses mental and written strategies for addition and subtraction involving two-, three-, four and five-digit numbers</p> <ul style="list-style-type: none"> • Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems • Select, use and record a variety of mental strategies to solve addition and subtraction problems <ul style="list-style-type: none"> - Revises jump strategy and split strategy <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 1, Week 5 and Week 6 Program Year 4 Assessment
	7 and 8	Multiplication and Division 1 (Focus on Multiplication)	<p style="text-align: center;">Length 2</p> <p>MA2-9MG - measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures</p> <ul style="list-style-type: none"> • Select and use scaled instruments to estimate, measure, order and compare lengths <ul style="list-style-type: none"> - Uses tape measure, ruler and trundle wheel to measure lengths and distances • Convert between metres and centimetres, and between centimetres and millimetre • Records lengths and distances using decimal notation of two decimal places, e.g. 1.25m <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p> <p>MA2-6NA - uses mental and informal written strategies for multiplication and division</p> <ul style="list-style-type: none"> • Recall multiplication facts of two, three, five and ten and related division facts <ul style="list-style-type: none"> - Counts by twos, threes, fours, fives, sixes, sevens, eights, nines or tens using skip counting - Uses the term ‘product’ to describe the results of multiplying two or more numbers - Recalls multiplication facts up to 10×10, including zero facts, with automaticity - Finds ‘multiples’ for a given whole number, e.g. the multiples of 4 are 4, 8, 12, 16, - Uses mental strategies to build multiplication facts of at least 10×10, including: <ul style="list-style-type: none"> - Using communicative property of multiplication, e.g. $7 \times 9 = 9 \times 7$ - Using know facts to work out unknown facts, e.g. 5×7 is 35, so 6×7 is 7 more, which is 42 - Using doubling and repeating doubling strategy to multiply by 2, 4 and 8 - Using relationship between multiplication facts - Factorising one number, e.g. 5×8 is the same as $5 \times 2 \times 4$ - Determines ‘factors’ for a given whole number, e.g. multiples of 12 are 1,2,3,4,6,12 <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 1, Week 7 and Week 8 Program

1		Volume and Capacity 2	MA2-11MG - measures, records, compares and estimates volumes and capacities using litres, millilitres and cubic centimetres <ul style="list-style-type: none">• Use scaled instruments to estimate, measure, order and compare capacities<ul style="list-style-type: none">- Recognises the need for formal units- Uses litre (L) and millilitres (mL)- Converts between mL and L MA2-1WM use appropriate terminology to describe, and symbols to represent, mathematical ideas	Term 1, Week 9 and Week 10 Program Year 4 Assessment
	9 and 10	Patterns and Algebra 2 2D Space 2	MA2-8NA - generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values <ul style="list-style-type: none">• Investigate number sequences involving multiples of 3, 4, 6, 7, 8 and 9<ul style="list-style-type: none">- Generates number patterns using multiples of 3, 4, 6, 7, 8 and 9, e.g. 3, 6, 9, 12,- Investigates visual number patterns on a number chart• Explore and describe number patterns resulting from performing multiplication<ul style="list-style-type: none">- Uses the word ‘term’ when referring to numbers in a number pattern, e.g. ‘The first term is 6’- Finds a higher term in a number pattern resulting from performing multiplication, given the first few terms, e.g. determine the next term in the pattern 4, 8, 16, 32, 64, ... MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used MA2-15MG manipulates, identifies and sketches two-dimensional shapes, including special quadrilaterals, and describes their features <ul style="list-style-type: none">• Compare and describe two-dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies<ul style="list-style-type: none">- Combines common two-dimensional shapes, including special quadrilateral, to form other common shapes or designs, e.g. combines a rhombus and a triangle from a trapezium- Splits a given shape into two or more common shapes and describe the results- Records the arrangements of common shapes used to create other shapes, and the arrangement of shapes formed after splitting a shape, in diagrammatic form, with and without the use of digital technologies MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used	

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**Revision of Key
Concepts**

Based on class needs

Assessments

Notes:

Working Mathematically should be imbedded into all mathematics lesson/activities.

