Year 3 Maths Medium Term Plan

National Curriculum			
Number - Number and Place Value Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) Compare and order numbers up to 1000 Identify, represent and estimate numbers using different representations Read and write numbers up to 1000 in numerals and in words Solve number problems and practical problems involving these ideas	**Number – Addition and Subtraction** Add and subtract numbers mentally, including: -a three-digit number and ones -a three-digit number and tens -a three-digit number and hundreds Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction Estimate the answer to a calculation and use inverse operations to check answers Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	**Number – Multiplication and Division** Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	**Number – Fractions** Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators Recognise and show, using diagrams, equivalent fractions with small denominators Add and subtract fractions with the same denominator within one whole [for example 5/7 + 1/7 = 6/7] Compare and order unit fractions, and fractions with the same denominators Solve problems that involve all of the above
Measurement Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Measure the perimeter of simple 2-D shapes Add and subtract amounts of money to give change, using both £ and p in practical contexts Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events [for example to calculate the time taken by particular events or tasks]	**Geometry – Properties of Shape** Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	**Geometry – Position and Direction**	**Statistics** Interpret and present data using bar charts, pictograms and tables Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Term 1 Problem Solving: Reasoning Logically							
PA Maths	Number and place value To represent 3 digit numbers (concrete) To find 1, 10 or 100 more than a given number (concrete). To recognise the place value of each digit in a three digit number	Addition To use partitioning to add To use a number line for addition To solve missing number problems	Addition To add a two digit number and ones without regrouping (year 2) To add a two digit number and a 2 digit number without regrouping (year 2)	Subtraction To find the difference using a number line (for near numbers) To use number bonds to subtract mentally	Subtraction To subtract a two digit number and ones without regrouping (year 2) To subtract a two digit number and a 2 digit number without regrouping (year 2)	Multiplication and Division To understand how place value changes when multiplying by 10 To use number bonds for factors and products (M) To identify missing factors To derive related division facts from known multiplication facts	Measure – Time Tell and write the time from an analogue clock (standard clock). To match digital and analogue clocks Use vocab such as o'clock, am, pm, morning, afternoon, noon, midnight
Fact of the Week	2x2=4	3x2=6 2x3=6	4x2=8 2x4=8	5x2=10 2x5=10	6x2=12 2x6=12	7x2=14 2x7=14	8x2=16 2x8=16
Term 2 Problem Solving: Working Systematically							
PA Maths	Fractions, decimals and percentages To identify unit fractions of objects, shapes and length. (a unit fraction has 1 as the numerator) To identify non-unit fractions of objects, shapes and length. (a non-unit fraction has >1 as the numerator) To calculate fractions of a quantity (unit and non-unit fractions)	Geometry – Properties of Shapes To draw and describe 2-D shapes (reflective symmetry, regular, irregular) To sort symmetrical and non-symmetrical polygons To measure and calculate perimeter of 2D shapes	Statistics To interpret and present data using bar charts To recognise the importance of titles and labels when sorting data To solve one step (then two-step) questions using statistical information presented in bar charts To interpret and present data using pictograms To recognise the importance of titles and labels when sorting data To solve one step (then two-step) questions using statistical information presented in pictograms	Measure - length To measure and compare lengths in m, cm and mm To add and subtract lengths	Measure - mass To measure and compare mass in kg and g To add and subtract mass	Measure – volume/capacity To measure and compare volume in l/ml To add and subtract volume/capacity	Geometry – Properties of Shape To recognise angles as a property of shape To identify angles in the environment To recognise angles as a description of a turn (recognise that 2 right angles make half turn, 3 right angles make three quarters turn, 4 right angles make a complete turn) To identify right angles, linking to turns and identifying >< = right angles (acute, obtuse)
Fact of the Week	9x2=18 2x9=18	3x3=9	4x3=12 3x4=12	5x3=15 3x5=15	6x3=18 3x6=18	7x3=21 3x7=21	8x3=24 3x8=24
