

**Barndale House School**  
**Mathematics Scheme of Work**  
**Yearly Overview**



**Class 3 (Key Stage 3)**

*Every day is an opportunity to shine*

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<b>Autumn</b>	Number - Place Value				Number - Addition and Subtraction			Measurement - Length and perimeter	Number - Multiplication and Division		Consolidation	
<b>Spring</b>	Number - Multiplication and Division		Measurement - Area		Fractions				Decimals		Consolidation	
<b>Summer</b>	Decimals		Measurement - Money		Time	Statistics		Geometry - properties of Shape		Geometry - Position and Direction	Consolidation	

### Class 3 (Key Stage 3) - Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Number - Place Value</u>				<u>Number - Addition and Subtraction</u>			<u>Measurement - Length and Perimeter</u>	<u>Number - Multiplication and Division</u>			Consolidation
Count in multiples of 6, 7, 9, 25 and 1000				Add and subtract numbers with up to 4 digits using formal written methods of columnar addition and subtraction where appropriate			Measure and calculate the perimeter of a rectilinear figure (including squares) in centimeters and meters	Recall and use multiplication and division facts for multiplication tables up to 12 x 12			
Find 1000 more or less than a given number				Estimate and use inverse operations to check answers to a calculation			Convert between different units of measure (for example kilometer to meter)	Count in multiples of 6, 7, 9, 25 and 1000			
Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and units)				Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why				Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers			
Order and compare numbers beyond 1000								Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects and connected to m objects			
Identify, represent and estimate numbers using different representations											
Round any number to the nearest 10, 100 or 1000											
Solve number and practical problems that involve all of the above and with increasingly large positive numbers											
Count backwards through zero to include negative numbers											
Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value											

**Class 3 (Key Stage 3) – Autumn Term – Number: Place Value**  
**Small Steps Skills**

P Step 4 and P Step 5	Picks up and puts down single objects - Holds two objects at a time - Puts down an object in order to pick up another - Collects objects that interest them - Enjoys helping an adult count objects - Follows a counting sequence - Enjoys number rhymes and finger games - Joins in actions in number rhymes and finger games - Assists with one-one matching activities - Uses numbers when playing - Holds up a single finger on request - Holds up two fingers on request - Indicates 1 object - Indicates 2 objects - Makes a group one 1 object - Makes groups of 2 - Makes groups of 'lots'
P Step 6 and P Step 7	Joins in rote counting to 10 - Counts up to 5 independently - Points to objects as they count - Counts up to 5 objects - Puts 5 objects out on request - Matches numerals to 5 - Joins in number rhymes - Plays game using dice with 0 to 5 spots - Identifies numerals up to 3 - Names numerals to 5 - Sequences numbers to 5 - Puts quantities onto numerals - Matches numerals to quantities - Compares 2 sets of counters (up to 5) pointing to the group that is; smaller /larger /greater /fewer /more /less
P Step 8	Joins in rote counting - Can rote count to 10 consistently - Counts up to 8 objects correctly - Matches numeral to 10 - Sequence numerals to 8 - Match quantities to 8 - Finds numbers on a number line to 10 - Write numbers to five - Record quantities using numbers 1 to 5 - Sorts numerals from other shapes - Ordinal numbers - first, last, second, third - Plays games using dice with numbers or spots to 10
Step 1a	Joins in number stories and rhymes - points to numbers in surroundings - joins in rote counting to 20 - rote counts to 15 consistently - continues a rote count to 10 from a given number - counts out objects to 10, matching the correct number name to each object - states the last number spoken in a count as the amount in total - recognises numbers to 10 - matches numerals to 20 - orders numbers to 10 - writes numbers to 10 - compares quantities to 10 - puts out quantities to 10 - from a given number to 10 finds number before/after, one more/less
Step 1b	Observes different numbers to 50 - Counts forward from 0 to 20 - Counts an irregular arrangement of up to 20 objects - Counts in ordinal numbers to 10 - Identifies the position of an object using ordinal numbers to 10 <sup>th</sup> - uses the term last for the final object - realizes the relationship between ordinal and cardinal numbers - finds numbers to 20 on a number line 0 writes numbers to 20 consistently - orders numbers to 20 consistently 0- identifies missing numbers on a number line - identifies the number between two given numbers - counts 20 objects consistently - counts objects/things that cannot be touched to 20
Step 1c	Observes different numbers to 100 - Counts forward from 0 to 50 - Counts in ordinal numbers to 20 - Identifies the position of an object using ordinal numbers to 20 <sup>th</sup> - Uses the term last for the final object - Realizes the relationship between ordinal and cardinal numbers - Finds numbers to 50 on a number line - writes numbers to 50 consistently - orders numbers to 50 consistently - identifies missing numbers on a number line - identifies the number between two given numbers - counts 50 objects consistently - counts objects/things that cannot be touched to 50