2	1 and 2	Whole Numbers 2	<p>MA2-4NA applies place value to order, read and represent numbers of up to five digits</p> <ul style="list-style-type: none"> • Recognise, model, represent and order numbers to at least tens of thousands <ul style="list-style-type: none"> - Identifies numbers before and after a given two-,three- , four or five-digit number - Arranges numbers of up to five digits in ascending and descending order • Apply place value to partitioning, rearranging and regrouping numbers to at least tens of thousands <ul style="list-style-type: none"> - States the place value of digits in numbers of up to five digits - Uses place value to partition numbers of up to five digits and recognise this as ‘expanded notation’. e.g. 67 012 is 60 000 + 7000 + 10 + 2 - Partitions numbers of up to five-digits in non-standard form - Uses place value to compare and explain the relative size of four-digit numbers <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 2, Week 1 and Week 2 Program
	3 and 4	Fractions and Decimals 2	Time 2	<p>MA2-13MG – reads and records time in one-minute intervals and converts between hours, minutes and seconds</p> <ul style="list-style-type: none"> • Tell the time to the minute and investigates the relationship between units of time <ul style="list-style-type: none"> - Reads analog and digital clocks to the minute, including using the terms ‘past’ and ‘to’ - Records in words various times shown on analog and digital clocks • Convert between units of time <ul style="list-style-type: none"> - Converts between units of time and recall time facts, e.g. 60 seconds = 1 minutes, 60 minutes = 1 hour, 24 hours = 1 day • Use am and pm notation and solve simple time problems <ul style="list-style-type: none"> - Records digital time using the correct notation, including am and pm - Relates analog notation to digital notation for time, e.g. ten to nine in the morning is the same time as 8:50 am - Solves simple time problems using appropriate strategies, e.g. calculate the time spent on particular activities during the school day <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems</p>
			<p>MA2-7NA – represents, models and compares commonly used fractions and decimals</p> <ul style="list-style-type: none"> • Investigate equivalent fractions used in contexts <ul style="list-style-type: none"> - Models, compares and represents fractions with denominators of 2 , 4 and 8; 3 and 6; and 5 , 10 and 100 - Models, compares and represents the equivalence of fractions with related denominators by redividing the whole, using concrete materials, diagrams and number lines - Records equivalent fractions using diagrams and numeral, e.g. $\frac{3}{5} = \frac{6}{10}$ <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	

2

	<p>3D Space 2</p>	<p>MA2-14MG – makes, compares, sketches and names three-dimensional objects, including prisms, pyramids, cylinders, cones and spheres, and describes their features</p> <ul style="list-style-type: none"> • Investigate and represent three-dimensional objects using drawings <ul style="list-style-type: none"> - Identifies prisms (including cubes), pyramids, cylinders, cones and spheres in the environment and from drawings, photographs and descriptions - Sketches prisms, pyramids, cylinders and cones, attempting to show depth <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	
5 and 6	<p>Addition and Subtraction 2</p>	<p>MA2-5NA – uses mental and written strategies for addition and subtraction involving two-, three-, four- and five-digit numbers</p> <ul style="list-style-type: none"> • Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems <ul style="list-style-type: none"> - Introduces compensation strategies for addition and subtraction <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	<p>Term 2, Week 5 and Week 6 Program</p> <p>Year 4 Assessment</p>
	<p>Mass 2</p>	<p>MA2-12MG - measures, records, compares and estimates the masses of objects using kilograms and grams</p> <ul style="list-style-type: none"> • Use scaled instruments to measure, order, estimate and compare objects mass using familiar metric units of mass <ul style="list-style-type: none"> - Recognises the need for a formal unit smaller than kilogram - Recognises that there are 1000 grams in one kilogram - Uses gram as a unit to measure mass - Records masses using the abbreviation for grams (g) - Estimates, measures, orders and compares objects using kilograms and grams <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	
7 and 8	<p>Multiplication and Division 2 (Focus on Division)</p>	<p>MA2-6NA - uses mental and informal written strategies for multiplication and division</p> <ul style="list-style-type: none"> • Use mental strategies to divide a two-digit number by a one-digit number where there is no remainders, including: <ul style="list-style-type: none"> - Using inverse relationship of multiplication and division, e.g. 63 divided by 9 = 7 because $7 \times 9 = 63$ - Recalling known division facts - Using halving and repeated halving to divide by 2, 4 and 8 	

2

Position 2

- Using the relationship between division facts, e.g. to divide by 5, first divide by 10 then multiply by 2