Term 3 Problem Solving: Visualising							

PA Maths	Number and place value – To use part, part whole to partition numbers in different ways To compare numbers up to 1000 To order numbers up to 1000	Geometry – Properties of Shapes To make 3-D shapes using modelling materials To recognise 3-D shapes in different orientations To sort polyhedra	Fractions, decimals and percentages – To compare fractions (fractions with the same denominator) To order fractions (fractions with the same denominator) To recognise equivalent fractions (using diagrams, fractions with small denominators)	Addition To add a three digit number and ones without regrouping (see progression year2) To add a three digit number and tens without regrouping (see progression year2) To add 2 three-digit numbers without regrouping	Addition To add a three digit number and ones with regrouping To add a three digit number and tens with regrouping To add 2 three-digit numbers with regrouping (revert to expanded method throughout the week if tricky) (To add using place value counters – moving on from Dienes)	Subtraction To subtract a three digit number and ones without regrouping (see progression year2) To subtract a three digit number and tens without regrouping (see progression year2) To subtract 2 three-digit numbers without regrouping	
Fact of the Week	9x3=27 3x9=27	4x4=16	5x4=20 4x5=20	6x4=24 4x6=24	7x4=28 4x7=28	8x4=32 4x8=32	
Term 4 Problem Solving: Working Backwards							
PA Maths	Subtraction To subtract with regrouping in tens and ones To subtract a 3 digit number with regrouping in hundreds and tens To subtract a 3 digit number with regrouping in hundreds, tens and ones	Multiplication To calculate two digit numbers multiplied by one digit numbers To carry out short multiplication without regrouping To carry out short multiplication with regrouping in ones, tens and hundreds	Division To divide a two digit number by a one digit number (in concrete with and without remainders) To divide a two digit number by a one digit number using short division (no remainders)	Statistics – To interpret and present data using tables To recognise the importance of titles and labels when sorting data To solve one step (then two-step) questions using statistical information presented in tables To classify shapes, numbers and objects into a Venn diagram To classify shapes, numbers and objects into a Carroll diagram	Measure – money ***No decimal notation*** To calculate change given in both £ and p To add and subtract amounts of money (NC)	Measure - time To estimate, read and record time to the nearest minute (link to Roman Numerals and time) To know the number of seconds in a minute, minutes in an hour (NC) To compare time in seconds, minutes and hours	
Fact of the Week	9x4=36 4x9=36	5x5=25	6x5=30 5x6=30	7x5=35 5x7=35	8x5=40 5x8=40	9x5=45 5x9=45	
Term 5 Problem Solving: Trial and Improvement							
PA Maths	Number and place value – Read and write numbers up to 1000 in numerals and words (NC) Identify, represent and estimate numbers up to 1000 in numerals and words	Addition To develop and recognise patterns in addition To estimate the answer to a calculation and use inverse operation to check To solve word problems	Subtraction To count back to find the difference To estimate the answer to a calculation To use inverse operations to check answers	Multiplication To understand measuring and scaling problems To solve problems, including missing number problems, involving multiplication (NC)	Division To solve problems where items are shared equally (12 sweets between 4 children) To solve problems where items are shared using knowledge of fractions (4 cakes shared between 8 children)	Fractions, decimals and percentages – To add like fractions (fractions with the same denominator) To subtract like fractions To solve word problems involving fractions	

	Rounding numbers to the nearest 10 and 100						
Fact of the Week	6x6=36	7x6=42 6x7=42	8x6=48 6x8=48	9x6=54 6x9=54	7x7=49	8x7=56 7x8=56	
Term 6 Problem Solving: Looking for Patterns and Conjecturing							
PA Maths	Subtraction To solve problems involving missing number problems (NC) To subtract 'taking away' one set using the bar model To subtract 'comparing two sets' using the bar model	Fractions, decimals and percentages – To recognise that tenths arise from dividing an object into ten equal parts and in dividing one-digit numbers or quantities by 10 To count up and down in tenths Multiplication and Division To know what happens to each digit when multiplying and dividing by 10, 100, 1000	Multiplication and Division To know what happens to each digit when multiplying and dividing by 10, 100, 1000 (only for whole numbers and tenths – NOT hundredths) Measure To convert between different units of measure	Measure To use multiplication and division to scale by integers	Measure – Time To know the number of seconds in a minute, number of days in each month, year, leap year (NC) To convert hours and minutes To calculate and compare duration of events	Statistics – To understand and use simple scales. To classify shapes, numbers and objects into a Venn diagram. To classify shapes, numbers and objects into a Carroll diagram.	Geometry – Properties of Shape To identify horizontal and vertical lines To identify pairs of perpendicular and parallel lines