Step 1d	Rote counts to 100 accurately - Joins in rote counting in groups of 10 to 100 - Counts forward from 0 to 100 - Counts backwards from 100 to 0 - Counts forwards and backwards between 2 given numbers up to 100 - Counts on from a given number to 100 - Knows that the numbers in the counting sequence are getting bigger - Reads numbers to 100 - Writes numbers to 100 - Writes phonetically acceptable words for numbers to 20 - Records number of objects - Relates ordinal numbers to cardinal numbers - Relates cardinal numbers to dates - Gives an empty set a value of none or 0 - Uses the terms: more, add, and, score, make, sum, total, altogether, double, less, take away, leave
Step L2	Starts counting at a given number to 100 - Counts forwards and backwards between two given numbers - Places three non-sequential numbers up to 100 in order - Extends a number sequence counting on in twos - Estimates the position of any number up to 100 on a number line or number square - Counts beyond 100 - Writes numbers in words up to 50 - Partitions two digit numbers eg $27 = 20 + 7$
Step U2	Reads, writes, orders and compares numbers to 1000 - Compares numbers using $<$ and $>$ signs - Counts forwards and backwards from 0 in multiples of 2, 5, 10, 3, 4, 8, 50, 100, 6, 7, 9, 25 and 1000 - Estimates numbers to 100 - Recognises patterns in the number system - Recognises the place value of each digit in a three or four digit number - Use partitioning related to place value to solve problems - Rounds numbers up to the nearest 10, 100 or 1000 - Counts backwards through zero to include negative numbers - Places negative and positive numbers on a number line - Reads Roman numerals to 100 and know that the numeral system changed to include the concept of 0 and place value
Step 3	Reads, writes, orders and compares numbers to 1000000 - Counts forwards and backwards in steps of 10, 100, 1000, 10000 and 100000 - Rounds numbers up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000 - Knows place value to 1000000 - Partitions numbers to 1000000 - Counts forwards and backwards with positive and negative numbers including through zero - Compares positive and negative numbers using $<$ , $>$ and $=$ - Reads Roman numerals to 1000 (M) - Rounds whole numbers to required degree of accuracy

**Class 3 (Key Stage 3) – Autumn Term – Number: Addition and Subtraction**  
**Small Steps Skills**

P Step 4 and P Step 5	Holds two objects at a time - Communicates 'gone' or 'all gone' - Uses objects with multiple parts - Asks for more of something - Responds to 'give me some...' - Responds to 'find one the same' - Responds to 'show me another...' - Makes groups of 2 - Makes groups of 'lots' - Relates commonly associated objects eg gloves for hands - Picks up more than one object on request - Makes two equal sets - Contrast quantities
P Step 6 and P Step 7	Completes a 3 piece form board - One to one matching - Matches pictures to pictures - Identifies and requests more when there are too few objects to complete 1 to 1 matching - Adds an object to a group and counts how many (up to 5) - Removes an object from a group and counts how many (up to 5)
P Step 8	From a given number to 5 find: the number before/ the number after/ one more/ one less - Add 1 more and count how many to 10 - Remove 1 and count how many left to 10
Step 1a	Using objects to do addition to 10 - Realises that addition means combining two groups - Finds the total number of items in two groups by counting them - is aware of the terms: more/add/make/sum/total/altogether/take away/ leave/how many left/ how many gone - Uses objects to 10 takes away given amount - takes objects away from a group when asked to subtract - Separates sets of up to 20 objects into 2 groups
Step 1b	Separates sets of up to 20 objects into 2 groups - States how many are left when some are taken away - Solves subtraction by counting on - Uses number bonds to 10 - Reads and writes the signs +, - and = - Adds two numbers to make 10 - Subtracts one number from 10 - Counts back using a number line to 20 to find how many left - Counts on to find how many are required - Identifies the operation required to solve simple problems - Knows number bonds to 10
Step L2	Understands that the sum does not change no matter what the objects are called - Creates number stories to 20 - Investigates simple problems - Adds two numbers to make 20 - Subtracts two single digit numbers - Uses concrete and pictorial aids to add two digit numbers to single digits - uses concrete and pictorial aids to subtract one digit numbers from a two digit number - Explains the effect of adding or subtracting zero - Recognises that addition can be done in any order - Recognises that subtraction cannot be done in any order - Uses bonds with related facts to 100 - Can add multiples of 10 - can subtract multiples of 10 - recognises patterns eg $2 + 3 = 5$ , $22 + 3 = 25$
Step U2	Uses concrete and pictorial aids to add two digit numbers to ten, two two digit numbers, three single digit numbers - Uses concrete and pictorial aids to subtract ten from a two digit number, two digit numbers from two digit numbers - Recognises that subtraction is the inverse of addition - Records mental addition and subtraction sums, writing numbers and signs - Records addition and subtraction in columns - Adds and subtracts a three digit number and 1 mentally - Adds and subtracts a three digit number and 10 mentally - Adds and subtracts a three digit number and 100 mentally - Estimates the answer to a calculation - Adds and subtracts numbers with up to three digits, using formal written methods - Uses place value to solve problems - Decides which operation is required to solve a problem
Step 3	Uses known number facts to add and subtract numbers mentally - Adds and subtracts a multiple of 100 to a three digit number - Adds and subtracts numbers with more than four digits - Checks answers using rounding