- **Select, use and record mental strategies used for solving division problems**
- **Use mental strategies and informal recording methods for division with remainder**

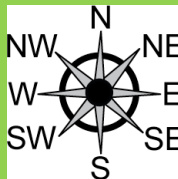
MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas

MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems

MA2-3WM checks the accuracy of a statement and explains the reasoning used

MA2-17MG uses simple maps and grids to represent position and follow routes, including using compass directions

- **Use simple scales, legends and directions to interpret information contained in basic maps**
 - Uses a legend (or key) to locate specific objects on a map
 - Uses a compass to find north and then east, south and west
 - Uses N, E, S and W to indicate north, east, south and west, respectively, on a compass rose
 - Uses an arrow to represent north on a map
 - Determines the directions north, east, south and west when given one of the directions
 - Use north, east, south and west to describe the location of a particular object in relation to another object on a simple map, given an arrow that represents north, e.g. 'The treasure is east of the cave'
 - Uses NE, SE, SW and NW to indicate north-east, south-east, south-west and north-west, respectively, on a compass rose, e.g.



- Determines the directions NE, SE, SW and NW when given one of the directions
- Uses north-east, south-east, south-west and north-west to describe the location of an object on simple maps, given a compass rose, e.g. 'The tree is south-west of the sign'

MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas

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Patterns and Algebra 2

MA2-8NA - generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values

- **Use equivalent number sentences involving addition and subtraction to find unknown quantities**
 - Uses inverse operations to complete number sentences
 - Completes number sentences involving addition and subtraction by calculating missing numbers
 - Finds the missing number in a number sentence involving operations of addition or subtraction on both sides of the equals sign

Term 2, Week 7 and
Week 8 Program

Term 2, Week 9
Program

2

Chance 2

- **Investigate and use the properties of even and odd numbers**

- Investigates and generalises the results of adding, subtracting and multiplying pairs of even numbers, pairs of odd numbers, or one even and one odd number
- Predicts and explains results

MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas

MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems

MA2-3WM checks the accuracy of a statement and explains the reasoning used

MA2-19SP - describes and compares chance events in social and experimental contexts

- **Describe possible everyday events and order their chances of occurring**

- Uses the terms 'equally likely', 'likely' and 'unlikely' to describe the chance of everyday events occurring, e.g. 'It is equally likely that you will get an odd or an even number when you roll a die'
- Compares the chance of familiar events occurring and describe the events as being 'more likely' or 'less likely' to occur than each other
- Orders events from least likely to most likely to occur, e.g. 'Having 10 children away sick on the same day is less likely than having one or two away'
- Compares the likelihood of obtaining particular outcomes in a simple chance experiment, e.g. for a collection of 7 red, 13 blue and 10 yellow marbles, name blue as being the colour most likely to be drawn out and recognise that it is impossible to draw out a green marble

- **Identify everyday events where one occurring cannot happen if the other happens**

- Identifies and discusses everyday events occurring that cannot occur at the same time, e.g. the sun rising and the sun setting

MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas

MA2-3WM checks the accuracy of a statement and explains the reasoning used

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Assessment

This needs to be based on individual class needs

Notes:

Working Mathematically should be imbedded into all mathematics lesson/activities.

