






Fluency Development (Key Instant Recall Facts and Skills) Teach these during maths starter.

Key Skills

Autumn	Spring	Summer
Consolidation of place value throughout and AFL Representations of numbers Counting in multiples Y 3 - 2, 5, 10, 4 Find ___ more and ___ less than a number Ordering numbers Read and write numbers in numerals and words Partitioning of numbers Mental addition and subtraction	Consolidation of place value throughout and AFL Representations of numbers Counting in multiples Y3 - 2, 5, 10, 4, 8, 3 Find ___ more and ___ less than a number Ordering numbers Read and write numbers in numerals and words Partitioning of numbers Mental addition and subtraction Roman numerals Comparing numbers (<, > or =) Rounding	Consolidation of place value throughout and AFL Representations of numbers Counting in multiples Y3 - 2, 5, 10, 4, 8, 3 Find ___ more and ___ less than a number Ordering numbers Read and write numbers in numerals and words Partitioning of numbers Mental addition and subtraction Roman numerals Comparing numbers (<, > or =) Rounding
Multiplication timetable : teach these during maths retrieval		
Autumn 1	Spring 1	Summer 1
2x, 5x, 10x times table (3weeks) 4x timestables	3 times table	9 times table
Consolidation	Spring 2	Summer 2
8 times table	6 times table	11 times table

**Also, ensure revision of previous KIRFs. See KIRF progression map **

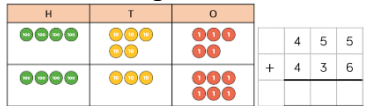
Topic Progression

-  Pictorial and abstract representations can be used alongside each other.
-  Refer to the calculation policy for representations.
-  Children expected to draw representations in books.
-  Teach one representation at a time.
-  Use real life experiences/data collection to support understanding.

Autumn 1	Spring 1	Summer 1
<p>Number Place Value (4 weeks) (Application of measure where appropriate) Possible apparatus: dienes and place value counters.</p> <p>Addition and subtraction (3 weeks) (Application of measure (incl. money) where appropriate) Possible apparatus: dienes and place value counters. (7 weeks)</p>	<p>Number (3 weeks) (Application of measure (incl. time and money) where appropriate) Fractions Possible apparatus/representation: bar models.</p> <p>Measure (2 weeks) (Properties of shape) Length and Perimeter</p> <p>Geometry (2 weeks) properties of shape including angles One lesson every other week retrieval style arithmetic</p> <p>(7 Weeks)</p>	<p>Measure (3 weeks) Mass, Capacity and Temperature Measure Money (incl. decimals) (2 weeks)</p> <p>One lesson every other week retrieval style arithmetic (5 Weeks)</p>
Autumn 2	Spring 2	Summer 2
<p>Number Multiplication and Division (3 weeks) (Application of measure (incl. money) where appropriate) Possible apparatus: dienes and place value counters.</p> <p>Statistics (2 weeks)</p> <p>Four operations including problems. (1 weeks) Possible apparatus: dienes and place value counters. (7 Weeks to allow for adjustments)</p>	<p>Number (3 weeks) (Application of measure (incl. time and money) where appropriate) Fractions Possible apparatus/representation: bar models.</p> <p>Time (1 week)</p> <p>Number Four operations problems (2 weeks) (Application of measure (incl. money) where appropriate) Possible apparatus: dienes and place value counters. One lesson every other week retrieval style arithmetic</p> <p>(6 Weeks)</p>	<p>Measure Money (incl. decimals) (1 week)</p> <p>Number (1 weeks) (Application of measure (incl. time and money) where appropriate) Year 3 - Fractions</p> <p>Consolidation/ Geometry (2 weeks) Consolidation and retrieval</p> <p>Number Four operations problems (2 weeks) (Application of measure (incl. money) where appropriate) Possible apparatus: dienes and place value counters. One lesson every other week retrieval style arithmetic (7 Weeks)</p>

	Year 3 objectives
<p>Number and Place Value 3 weeks - some of these lessons may take longer than one lesson or may be practical</p>	To recognise the value of all digits in numbers up to 1000- pictorial/concrete.
	To recognise the value of all of the digits in numbers up to 1000.
	To identify which digit has a certain value in numbers up to 1000.

<p>Teacher notes</p> <ul style="list-style-type: none"> Ensure you are always using place value hats on all work presented in books. Encourage children to identify whether odd or even. Where appropriate, question the children about estimation when looking at pictorial representations. <p>Place value hats...</p> <p>10 th h + o th</p>	To use multiple pictorial representations to represent any number up to 1000.
	To read and write numbers up to 1000 in numerals and words.
	To use the less than, greater than and equals symbols to compare numbers and pictorial representations of numbers - 2 numbers up to 1,000.
	To order numbers and pictorial representations of numbers - 4 numbers up to 1000.
	To order numbers and use estimation to place on a number line - 4 numbers up to 1000.