**Class 3 (Key Stage 3) – Autumn Term – Measurement – Length and Perimeter**  
**Small Steps Skills**

P Step 4 and P Step 5	Matches objects by size - Makes choices based on length - Makes choices based on height - Identifies larger/smaller shapes/objects - choice of 2 - Gives the biggest/smallest on request - choice of 2 - Sorts by size - Finds two objects the same size
P Step 6 and P Step 7	Puts objects in lines - Points to big/little, smallest/largest and larger/smaller when asked - Uses language such as; hard/soft, long/short, big/small, thick/thin, wide/narrow, high/low - Orders according to length - Finds 2 rods the same length - Orders 3 objects by size - Sorts by given or own criteria - Finds smallest/largest on request
P Step 8	Finds objects which are longer/shorter than a specified item - Identify the largest/smallest object from a group
Step 1	Uses parts of the body to measure objects eg spans - Uses strides to measure length of a room - Compares length and height - Describes length and height - Estimates height using non-standard units - Uses cubes/matches to measure objects - Compares length of two objects measured with cubes/matches - Solves practical problems involving height and length - Measures with a ruler with support
Step L2	Suggest suitable units to measure an object - Recognise a range of standard measuring tools - Draws along a straight edge - Makes a simple measuring device - Discuss the problems of using non-standard units - Describe objects as longer or shorter than a ruler
Step U2	Knows 1 metre = 100 centimetres - Describes an object as longer or shorter than a standard measure using >, < and = - Measures in centimetres using a ruler - Uses a metre rule to measure in units of 10 cms - Understands the need to identify the unit used when recording - Chooses and uses appropriate standard units to estimate and measure length and height - Measures to the nearest unit - Measures the perimeter of a simple shape
Step 3a	Recognises the abbreviations for metric units of length; km, m, cm, mm - Adds and subtracts lengths - Measures the perimeter of a simple shape - Compares and uses simple equivalents of mixed units eg 5 m = 500 cm - Used mixed units eg 1 m and 27 cm - Solves problems involving scaling - Converts between different units of length - Records metric length in decimal notation - Measures and calculates the perimeter of a rectilinear figure in centimetres and metres

### Class 3 (Key Stage 3) - Autumn Term - Number: Multiplication and Division

P Step 4 and P Step 5	Holds two objects at a time - Communicates 'gone' or 'all gone' - Uses objects with multiple parts - Follows counting sequence - Makes groups of 2 - Relates commonly associated objects eg gloves for hands - Brings both shoes when asked - Picks up more than one object on request - Makes two equal sets - Contrast quantities - Makes groups of two - Makes groups of three - Gives to things to each person in a group
P Step 6 and P Step 7	Completes a 3 piece form board - One to one matching - Matches pictures to pictures - Identifies and requests more when there are too few objects to complete 1 to 1 matching - Puts quantities onto numerals - Matches numerals to quantities - Compares 2 sets of counters (up to 5) pointing to the group that is; smaller /larger /greater /fewer /more /less
P Step 8	Shares objects into groups
Step 1	Combines two equal groups - Doubles numbers to 5 - Divides objects between to plates - Creates groups of small quantities eg sharing ten into groups of five, three and two - Shares small quantities into groups - Uses counting on to find a double to 20 - Doubles any number to ten - Places objects in an array - Counts objects in an array - Counts in lots of 2 - Counts in lots of 5 - Counts in lots of 10
Step L2a	Calculates multiplication and division problems with support - Doubles any number to ten - Begins to double numbers to 20
Step L2b	Recalls doubles to 20 - Recognises odd and even numbers - Recalls multiplication and division facts for the 2 times table - Uses a rectangular array for X2 - Reads and writes the signs for multiply, divide and equals - Writes number statements using the correct sign - Understands division as sharing equally - Understands division as grouping
Step U2a	Recalls multiplication and division facts for 5 times table, 10 times table - Recognise that multiplication can be done in any order - Recognises that division cannot be done in any order - Calculate multiplication statements and division statements within the multiplication tables - Understands multiplication as repeated addition - Solves problems using arrays
Step U2b	Writes mathematical statements for multiplication and division for known tables - Multiplies a two digit number by a one digit number - Finds missing numbers in multiplication and division stories - Identifies which of the four operations is required to solve a problem - Recalls multiplication and vision facts for multiplication tables up to 12 X 12 - Multiplies by 0 and 1 - Recalls multiples of 10 and 100 - Calculates using formal written methods for multiplication and division
Step 3a	Identifies all factors of a number - Identifies multiples and factor pairs of a number and common factors of two numbers - Discusses and finds prime numbers up to 100 - Recalls prime numbers to 19 - Multiplies a four digit number by a one digit number using a written method - Multiplies and divides mentally - Multiplies a four digit number by a two digit number by written methods including long multiplication - Divides a four digit number by a one digit number using written methods with remainders - determines remainders given known facts eg states that 15 socks will provide 7 pairs and one left over

### Class 3 (Key Stage 3) - Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Number – Multiplication and Division</u>  Recall and use multiplication and division facts for multiplication tables up to 12 x 12  Use place value, known and derived facts to multiply and divide mentally including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers  Recognise and use factor pairs and commutativity in mental calculations  Multiply two digit and three digit numbers by a one digit number using formal written layout  Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects			<u>Measurement – Area</u>  Find the area of rectilinear shapes by counting squares	<u>Fractions</u>  Recognise and show, using diagrams, families of equivalent fractions  Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten  Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number  Add and subtract fractions with the same denominator			<u>Decimals</u>  Recognise and write decimal equivalents of any number of tenths or hundredths  Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths  Solve simple measure and money problems involving fractions and decimals to two decimal places  Convert between different units of measure			Consolidation	