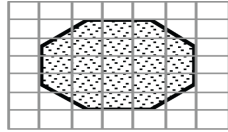
Year 4 Assessment

3	1 and 2	Whole Numbers 2	<p>MA2-4NA applies place value to order, read and represent numbers of up to five digits</p> <ul style="list-style-type: none"> • Recognise, model, represent and order numbers to at least tens of thousands <ul style="list-style-type: none"> - Identifies numbers before and after a given two-, three-, four or five-digit number - Arranges numbers of up to five digits in ascending and descending order • Apply place value to partitioning, rearranging and regrouping numbers to at least tens of thousands <ul style="list-style-type: none"> - States the place value of digits in numbers of up to five digits - Uses place value to partition numbers of up to five digits and recognise this as ‘expanded notation’. e.g. 67 012 is 60 000 + 7000 + 10 + 2 - Partitions numbers of up to five-digits in non-standard form - Uses place value to compare and explain the relative size of four-digit numbers • Round numbers to the nearest ten, hundred, thousand or ten thousand <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 3, Week 1 and Week 2 Program
	Data 2		<p>MA2-18SP selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs</p> <ul style="list-style-type: none"> • Construct suitable data displays, with and without the use of digital technologies, from given or collected data; include tables, column graphs and picture graphs where one picture can represent many data values <ul style="list-style-type: none"> - Represents given or collected categorical data in tables, column graphs and picture graphs, using a scale of many-to-one correspondence, with and without the use of digital technologies - Discusses and determines a suitable scale of many-to-one correspondence to draw graphs for large data sets and state the key used, e.g. 😊 = 10 people, if there are 200 data value - Uses data in a spreadsheet to create column graphs with appropriately labelled axes - Marks equal spaces on axes, names and labels axes, and chooses appropriate titles for graphs • Evaluate the effectiveness of different displays in illustrating data features, including variability <ul style="list-style-type: none"> - Interprets and evaluates the effectiveness of various data displays found in media and in factual texts, where displays represent data using a scale of many-to-one correspondence - Identifies and discusses misleading representations of data - Discusses and compares features of data displays, including considering the number and appropriateness of the categories used and the advantages and disadvantages of different representations of the same categorical data <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	

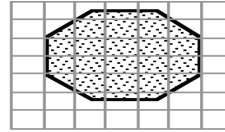
3	3 and 4	Addition and Subtraction 2	<p>MA2-5NA – uses mental and written strategies for addition and subtraction involving two-, three-, four- and five-digit numbers</p> <ul style="list-style-type: none">• Solve addition and subtraction problems involving money, with and without the use of digital technologies<ul style="list-style-type: none">- Uses a variety of strategies to solve unfamiliar problems involving money- Calculates change and round to the nearest five cents- Uses estimation to check the reasonableness of solutions to addition and subtraction problems, including those involving money• Introduce and use formal written algorithm to record addition and subtraction calculations <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p> <p>Position 2</p> <p>MA2-17MG uses simple maps and grids to represent position and follow routes, including using compass directions</p> <ul style="list-style-type: none">• Calculate the distance between two points on a map using a simple given scale<ul style="list-style-type: none">- Interprets simple scales on maps and plans- Gives reasons for using particular scales on maps of plans- Recognises that the same location can be represented by maps or plans using different scales <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas</p>	Term 3, Week 3 and Week 4 Program
	5 and 6	Patterns and Algebra 2	<p>MA2-8NA - generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values</p> <ul style="list-style-type: none">• Solve word problems by using number sentences involving multiplication or division where there is no remainder<ul style="list-style-type: none">- Completes number sentences involving multiplication and division by calculating missing numbers- Represents and solves multiplication and division problems using number sentences, e.g. 'I buy six pens and the total cost is \$24. What is the cost of each pen?' can be represented as $6 \times \underline{\quad} = 24$ or 24 divided by $6 = \underline{\quad}$• Pose word problems based on a given number sentence <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 3, Week 5 and Week 6 Program Year 4 Assessment

MA2-10MG - measures, records, compares and estimates areas using square centimetres and square metres

- **Compare the areas of regular and irregular shapes by informal means**
 - Measures the areas of common two-dimensional shapes and irregular shapes using a square-centimetre grid overlay.
 - Compares how different placement of grid overlay can make measurement easier, e.g.



13 whole units and 12 partial units to be counted



16 whole units and 10 partial units to be counted

- **Compare objects using familiar metric units of area**
 - Estimates the larger of two or more rectangular areas (including the areas of squares) in square centimetres and then measure in square centimetres to compare the areas
 - Estimates the larger of two or more rectangular areas (including the areas of squares) in square metres and then measure in square metres to compare the areas

MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas

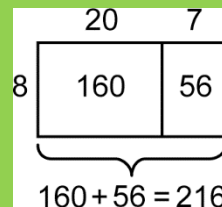
MA2-3WM checks the accuracy of a statement and explains the reasoning used

7 and 8

Multiplication and Division 2

MA2-6NA - uses mental and informal written strategies for multiplication and division