Year 3 objectives	
<p>Four operations</p> <p>3 weeks - some of these lessons may take longer than one lesson or may be practical</p> <p>Teacher notes</p> <ul style="list-style-type: none"> Teacher to treat every question like a problem, e.g. $431 + 321 =$ (ask: What estimate would we have, how can using number bonds tell us if there is an exchange etc?) Although not explicitly said, concrete introduction, practical lessons can be completed without evidence for four operations. Ensure you are always using place value hats on all work presented in books. When adding and subtracting use pictorial and abstract side by side like in example below.  <ul style="list-style-type: none"> Teacher to promote children estimating answer before solving calculations in all lessons. Word problems – consider scaffolding. 	To mentally, add and subtract numbers up to 100.
	To add numbers using column addition up to 1000 with no exchange. (pictorial and abstract)
	To add numbers using column addition up to 1000 with one exchange in the ones. (pictorial and abstract)
	To add numbers using column addition up to 1000 with one exchange in any part of the number. (pictorial and abstract)
	To subtract numbers using column subtraction up to 1000 with no exchange. (pictorial and abstract)
	To subtract numbers using column subtraction up to 1000 with one exchange in the ones. (pictorial and abstract)
	To subtract numbers using column subtraction up to 1000 with one exchange in any part of the number. (pictorial and abstract)
	To solve addition and subtraction column methods for numbers up to 1000 checking answers using inverse.
	To solve one step addition and subtraction word problems (operation provided)

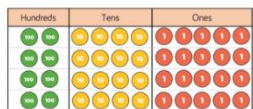
	To identify factor pairs using a factor tree.
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Multiplication and division

3 weeks - some of these lessons may take longer than one lesson or may be practical

Teacher notes

- Teacher to treat every question like a problem, e.g. $31 \times 5 =$ (ask: What estimate would we have, what is the place value of the 3 etc?)
- Although not explicitly said, concrete introduction, practical lessons can be completed without evidence for four operations.
- Ensure you are always using place value hats on all work presented in books.
- When multiplying and dividing use pictorial and abstract side by side like in example below.



	H	T	O
	2	4	5
x			4

- Teacher to promote children estimating answer before solving calculations in all lessons.
- Word problems – consider scaffolding.

Place value hats...

10 th h t o

e.g. $15 \times 3 = 45$

$5 \times 3 \times 3 = 45$

Only use known multiplications tables, 2,5,10,4,8

To identify factor pairs using a factor tree.

e.g. $15 \times 3 = 45$

$5 \times 3 \times 3 = 45$

Only use known multiplications tables, 2,5,10,4,8,3

Multiplying together three numbers (using knowledge of existing multiplications).

To multiply 2 digits by 1 digit (pictorial and abstract) no exchange (using known times tables)

To multiply 2 digits by 1 digit (pictorial and abstract) with exchange (using known times tables)

To divide 2 digit numbers by 1 digit (use pictorial and abstract) no exchange.

To divide 2 digit numbers by 1 digit (use pictorial and abstract) exchange.

To solve scaling problems using multiplication and division.

To solve problems, including missing number problems, including multiplication and division (operation provided)

Statistics (2 weeks)

To interpret pictograms into a table

To present data from a table to a pictogram

<p>- some of these lessons may take longer than one lesson or may be practical</p> <p>Teacher notes</p> <ul style="list-style-type: none">• Solve one-step and two-step questions (e.g. how many more? How many fewer?)	To interpret bar charts.
	To present data on a bar chart.
	To interpret time graphs.
	To present data on a time graph.

Year 3	
Strand	Suggested Small Steps (Not all small steps need to be taught as lessons and multiple could be taught in a lesson)
Number and Place Value	<ul style="list-style-type: none"> Represent numbers to 100 Tens and ones using addition Hundreds Numbers to 1,000 Numbers to 1,000 on a place value grid activity 100s, 10s and 1s (1) Number line to 100 Number line to 1,000 Find 1, 10, 100 more or less Compare objects Compare numbers Ordering numbers Count in 50s