### Class 3 (Key Stage 3) – Spring Term – Number: Multiplication and Division

P Step 4 and P Step 5	Holds two objects at a time - Communicates 'gone' or 'all gone' - Uses objects with multiple parts - Follows counting sequence - Makes groups of 2 - Relates commonly associated objects eg gloves for hands - Brings both shoes when asked - Picks up more than one object on request - Makes two equal sets - Contrast quantities - Makes groups of two - Makes groups of three - Gives to things to each person in a group
P Step 6 and P Step 7	Completes a 3 piece form board - One to one matching - Matches pictures to pictures - Identifies and requests more when there are too few objects to complete 1 to 1 matching - Puts quantities onto numerals - Matches numerals to quantities - Compares 2 sets of counters (up to 5) pointing to the group that is; smaller /larger /greater /fewer /more /less
P Step 8	Shares objects into groups
Step 1	Combines two equal groups - Doubles numbers to 5 - Divides objects between to plates - Creates groups of small quantities eg sharing ten into groups of five, three and two - Shares small quantities into groups - Uses counting on to find a double to 20 - Doubles any number to ten - Places objects in an array - Counts objects in an array - Counts in lots of 2 - Counts in lots of 5 - Counts in lots of 10
Step L2a	Calculates multiplication and division problems with support - Doubles any number to ten - Begins to double numbers to 20
Step L2b	Recalls doubles to 20 - Recognises odd and even numbers - Recalls multiplication and division facts for the 2 times table - Uses a rectangular array for X2 - Reads and writes the signs for multiply, divide and equals - Writes number statements using the correct sign - Understands division as sharing equally - Understands division as grouping
Step U2a	Recalls multiplication and division facts for 5 times table, 10 times table - Recognise that multiplication can be done in any order - Recognises that division cannot be done in any order - Calculate multiplication statements and division statements within the multiplication tables - Understands multiplication as repeated addition - Solves problems using arrays
Step U2b	Writes mathematical statements for multiplication and division for known tables - Multiplies a two digit number by a one digit number - Finds missing numbers in multiplication and division stories - Identifies which of the four operations is required to solve a problem - Recalls multiplication and vision facts for multiplication tables up to 12 X 12 - Multiplies by 0 and 1 - Recalls multiples of 10 and 100 - Calculates using formal written methods for multiplication and division
Step 3a	Identifies all factors of a number - Identifies multiples and factor pairs of a number and common factors of two numbers - Discusses and finds prime numbers up to 100 - Recalls prime numbers to 19 - Multiplies a four digit number by a one digit number using a written method - Multiplies and divides mentally - Multiplies a four digit number by a two digit number by written methods including long multiplication - Divides a four digit number by a one digit number using written methods with remainders - determines remainders given known facts eg states that 15 socks will provide 7 pairs and one left over
Step 3b	Recognises and uses square and cube numbers and the notation - Multiplies using long multiplication - Divides four digits by two digit using long division - performs mental calculations, including with mixed operations and large numbers - Identifies common factors and prime numbers - Solves problems which involve the use of brackets and multiple operations

**Class 3 (Key Stage 3) - Spring Term - Measurement: Area**  
**Small Steps Skills**

P Step 4 and P Step 5	Matches objects by size - Makes choices based on length - Makes choices based on height - Identifies larger/smaller shapes/objects - choice of 2 - Gives the biggest/smallest on request - choice of 2 - Sorts by size - Finds two objects the same size
P Step 6 and P Step 7	Puts objects in lines - Points to big/little, smallest/largest and larger/smaller when asked - Uses language such as; hard/soft, long/short, big/small, thick/thin, wide/narrow, high/low - Orders according to length - Finds 2 rods the same length - Orders 3 objects by size - Sorts by given or own criteria - Finds smallest/largest on request
P Step 8	Finds objects which are longer/shorter than a specified item - Identify the largest/smallest object from a group
Step 1	Uses parts of the body to measure objects eg spans - Uses strides to measure length of a room - Compares length and height - Describes length and height - Estimates height using non-standard units - Uses cubes/matches to measure objects - Compares length of two objects measured with cubes/matches - Solves practical problems involving height and length - Measures with a ruler with support
Step L2	Suggest suitable units to measure an object - Recognise a range of standard measuring tools - Draws along a straight edge - Makes a simple measuring device - Discuss the problems of using non-standard units - Describe objects as longer or shorter than a ruler
Step U2	Knows 1 metre = 100 centimetres - Describes an object as longer or shorter than a standard measure using >, < and = - Measures in centimetres using a ruler - Uses a metre rule to measure in units of 10 cms - Understands the need to identify the unit used when recording - Chooses and uses appropriate standard units to estimate and measure length and height - Measures to the nearest unit - Measures the perimeter of a simple shape
Step 3a	Recognises the abbreviations for metric units of length; km, m, cm, mm - Adds and subtracts lengths - Measures the perimeter of a simple shape - Compares and uses simple equivalents of mixed units eg 5 m = 500 cm - Used mixed units eg 1 m and 27 cm - Solves problems involving scaling - Converts between different units of length - Records metric length in decimal notation - Measures and calculates the perimeter of a rectilinear figure in centimetres and metres
Step 3b	Finds the area of rectilinear shapes by counting squares - Expresses the perimeter of a rectangle algebraically as $2(a + b)$ when the same unit of measurement has been used - Relates area to arrays and multiplication