- **Develop efficient mental and written strategies, and use appropriate digital technologies, for multiplication and for division where there is no remainder**
 - Multiplies three or more single-digit numbers, e.g. $5 \times 3 \times 6$
 - Models and applies the associative property of multiplication to aid mental computation, e.g. $2 \times 3 \times 5 = 2 \times 5 \times 3 = 10 \times 3 = 30$
 - Makes generalisations about numbers and number relationships, e.g. 'It doesn't matter what order you multiply two numbers in because the answer is always the same'
- **Use mental and informal written strategies to multiply a two-digit number by a one-digit number, including:**
 - Uses known facts, e.g. $10 \times 9 = 90$, so $13 \times 9 = 90 + 9 + 9 + 9 = 90 + 27 = 117$
 - Multiplies the tens and then the units, e.g. 7×19 : 7 tens + 7 nines is $70 + 63$, which is 133
 - using an area model, e.g. 27×8



Term 3, Week 7 and Week 8 Program

3

Angles 2

- Uses doubling and repeated doubling to multiply by 2, 4 and 8, e.g. 23×4 is double 23 and then double again
- Uses the relationship between multiplication facts, e.g. 41×6 is 41×3 , which is 123, and then double to obtain 246
- Creates a table or simple spreadsheet to record multiplication facts, e.g. a 10×10 grid showing multiplication facts

MA2-1WM - uses appropriate terminology to describe, and symbols to represent, mathematical ideas
MA2-2WM - selects and uses appropriate mental or written strategies, or technology, to solve problems
MA2-3WM - checks the accuracy of a statement and explains the reasoning used

MA2-16MG - identifies, describes, compares and classifies angles

- **Compare angles and classify them as equal to, greater than or less than a right angle**
 - Recognises and describes angles as 'less than', 'equal to', 'about the same as' or 'greater than' a right angle
 - Classifies angles into acute, right angle, obtuse, straight, reflex or a revolution
 - Identifies the arms and vertex of the angle in an opening, a slope and/or a turn where one arm is visible and the other arm is invisible
 - Creates, draws and classifies angles of various sizes

MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas
MA2-3WM checks the accuracy of a statement and explains the reasoning used

9

Fractions and Decimal 2

MA2-7NA – represents, models and compares commonly used fractions and decimals

- **Recognise that the place value system can be extended to tenths and hundredths, and make connections between fractions and decimal notation**
 - Recognises and applies decimal notation to express whole numbers, tenths and hundredths as decimals, e.g. 0.1 is the same as
 - Investigates equivalences using various methods, e.g. use a number line or a calculator to show that $\frac{1}{2}$ is the same as 0.5 and $\frac{5}{10}$
 - Identifies and interprets the everyday use of fractions and decimals, such as those in advertisements
 - States the place value of digits in decimal numbers of up to two decimal places
 - use place value to partition decimals of up to two decimal places, e.g. $5.37 = 5 + \frac{3}{10} + \frac{7}{100}$
 - Partitions decimals of up to two decimal places in non-standard forms, €5.37 = $5 + \frac{37}{100}$
 - Applies knowledge of hundredths to represent amounts of money in decimal form, e.g. five dollars and 35 cents is $5\frac{35}{100}$, which is the same as \$5.35

MA2-1WM - uses appropriate terminology to describe, and symbols to represent, mathematical ideas
MA2-3WM - checks the accuracy of a statement and explains the reasoning used

Term 3, Week 9
Program

		<p>Volume and Capacity 2</p>	<p>MA2-11MG - measures, records, compares and estimates volumes and capacities using litres, millilitres and cubic centimetres</p> <ul style="list-style-type: none"> • Use scaled instruments to estimate, measure, order and compare capacities <ul style="list-style-type: none"> - Recognises the need for formal units - Uses litre (L) and millilitres (mL) - Converts between ML and L - Estimates, measures and compares the capacities of two or more containers in millilitres - Estimates, measures and compares the volumes of two or more objects by marking the change in water level when each is submerged in a container <p>MA2-1WM – use appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM - checks the accuracy of a statement and explains the reasoning used</p>	
10	<p>Revision</p> <p>Assessment</p>	<p>This needs to be based on individual class needs</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Working mathematically should be imbedded into all mathematics lesson/activities. 		<p>Year 4 Assessment</p>