	Year 3
Strand	Suggested Small Steps (Not all small steps need to be taught as lessons and multiple could be taught in a lesson)
Number Facts/: Addition and Subtraction	<p>Add and subtract multiples of 100</p> <p>Add and subtract 1s</p> <p>Add and subtract 3-digit and 1-digit numbers - not crossing 10</p> <p>Add a 2-digit and 1-digit number - crossing 10</p> <p>Add 3-digit and 1-digit numbers - crossing 10</p> <p>Subtract a 1-digit number from 2-digits - crossing 10</p> <p>Subtract a 1-digit number from a 3-digit number - crossing 10</p> <p>Add and subtract 3-digit and 2-digit numbers - not crossing 100</p> <p>Add 3-digit and 2-digit numbers - crossing 100</p> <p>Subtract a 2-digit number from a 3-digit number - crossing 100</p> <p>Add and subtract 100s</p> <p>Spot the pattern - making it explicit</p> <p>Add two 2-digit numbers - crossing 10 - add ones & add tens <i>O</i></p> <p>Subtract a 2-digit number from a 2-digit number - crossing 10 - <i>O</i> subtract ones and subtract tens</p> <p>Mixed addition and subtraction problems</p> <p>Add and subtract 2-digit & 3-digit numbers - not crossing 10 or 100</p> <p>Add 2-digit and 3-digit numbers - crossing 10 or 100</p> <p>Subtract a 2-digit number from a 3-digit number - crossing 10 or 100</p> <p>Add two 3-digit numbers - not crossing 10 or 100</p> <p>Add two 3-digit numbers - crossing 10 or 100</p> <p>Subtract a 3-digit number from a 3-digit number - no exchange</p> <p>Subtract a 3-digit number from a 3-digit number - exchange</p> <p>Estimate answers to calculations</p> <p>Check answers</p>

Strand

Suggested Small Steps

(Not all small steps need to be taught as lessons and multiple could be taught in a lesson)

Number Facts/
Multiplication and Division

Multiplication - equal groups
 Multiplication using the symbol
 Using arrays
 2 times-table
 5 times-table
 Make equal groups - sharing
 Make equal groups - grouping
 Divide by 2
 Divide by 5
 Divide by 10
 Multiply by 3
 Divide by 3
 The 3 times-table
 Multiply by 4
 Divide by 4
 The 4 times-table
 Multiply by 8
 Divide by 8
 The 8 times-table
 Consolidate 2, 4 and 8 times-tables
 Comparing statements
 Related calculations
 Multiply 2-digits by 1-digit - no exchange - activity
 Multiply 2-digits by 1-digit (1)
 Divide 2-digits by 1-digit (1)
 Divide 100 into 2, 4, 5 and 10 equal parts - activity
 Divide with remainders activity
 Divide 2-digits by 1-digit (3)
 Scaling
 How many ways?

Fractions

Working with wholes and parts activity
Recap - Make equal parts
Recognise a half
Find a half
Recognise a quarter
Find a quarter
Recognise a third
Find a third
Unit fractions
Non-unit fractions
Equivalence of a half and 2 quarters
Count in fractions
Making the whole
Tenths
Count in tenths
Fractions on a number line
Fractions of a set of objects (1)
Equivalent fractions (1)
Compare fractions
Order fractions
Add fractions
Subtract fractions

Strand	Suggested Small Steps (Not all small steps need to be taught as lessons and multiple could be taught in a lesson)
Geometry: Shape & Position and Direction	Turns and angles Right angles in shapes Compare angles Draw accurately 2-D shapes Horizontal and vertical Parallel and perpendicular Recognise and describe 2-D shapes Recognise and describe 3-D shapes Make 3-D Shapes
Measurement: Length/ Height	Measure length (m) Equivalent lengths (m and cm) Equivalent lengths (mm and cm) Compare lengths Add lengths Subtract lengths What is perimeter? Activity Measure perimeter Calculate perimeter
Measurement: Weight/Volume	Measure mass activity Compare mass Measure mass (1) Add and subtract mass Measure capacity activity Compare volume Measure capacity (1) Compare capacity Add and subtract capacity Temperature activity
Measurement : money	Count money (pence) Count money (pounds) Pounds and pence Convert pounds and pence Add money Subtract money Give change

Year 3	
Strand	Suggested Small Steps (Not all small steps need to be taught as lessons and multiple could be taught in a lesson)
Measurement: Time	<p>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <p>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, am/pm, morning, afternoon, noon and midnight</p> <p>know the number of seconds in a minute and the number of days in each month, year and leap year</p> <p>compare durations of events [for example, to calculate the time taken by particular events or tasks]</p>
Statistics: Graphs and Charts	<p>Make tally charts</p> <p>Draw pictograms (1-1)</p> <p>Interpret pictograms (1-1)</p> <p>Draw bar charts - activity</p> <p>Bar charts</p> <p>Tables</p>