Fact of the Week	9x7=63 7x9=63	8x8=64	9x8=72 8x9=72	9x9=81	11x11=121	12x11=132 11x12=132	

Year 3 - Mental Maths	
Number and Place Value To count in multiples of 4 and 8 To count in multiples of 50 and 100 To find 10 or 100 more than a given number To find 10 or 100 less than a given number To say what digits represent (what does the digit 3 represent in 345? = 3 hundreds)	To count on and back in tens crossing hundreds from any given three digit number Count on in tens from one given number to another How many tens did you count? (336 to 416) Count back in tens from one given number to another How many tens did you count? (202 to 182) Count on or back 400 in hundreds from any tens number. (from 500, from 520, from 570) Count back in hundreds round a circle of children, starting with Lucy with 970. Who will say 370? To know the next number in a sequence (256, 356, 456, 556…) To identify all odd and even numbers up to 1000 To know what odd number comes before/after a given number (What odd number comes before 301?) To know what happens when odd numbers are added together To know what happens when even numbers are added together Create sequences with a given constraint. i.e. make a sequence with 107 and 116 in it To know that multiples of: -100 have 00 -50 have 00 or 50 -10 have a 0 in the ones column -5 have a 5/0 in the ones column -2 have 0, 2, 4, 6, 8 in the ones column To know what multiple of 10, 5, 100 etc lies before/ after a given number (What is the multiple of 5 after 805?) To know which numbers lie between given numbers. (what even numbers lie between 415 and 420?) To round numbers to the nearest 10 or 100 Rapid recall of 2, 3, 4,5,8,10,50 and 100 tables
Addition Add mentally a three digit number and ones Add mentally a three digit number and tens	Rapid recall of all addition facts up to and including 20 Derive quickly addition doubles from 1+1 to 20+20 e.g. 19+19=38 Derive quickly pairs of multiples of 5 that total 100: e.g. 65 + 35 Know by heart all multiples of 100 that total 1000: e.g. 400 + 600 = 1000 Add a two-digit number to a multiple of 100.e.g. 200+64

Add mentally a three digit number and hundreds	Add a two-digit number to a multiple of 10 crossing 100. e.g. 80 + 34 = 114 Add 10 to any number crossing the hundreds boundary. e.g. 196 + 10 Add a pair of multiples of 10, crossing 100. e.g. 90 + □ = 130 Add pairs of multiples of 100 crossing 1000 e.g. 500 + 800 Partition and recombine: e.g. 24 + 35 = 20 + 30 + 4 + 5 = 59 Identify the corresponding subtraction facts. e.g. 22+57 = 79 and 79-57=22 etc Add several numbers by: making ten & adjusting when adding 11 or 9 add 10 and +1/-1
Subtraction Subtract mentally a three digit number and ones Subtract mentally a three digit number and tens Subtract mentally a three digit number and hundreds	Use number bonds to mentally subtract a 1-digit number from: -a 2-digit number within 100 with or without regrouping (ten as the middle stage: 62-7 = 62-2-5= 60-5 = 55) -a 3 digit number within 1000 with or without regrouping in tens and ones -tens from a 3 digit number within 1000 with or without regrouping in hundreds into tens -hundreds from a 3 digit number without regrouping Subtract a single digit from a multiple of 100 (600-7=593) (600-□=593) Subtract a pair of multiples of 10, crossing 100 (120-30= 90) (□ – 30 =90) Subtract a multiple of 10 from a 2 digit number crossing 100 (112-30=82) (112-□=82) Subtract a pair of multiples of 100 crossing 1000 (1500-800= 700) (1500-□=700) Consolidate subtracting a single digit from a 'teens' number, crossing 10 (use two steps and cross ten as the middle stage: 15-8 = 7 I know this because 15-5-3 = 10-3= 7) Find pairs of numbers with a difference of 29, 16… Find the difference between two numbers that are close together by counting up (504-498 = 2+4=6) (1003-992= 992+8+3=1003 = 11) Mentally subtract 9,19,29… or 11,21,31 from any two digit number without crossing 100 Develop and recognise a pattern such as 68-5=63, 68-15=53, 68-25=43 therefore 68-45=23 Say the subtraction fact corresponding to a given addition fact: 56+27=83 therefor 83-27=56