4	1 and 2	Whole Numbers 2 (Focus problem solving)	<p>MA2-4NA applies place value to order, read and represent numbers of up to five digits</p> <ul style="list-style-type: none"> • Recognise, model, represent and order numbers to at least tens of thousands <ul style="list-style-type: none"> - Identifies numbers before and after a given two-, three-, four- or five-digit number - Arranges numbers of up to five digits in ascending and descending order • Apply place value to partitioning, rearranging and regrouping numbers to at least tens of thousands assist calculations and solving problems <ul style="list-style-type: none"> - Solves problems with five digits - Uses place value to partition numbers of up to five digits - States the place value of digits in numbers up to five digits • Round numbers to the nearest ten, hundred, thousand or tens of thousands <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 4, Week 1 and Week 2 Program
		2D and 3D Space 2	<p>MA2-15MG manipulates, identifies and sketches two-dimensional shapes, including special quadrilaterals, and describes their features</p> <ul style="list-style-type: none"> • Create symmetrical patterns, designs, pictures and shapes, with and without the use of digital technologies <ul style="list-style-type: none"> - Creates symmetrical patterns, designs, pictures and shapes by translating (sliding), reflecting (flipping) and rotating (turning) one or more common shapes - Creates and records tessellating designs by reflecting, translating and rotating common shapes - Identifies shapes that do not tessellate - Draws the reflection (mirror image) to complete symmetrical pictures and shapes, given a line of symmetry 	
		3D Space 1 (Refer/link to Angles)	<p>MA2-14MG – makes, compares, sketches and names three-dimensional objects, including prisms, pyramids, cylinders, cones and spheres, and describes their features</p> <ul style="list-style-type: none"> • Investigate and represent three-dimensional objects using drawings <ul style="list-style-type: none"> - Sketches three-dimensional objects from different views, including top, front and side views - Draws views of an object constructed from connecting cubes on isometric grid paper - Interprets given isometric drawings to make models of three-dimensional objects using connected cubes <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	

4	3 and 4	Addition and Subtraction 2 (Word Problems)	<p>MA2-5NA – uses mental and written strategies for addition and subtraction involving two-, three-, four- and five-digit numbers</p> <ul style="list-style-type: none"> • Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems <ul style="list-style-type: none"> - Selects, uses and records a variety of mental strategies to solve addition and subtraction problems - Uses formal algorithm to record addition and subtraction calculations of up to 5 digits - Poses simple addition and subtraction problems and apply appropriate strategies to solve - Uses more than one strategy to solve addition and subtraction problems, discuss advantages • Recognise and explain the connection between addition and subtraction • Use more than one strategy to solve addition and subtraction problems (jump, split, compensation, algorithm etc.), discuss advantages. <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 4, Week 3 and Week 4 Program
		Time 2	<p>MA2-17MG – reads and records time in one-minute intervals and converts between hours, minutes and seconds</p> <ul style="list-style-type: none"> • Read and interpret simple timetables, timelines and calendars <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas</p>	

MA2-6NA - uses mental and informal written strategies for multiplication and division

- **Use the equal sign to record equivalent number relationships involving multiplication, and to mean 'is the same as', rather than to mean to perform and operation**
 - Connects number relationships involving multiplication to factors of number, e.g. 'since $4 \times 3 = 6 \times 2$. Then 4, 3, 2 and 6 are factors of 12'
 - Checks number sentences are true or false and explain why
 - Factorising the larger number, e.g. $18 \times 5 = 9 \times 2 \times 5 = 9 \times 10 = 90$
- **Represent and solve problems involving multiplication and division using efficient mental and written strategies and appropriate digital technologies**
 - Uses mental strategies to multiply and divide a two-digit number by a one-digit number in problems
- **Select, use and record a variety of mental strategies, and appropriate digital technologies to solve simple multiplication and division problems**
 - Describes, explains and compares methods used to solve simple multiplication and division problems
 - Interprets the remainder in the context of a word problem

MA2-1WM - uses appropriate terminology to describe, and symbols to represent, mathematical ideas

MA2-2WM - selects and uses appropriate mental or written strategies, or technology, to solve problems

MA2-3WM - checks the accuracy of a statement and explains the reasoning used

MA2-12MG - measures, records, compares and estimates the masses of objects using kilograms and grams

- **Use scaled instruments to measure, order, estimate and compare objects mass using familiar metric units of mass**
 - Recognises the need for a formal unit smaller than kilogram
 - Recognises that there are 1000 grams in one kilogram
 - Uses gram as a unit to measure mass
 - Records masses using the abbreviation for grams (g)
 - Estimates, measures, orders and compares objects using kilograms and grams
 - Records masses using kilograms and grams, e.g. 1 kg 200g
- **Interpret commonly used fractions of a kilogram including interpret commonly used fractions of a kilogram, including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, and relate these to the number of grams**

MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas

MA2-3WM checks the accuracy of a statement and explains the reasoning used

4	7	Patterns and Algebra 2	<p>MA2-8NA - generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values</p> <ul style="list-style-type: none"> • Solve word problems by using number sentences involving multiplication or division where there is no remainder <ul style="list-style-type: none"> - Completes number sentences involving multiplication and division by calculating missing numbers - Represents and solves multiplication and division problems using number sentences, e.g. 'I buy six pens and the total cost is \$24. What is the cost of each pen?' can be represented as $6 \times \underline{\quad} = 24$ or $24 \text{ divided by } 6 = \underline{\quad}$ • Pose word problems based on a given number sentence • Describe, continue and create number patterns resulting from performing addition of subtraction <ul style="list-style-type: none"> - Identifies and describes patterns when counting forwards and backwards by threes, fours, sixes, sevens, eights and nines FROM ANY STARTING POINT <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-2WM selects and uses appropriate mental or written strategies, or technology, to solve problems MA2-3WM checks the accuracy of a statement and explains the reasoning used</p> <p style="text-align: center;">Chance 2</p> <p>MA2-19SP - describes and compares chance events in social and experimental contexts</p> <ul style="list-style-type: none"> • Identify events where the chance of one occurring will not be affected by the occurrence of the other <ul style="list-style-type: none"> - Identifies and discusses events where the chance of one event occurring will not be affected by the occurrence of the other, e.g. obtaining a 'head' when tossing a coin does not affect the chance of obtaining a 'head' on the next toss - Explains why the chance of each of the outcomes of a second toss of a coin occurring does not depend on the result of the first toss, whereas drawing a card from a pack of playing cards and not returning it to the pack changes the chance of obtaining a particular card or cards in future draws - Compares events where the chance of one event occurring is not affected by the occurrence of the other, with events where the chance of one event occurring is affected by the occurrence of the other, e.g. decides whether taking five red lollies out of a packet containing 10 red and 10 green lollies affects the chance of the next lolly taken out being red, and compare this to what happens if the first five lollies taken out are put back in the jar before the sixth lolly is selected <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	Term 4, Week 7 and Week 8 Program

	8	<p>Fractions and Decimals 2</p> <p>Area 2</p>	<p>MA2-7NA – represents, models and compares commonly used fractions and decimals</p> <ul style="list-style-type: none"> • Model, compare and represent decimals of up to two decimal places <ul style="list-style-type: none"> - Applies knowledge of decimals to record measurements, e.g. 123 cm = 1.23 m - interpret zero digit(s) at the end of a decimal, e.g. 0.70 has the same value as 0.7, 3.00 and 3.0 have the same value as 3 - Recognises that amounts of money are written with two decimal places, e.g. \$4.30 is not written as \$4.3 - Uses one of the symbols for dollars (\$) and cents (c) correctly when expressing amounts of money, i.e. \$5.67 and 567c are correct, but \$5.67c is not - Uses a calculator to create patterns involving decimal numbers, e.g. $1 \div 10$, $2 \div 10$, $3 \div 10$ • Place decimals of up to two decimal places on a number line, e.g. place 0.5, 0.25 and 0.75 on a number line • Round a number with one or two decimal places to the nearest whole number <p>MA2-1WM - uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM - checks the accuracy of a statement and explains the reasoning used</p> <p>MA2-10MG - measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures</p> <ul style="list-style-type: none"> • Use scaled instruments to measure and compare temperatures <ul style="list-style-type: none"> - Identifies temperature as a measure of how hot or cold something is - Uses everyday language to describe temperature, e.g. 'cold', 'warm', 'hot' - Recognises the need for formal units to measure temperature - Uses a thermometer to measure and compare temperatures to the nearest degree Celsius - Records temperatures to the nearest degree Celsius using the symbol for degrees ($^{\circ}$) - Uses a thermometer to take and record daily temperature readings <p>MA2-1WM uses appropriate terminology to describe, and symbols to represent, mathematical ideas MA2-3WM checks the accuracy of a statement and explains the reasoning used</p>	<p>Term 4, Week 8 Program</p>
	9 and 10	<p>Revisions of Key Concepts</p>	<p>Base this on your class needs</p>	