**Class 3 (Key Stage 3) - Spring Term - Fractions**  
**Small Steps Skills**

P Step 4 and P Step 5	Holds two objects at a time - Communicates 'gone' or 'all gone' - Uses objects with multiple parts - Follows counting sequence - Makes groups of 2 - Relates commonly associated objects eg gloves for hands - Brings both shoes when asked - Makes groups of two - Makes groups of three - Gives to things to each person in a group
P Step 6 and P Step 7	Completes a 3 piece form board - One to one matching - Matches pictures to pictures - Identifies and requests more when there are too few objects to complete 1 to 1 matching - Puts quantities onto numerals - Matches numerals to quantities - Compares 2 sets of counters (up to 5) pointing to the group that is; smaller /larger /greater /fewer /more /less
P Step 8	Talks about half of something
Step 1	Can halve numbers to 10 - Shares concrete objects between a given number - Attempts to fold paper in half - Colours in half a shape - Colours in quarter of a shape - Uses the term half - Finds half of a set of objects - Finds half of a shape - Shares objects into equal groups - Shares a group of objects into 4 equal parts Uses the term quarter - Colours in quarter of a shape - Divides groups of objects into half
Step L2	Recalls half of any even number to 20 - Recognises, finds and names a half as 1 of 2 equal parts of an object, shape or quantity - Knows two halves make a whole - Finds half a length up to 100 cm - Recognises and writes the symbols $\frac{1}{2}$ and $\frac{1}{4}$ - Identifies halves and quarters of shaded objects - Finds a quarter of a set of objects
Step U2a	Finds a half and quarter of a set of objects - Finds half and quarter of a shape - Finds half and quarter of a length up to 100 cm - Reads and writes $\frac{1}{2}$ - Reads and writes $\frac{1}{4}$ - Recognises fractions $\frac{2}{4}$ , $\frac{3}{4}$ , $\frac{1}{3}$ and $\frac{2}{3}$ - Demonstrates that $\frac{1}{2} = \frac{2}{4}$ - Counts in fractions to 10 starting at any number, and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line - Connects unit fractions to equal sharing and grouping
Step U2b	Demonstrates understanding that a tenth is one part of a whole that has been divided into ten equal parts - Connects tenths to decimals - Recognises and writes down the fractions of a discrete set of objects - Compares and orders unit fractions - Recognises common equivalent fractions - Adds and subtracts fractions with the same denominator - Finds a fraction of a quantity eg $\frac{1}{4}$ of 12
Step 3a	Compares and orders fractions whose denominator are all multiples of the same number - identifies and writes equivalent fractions of a given fraction, represented visually - Identifies mixed numbers and improper fractions - Simplifies fractions - Converts improper fractions to mixed numbers and vice versa - Writes statements <1 as mixed numbers eg $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$ - Finds equivalent fractions - Adds and subtracts fractions with the denominator that are multiples of the same number

**Class 3 (Key Stage 3) - Spring Term - Decimals**  
**Small Steps Skills**

P Step 4 and P Step 5	Holds two objects at a time - Communicates 'gone' or 'all gone' - Uses objects with multiple parts - Follows counting sequence - Makes groups of 2 - Relates commonly associated objects eg gloves for hands - Brings both shoes when asked - Makes groups of two - Makes groups of three - Gives to things to each person in a group
P Step 6 and P Step 7	Completes a 3 piece form board - One to one matching - Matches pictures to pictures - Identifies and requests more when there are too few objects to complete 1 to 1 matching - Puts quantities onto numerals - Matches numerals to quantities - Compares 2 sets of counters (up to 5) pointing to the group that is; smaller /larger /greater /fewer /more /less
P Step 8	Talks about half of something
Step 1	Can halve numbers to 10 - Shares concrete objects between a given number - Attempts to fold paper in half - Colours in half a shape - Colours in quarter of a shape - Uses the term half - Finds half of a set of objects - Finds half of a shape - Shares objects into equal groups - Shares a group of objects into 4 equal parts Uses the term quarter - Colours in quarter of a shape - Divides groups of objects into half
Step L2	Recalls half of any even number to 20 - Recognises, finds and names a half as 1 of 2 equal parts of an object, shape or quantity - Knows two halves make a whole - Finds half a length up to 100 cm - Recognises and writes the symbols $\frac{1}{2}$ and $\frac{1}{4}$ - Identifies halves and quarters of shaded objects - Finds a quarter of a set of objects
Step U2a	Finds a half and quarter of a set of objects - Finds half and quarter of a shape - Finds half and quarter of a length up to 100 cm - Reads and writes $\frac{1}{2}$ - Reads and writes $\frac{1}{4}$ - Recognises fractions $\frac{2}{4}$ , $\frac{3}{4}$ , $\frac{1}{3}$ and $\frac{2}{3}$ - Demonstrates that $\frac{1}{2} = \frac{2}{4}$ - Counts in fractions to 10 starting at any number, and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line - Connects unit fractions to equal sharing and grouping
Step U2b	Demonstrates understanding that a tenth is one part of a whole that has been divided into ten equal parts - Connects tenths to decimals - Recognises and writes down the fractions of a discrete set of objects - Compares and orders unit fractions - Recognises common equivalent fractions - Adds and subtracts fractions with the same denominator - Finds a fraction of a quantity eg $\frac{1}{4}$ of 12
Step 3a	Compares and orders fractions whose denominator are all multiples of the same number - identifies and writes equivalent fractions of a given fraction, represented visually - Identifies mixed numbers and improper fractions - Simplifies fractions - Converts improper fractions to mixed numbers and vice versa - Writes statements <1 as mixed numbers eg $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$ - Finds equivalent fractions - Adds and subtracts fractions with the denominator that are multiples of the same number
Step 3b	Reads and writes decimal numbers and fractions - Orders numbers with two decimal places - rounds decimals with two decimal places to whole number - Rounds decimals with two decimal places to one decimal place