Multiplication Rapid recall of multiplication facts for 3, 4 and 8 times tables	Count forwards and backwards in 3s from any given number Count forwards and backwards in 4s from any given number Count forwards and backwards in 8s from any given number To use the 2,5 and 10 times table to derive other multiplication facts (if I know 2x5= 10 I also know 20x5=100) To know doubles of all numbers up to 50 To know doubles of all multiples of 5 up to 100 Check halving with doubling Observe the effect of multiplying by 10 Multiply any single digit by 1, 10, 100 and 0 Multiply a two digit number by 2, 3, 4, or 5 without crossing the tens boundary (11x5, 23x2) To multiply multiples of 10 with 1 digit number
Division Rapid recall of division facts for 3, 4 and 8 times tables	To count forwards and backwards in 3s, 4s and 8s from 0 To count forwards and backwards in 3s, 4s and 8s from any given number To have rapid recall of all division facts when given a multiplication fact To divide any number by one or zero To divide any two digit even number by 2 Use known facts to derive quickly: -doubles of numbers 1-100 -doubles of 5,15, 25 up to 100 -doubles of 50, 100, 150, 200 up to 500 -and all corresponding halves To divide any three digit multiple of 10 by 10 (340÷10, 890÷10 etc) To know how to find quarters of a number by finding half of a half (quarter of 60 = 60÷2= 30÷2=15)
Fractions To count up and down in tenths	To count in fractions up to ten starting from any number: -count in halves -count in quarters -count in thirds To divide one digit numbers by ten & to divide multiples of ten by ten To know that: - 2/4 are the same as ½ -1/2 is equivalent to 5/10 -10/10 make one whole -one whole is ¾ +1/4, three tenths plus seven tenths etc -1/4 is half of ½ To identify numbers that are half way between two digits (halfway between 3 and 4) To say any number between two whole numbers (between 6 and 7 = 6 and a quarter) To identify on a number line that half is greater than a quarter, less than three quarters and to know that three quarters is between one half and one whole To choose any number on a number line to 100 and estimate where half that number is
Statistics	To count 'up' a counting stick in intervals of 1, 2, 5, 10 To count up a counting stick in intervals of any number To quickly count up scores when voting takes place Respond to questions: How can we find out? What information shall we collect and how? How shall we organise it? To hypothesise: How would the graph be different if … (in relation to travel to school) it were a wet day December If there were no buses?

Measurement To know the number of seconds in a minute To know the number of days in each months To know the number of days in a year and leap year (365 days, 52 weeks or 12 months)	To know own date of birth and say who is older/younger To count around the clock in 5s To know the days of the week, months and seasons in order To use decimal notation for money (How many pence is £9.05? What is 465p in £ and pence?) To find totals and give change: -it costs 75p for a child to swim. How much does it cost for two children? -dad bought 3 packets of biscuits at 70p each. What was his change from £3? To know what to buy and how to pay: Which 5 coins make 74p? What other amounts can you make with 5 diff coins? To suggest items that could be measured using: kilometres, metres, centimetres, kilograms, grams, litres, millilitres To know that: 1kilometre = 1000 metres, 1 metre = 100 cm, 1 kilogram = 1000 grams and 1 litre = 1000 millilitres To know that 3.5m = 3 and a half metres and that 3.05m is 3 metres and 5 cm To solve measurement problems in context: -two rolls of tape are 35cm and 41cm. Total? Difference? - an egg weighs 50 grams. How much would six eggs weigh? - a big potato weighs 1/4 kg. What would be the weight of 10 potatoes? - a bottle holds 35ml of medicine. A teaspoon holds 5ml. How many teaspoons of medicine in the bottle? - Mark got into the pool at 3:30pm. He swam for 40 mins. What time did he get out?
Geometry – Properties of shape	**GAME**: Parallelogram, concave hexagon, obtuse triangle, isosceles triangle, kite, arrowhead, scalene triangle, rectangle, rhombus, isosceles trapezium, arrowhead, concave quadrilateral, and so on… Put the cards in a pile. A member of team A picks a card from the top. They describe the properties of the shape, without using the words on the card. The first person to say the correct shape wins a point. If they give the wrong shape the other team/s has a go. Each person is allowed one guess per round, the game goes on until each person or team has had a guess. Then the next team and so on choose the next card… The game can be extended to include other shapes, solids etc… It could be adapted to a two-team or "Twenty Question" scenario: Has it got 4 sides? Does it have parallel sides? And so on… It can also be adapted so that the person at the front of the class describes the shape and other children attempt to draw the shape.
Geometry – Position and Direction	Track backwards to Year 2/forwards to Year 3