### Class 3 (Key Stage 3) - Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<u>Decimals</u>  Compare numbers with the same number of decimal places up to two decimal places  Round decimals with one decimal place to the nearest whole number  Recognise and write decimal equivalents to $\frac{1}{4}$ , $\frac{1}{2}$ and $\frac{3}{4}$  Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths		<u>Measurement - Money</u>  Estimate, compare and calculate different measures, including money in pounds and pence  Solve simple measure and money problems involving fractions and decimals to two decimal places		<u>Time</u>  Convert between different units of measure; hour to minute  Read, write and convert time between analogue and digital 12 and 24 hour clocks  Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	<u>Statistics</u>  Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs  Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs		<u>Geometry - Properties of shape</u>  Identify acute and obtuse angles and compare and order angles up to two right angles by size  Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes  Identify lines of symmetry in 2D shapes presented in different orientations  Complete a simple symmetric figure with respect to a specific line of symmetry		<u>Geometry - Position and direction</u>  Describe positions on a 2D grid as coordinates in the first quadrant  Plot specific points and draw sides to complete a given polygon  Describe movements between positions as translations of a given unit to the left/right and up/down	Consolidation	

Comment [PJ1]:

### Class 3 (Key Stage 3) – Summer Term – Number: Decimals

#### Small Steps Skills

P Step 4 and P Step 5	Holds two objects at a time - Communicates 'gone' or 'all gone' - Uses objects with multiple parts - Follows counting sequence - Makes groups of 2 - Relates commonly associated objects eg gloves for hands - Brings both shoes when asked - Makes groups of two - Makes groups of three - Gives to things to each person in a group
P Step 6 and P Step 7	Completes a 3 piece form board - One to one matching - Matches pictures to pictures - Identifies and requests more when there are too few objects to complete 1 to 1 matching - Puts quantities onto numerals - Matches numerals to quantities - Compares 2 sets of counters (up to 5) pointing to the group that is: smaller /larger /greater /fewer /more /less
P Step 8	Talks about half of something
Step 1	Can halve numbers to 10 - Shares concrete objects between a given number - Attempts to fold paper in half - Colours in half a shape - Colours in quarter of a shape - Uses the term half - Finds half of a set of objects - Finds half of a shape - Shares objects into equal groups - Shares a group of objects into 4 equal parts Uses the term quarter - Colours in quarter of a shape - Divides groups of objects into half
Step L2	Recalls half of any even number to 20 - Recognises, finds and names a half as 1 of 2 equal parts of an object, shape or quantity - Knows two halves make a whole - Finds half a length up to 100 cm - Recognises and writes the symbols $\frac{1}{2}$ and $\frac{1}{4}$ - Identifies halves and quarters of shaded objects - Finds a quarter of a set of objects
Step U2a	Finds a half and quarter of a set of objects - Finds half and quarter of a shape - Finds half and quarter of a length up to 100 cm - Reads and writes $\frac{1}{2}$ - Reads and writes $\frac{1}{4}$ - Recognises fractions $\frac{2}{4}$ , $\frac{3}{4}$ , $\frac{1}{3}$ and $\frac{2}{3}$ - Demonstrates that $\frac{1}{2} = \frac{2}{4}$ - Counts in fractions to 10 starting at any number, and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line - Connects unit fractions to equal sharing and grouping
Step U2b	Demonstrates understanding that a tenth is one part of a whole that has been divided into ten equal parts - Connects tenths to decimals - Recognises and writes down the fractions of a discrete set of objects - Compares and orders unit fractions - Recognises common equivalent fractions - Adds and subtracts fractions with the same denominator - Finds a fraction of a quantity eg $\frac{1}{4}$ of 12
Step 3a	Compares and orders fractions whose denominator are all multiples of the same number - identifies and writes equivalent fractions of a given fraction, represented visually - Identifies mixed numbers and improper fractions - Simplifies fractions - Converts improper fractions to mixed numbers and vice versa - Writes statements <1 as mixed numbers eg $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}$ - Finds equivalent fractions - Adds and subtracts fractions with the denominator that are multiples of the same number
Step 3b	Reads and writes decimal numbers and fractions - Orders numbers with two decimal places - rounds decimals with two decimal places to whole number - Rounds decimals with two decimal places to one decimal place
Step 3c	Counts using decimals and fractions including bridging 0 - Knows % symbol represents number of parts per 100 - Finds simple percentage of quantities eg 10% of £40 - Simplifies fractions using common factors - Compares and orders fractions, including fractions > 1

**Class 3 (Key Stage 3) - Summer Term - Measurement: Money**  
**Small Steps Skills**

P Step 4 and P Step 5	Shows an interest in the coins in an adult's purse - Plays with coins - Goes shopping - Role plays shopping - Sorts coins into silver and copper
P Step 6 and P Step 7	Matches coins - Counts up to 5 1p coins correctly - Sorts coins by colour and size - Plays shop with items valued up to 5p using 1p coins
P Step 8	Match 10 pence using ten 1p coins - Puts out the correct number of coins to 10p
Step 1	Recognises and knows the value of different denominations of coins - Gives equivalent amounts to 20p - adds two numbers to make 20 - Counts in 2s to 100 - Counts in 5s to 100 - Counts in 10s to 100
Step L2	Gives equivalent amounts to 50p - Gives change from 10p and 20p - Understands and uses £ p notation - Totals shopping bills using coins - Places three non-sequential amounts up to £1 in order - Partitions two digit numbers using apparatus if required eg $27 = 20 + 7$
Step U2	Recognises the symbol for pence (p) and pounds (£) - Combines amounts to make a specific value - Uses different coins to make the same amount - Solves simple problems involving addition and subtraction of money of the same unit eg $48p + 35p$ - Solves simple problems of the same unit for giving change - eg spending 15p and working out change from a 20p coin
Step 3	Adds money using £ and p - Subtracts money using £ and p - Calculates change from £ and p - Records money in decimal notation - Solves simple money problems involving fractions and decimals to two decimal places - Solves simple measurement problems involving money - Converts between different units of money

**Class 3 (Key Stage 3) - Summer Term - Measurement - Time**  
**Small Steps Skills**

P Step 4 and P Step 5	Demonstrates awareness of whether it is light or dark - Makes objects move faster or slower - Accepts changes in activity during the day - Shows anticipation of favored activities - Recognizes daily routines - Watches sand timer
P Step 6 and P Step 7	Sequences 3 pictures of daily events eg first, breakfast, then go to school - Correctly uses the language before/after, day/night, now/later - Moves objects slowly/quickly on request - Moves self slowly/quickly on request
P Step 8	Sequences 4 pictures of daily events - Uses language for times of the day: morning, afternoon, meal time, bed time, day, night - Rote chants days of the week - Identifies some of the days of the week - Discuss what time key things happen in the day
Step 1	Knows the days of the week in order - Names tomorrow - Names yesterday - Knows in which month their birthday occurs - Says the months of the year in rote - Measures and begins to record time in minutes or seconds - Sequences events in chronological order - Recognises language relating to dates - tells the time to the hour and half hour and draws hands on a clock face - Recognises the difference between clockwise and anticlockwise - Solves practical problems involving time
Step L2	Names the days that make the weekend - Names and sequences the seasons of the year - Relates time of day to events - Solves simple problems related to hours, half hours and quarter hours - Reads hours and half hours on a digital clock - Counts the seconds in time with a clock - States how many hours there are in a day - States how many minutes there are in an hour - States how many seconds there are in a minute - Recites the months of the year - Reads quarter hours on an analogue clock - Estimates how long a familiar task will take
Step U2	Compares intervals of time eg 20 minutes and a quarter of an hour using >, < and = - Sequences intervals of time - Reads a clock showing quarter past and quarter to the hour - Draws the hands on the clock to show quarter past and quarter to - tells the time in 5 minute intervals - Draws the hands on a clock to show the time in five minute intervals
Step 3	Tells the time from an analogue clock - Writes the time from an analogue clock - Uses Roman numerals from I to XII - uses a 24 hour clock - Reads time to the nearest minute - records and compares time in terms of seconds, minutes and hours - Converts between different units of measure; hours to minutes, minutes to seconds, years to months, weeks to days or vice versa - Reads and writes time between analogue and digital 24 hour clocks - Converts times between analogue and digital, 12 hour and 24 hour - Solves problems involving converting larger units to small units and vice versa - writes the date correctly - Uses a range of timetables

**Class 3 (Key Stage 3) - Summer Term - Statistics**



### Small Steps Skills

P Step 4 and P Step 5	Picks up and puts down single objects - Holds two objects at a time - Puts down an object in order to pick up another - Collects objects that interest them - Enjoys helping an adult count objects - Follows a counting sequence - Enjoys number rhymes and finger games - Joins in actions in number rhymes and finger games - Assists with one-one matching activities - Uses numbers when playing - Holds up a single finger on request - Holds up two fingers on request - Indicates 1 object - Indicates 2 objects - Makes a group one 1 object - Makes groups of 2 - Makes groups of 'lots'
P Step 6 and P Step 7	Joins in rote counting to 10 - Counts up to 5 independently - Points to objects as they count - Counts up to 5 objects - Puts 5 objects out on request - Matches numerals to 5 - Joins in number rhymes - Plays game using dice with 0 to 5 spots - Identifies numerals up to 3 - Names numerals to 5 - Sequences numbers to 5 - Puts quantities onto numerals - Matches numerals to quantities - Compares 2 sets of counters (up to 5) pointing to the group that is; smaller /larger /greater /fewer /more /less
P Step 8	Uses models or objects to indicate own family - Records data through pictures eg sun/rain - recognizes links between objects eg car/garage, leaf/tree - Names a set of children eg those wearing brown shoes - Completes a tally chart with assistance - Makes a pictogram - Compares data in a pictogram or tally chart - Estimates how many bricks in a container - Estimates how many class mates had breakfast
Step 1	Puts out quantities to 10 - Records data through pictures eg weather information using pictures of the sun and rain
Step L2	Demonstrates an understanding that the number of objects remains the same when they are rearranged providing nothing has been added or taken away - Sorts objects by given criteria - Selects criterion and sorts objects - Observes the use of list, records etc - Extracts simple information from a pictogram or bar graph
Step U2	Counts objects in each category to find the total - Sorts categories by quantity - Compares categorical information - Sorts objects using more than one criteria - Defines the category they want to use to collect specific data - Discusses information collected - Solves questions relating to totaling - Organises data - Suggests how they can represent information they have researched - Interprets and constructs simple pictograms, tally charts, block diagrams and simple tables - Checks that the results help to answer the original question - Answers questions about the results
Step 3	Interprets and presents data using bar charts, graphical methods, time graphs, pictograms, tables, line graphs - Solves one step and two step questions using information presented in scaled bar charts, pictograms, tables - Solves comparison, sum and difference problems using information presented in bar charts, pictograms, tables, other graphs/charts - Understands and uses a range of scales in their representations

### Class 3 (Key Stage 3) - Summer Term - Geometry - Properties of Shape

### Small Steps Skills

P Step 4 and P Step 5	Handles shapes - Rolls/slides shapes - Presses buttons - Feels textures of surfaces - Builds with bricks - Knocks down bricks - Assembles simple construction materials - Uses, sand, modelling dough and pliable materials - Puts pegs in peg boards - Finds objects that are the same - Finds objects with a specific characteristic eg an object that is green - Matches pairs of objects - Matches objects/picture and pictures/pictures - Sorts by colour - Sorts by function
P Step 6 and P Step 7	Completes a 3 piece form board - Matches 2D shapes - Copies simple line pattern of six bricks, 2 colours - Finds all the circles in a tray of shapes - Puts pegs in a peg board in order of size - Copies a circle shape - Traces large shapes - Places correct shapes in a shape sorter - Matches simple abstract shapes - Selects a specific shape from a collection - Makes geometric shapes with pictures of shapes - Joins dots to draw a square, a triangle - Explores which 3D shapes roll - Makes patterns with 2D shapes - Matches objects according to shape disregarding size - Finds shapes from description eg with straight edges - Finds common attributes
P Step 8	Handles shapes and describes them by number of sides and corners - Copies shapes - Sorts 3D objects - Identifies objects from a choice of 3 - Copies patterns made with 2D shapes - Names objects as same or different
Step 1	Names common 2-D shapes; rectangle/square/circle/triangle - Names common 3-D shapes; cuboid/sphere/cube/pyramid - Recognises common 2-D shapes in objects - Recognises common 3-D shapes in common objects - Recognises 2-D and 3-D shapes in different orientation and size - Creates a range of patterns using shapes - Describes a range of patterns using shapes - matches shapes regardless of size
Step L2	Describes shapes by the number of faces, edges and corners - Recognises shapes they cannot see but can feel - Investigates which 3D shapes roll or slide - Makes pictures using 2D shapes - Creates repeat patterns - Observes shapes in nature - Identifies and describes: pyramids, prisms, hemisphere - Names, draws and describes: square, rectangle, circle, triangle, pentagon, hexagon, decagon - Uses construction equipment to build 3D shapes - Records which 2D shapes were used to build 3D shapes
Step U2	Demonstrates the vertical line of symmetry in a 2D shape - Knows the number of edges, vertices and faces in a 3D shape - Sorts and compares common 2D and 3D shapes - Draws lines and shapes using a straight edge - Spells the names of common shapes
Step 3	Accurately draws lines - Uses conventional markings for parallel lines and right angles - Measures angles in degrees - Draws given angles - Deduces related facts and finds missing lengths and angles using the properties of rectangles - Distinguishes between regular and irregular polygons - Uses the term diagonal - Draws 2D shapes using given dimensions - Makes nets for simple 3D shapes - Finds unknown angles in any triangle, quadrilateral and regular polygon - Illustrates and names parts of a circle - States that the diameter is twice the radius - Uses conventional markings and labels for lines and angles

### Class 3 (Key Stage 3) - Summer Term - Geometry - Position and Direction

#### Small Steps Skills

P Step 4 and P Step 5	Takes shapes out of form boards - Puts rings on a peg - Looks for objects that have been hidden - Hammers pegs - Lines up objects - Is aware of object's normal place - Places objects in, out on request - Put shapes in a form board
P Step 6 and P Step 7	Completes a 6 piece form board - Places objects on, under, off, next to, bottom, on top - Understands movement terms: stop, go, up, down, fast, slow - Correctly uses the language up/down, top/bottom, on/off, in/out, high/low, under/over/on, front/back - - Moves forward/backward on request - Moves quickly/slowly on request - Moves an object forward/backward, quickly/slowly on request
P Step 8	Finds some shapes in a picture - Creates patterns from shapes - Places shapes in inset trays - Builds using junk modelling or geometric construction materials - Identifies shapes within objects - Assembles a 10 piece puzzle - Rotates puzzle pieces to fit in place - Moves self through a simple maze - Moves objects through a simple maze
Step 1	Fits shapes into a box - Describes the position of objects in a picture - Place objects where asked eg on top of - In PE moves around the room as requested - Finds items from simple positional and directional clues - Describes movement along a track - Describes how objects move - Uses language of direction; left/right, forwards/backwards - Uses language of position; on top of, under, in front, behind, above, below, near, far, around, up, down, inside, outside - Describe direction of turn using clockwise and anticlockwise - makes whole, half, quarter and three-quarter turns
Step L2	Identifies objects in named position - Describes the position of a feature on a simple map - Recognises that some common objects have corners which are right angles eg books, tables - Follows directions to move in straight lines and turns - Turns clockwise and anticlockwise - Moves a finger along a line describing direction and corners - makes right angles using different materials - Repeats and rotates a shape to create a linear pattern
Step 3	Uses mathematical language to describe position - Recognises that a quarter turn is a right angle - Gives instructions to someone else to follow, to move themselves or an object - Follows instructions given by someone else - Gives position coordinates on a 2D grid - Plots specific points and draws sides to complete a given polygon - Draws a pair of axe with equal scales and labels them - Identifies, describes and represents the position of a shape following a reflection or a translation