

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

**Key Skills**

Autumn	Spring	Summer
<b>Consolidation of place value throughout and AFL</b> Representations of numbers Counting in multiples Y 4 - 3, 6, 9, 25, 100 and 1000 Find ___ more and ___ less than a number Ordering numbers Read and write numbers in numerals and words Partitioning of numbers Mental addition and subtraction	<b>Consolidation of place value throughout and AFL</b> Representations of numbers Counting in multiples Y4 - 3, 6, 9, 7, 11, 25, 100, 1000 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	<b>Consolidation of place value throughout and AFL</b> Representations of numbers Counting in multiples Y4 - 3, 6, 7, 9, 11, 12, 25, 100 and 1000 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 Year 4 - Counting through negative numbers
<b>Multiplication timetable : teach these during maths retrieval</b>		
Autumn 1	Spring 1	Summer 1
4 and 8 times table	7 times table	Consolidation
Consolidation	Spring 2	Summer 2
3 and 6 times table	12 times table	Consolidation
**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><b>Number</b>                      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><b>Number (3 weeks)</b> (Application of measure (incl. time and money) where appropriate)                      Fractions and Decimals                      Possible apparatus/representation: bar models.</p> <p><b>Measure (2 weeks)</b> (Properties of shape)                      Length, Perimeter and Area</p> <p><b>Geometry (2 weeks)</b>                      properties of shape including angles                      One lesson every other week retrieval style arithmetic</p> <p>Every Friday complete times tables on <a href="http://urbrainy.com/mtc">urbrainy.com/mtc</a>                      (7 Weeks)</p>	<p><b>Measure (3 weeks)</b>                      Length, Height, Time  <b>Measure</b>                      Money (incl. decimals) (2 week)</p> <p>One lesson every other week retrieval style arithmetic</p> <p>Every Friday complete times tables on <a href="http://urbrainy.com/mtc">urbrainy.com/mtc</a></p> <p>(5 Weeks)</p>
Autumn 2	Spring 2	Summer 2
<p><b>Number</b>                      Multiplication and Division (3 weeks) (Application of measure (incl. money) where appropriate)                      Possible apparatus: dienes and place value counters.</p> <p><b>Statistics (2 weeks)</b></p> <p><b>Four operations including problems. (1 weeks)</b>                      Possible apparatus: dienes and place value counters.                      (6 Weeks to allow for adjustments)</p>	<p><b>Number (3 weeks)</b> (Application of measure (incl. time and money) where appropriate)                      Fractions and Decimals                      Possible apparatus/representation: bar models.</p> <p><b>Number</b>  <b>Four operations problems (2 weeks)</b> (Application of measure (incl. money) where appropriate)                      Possible apparatus: dienes and place value counters.                      One lesson every other week retrieval style arithmetic</p> <p><b>Time (1 week)</b></p> <p>Every Friday complete times tables on <a href="http://urbrainy.com/mtc">urbrainy.com/mtc</a></p> <p>(6 Weeks)</p>	<p><b>Measure</b>                      Money (incl. decimals) (1 week)</p> <p><b>Number (1 weeks)</b> (Application of measure (incl. time and money) where appropriate)                      Fractions and Decimals                      Possible apparatus/representation: bar models.</p> <p><b>Consolidation/ Geometry (2 weeks)</b>                      Position and Direction</p> <p><b>Number</b>  <b>Four operations problems (2 weeks)</b> (Application of measure (incl. money) where appropriate)                      Possible apparatus: dienes and place value counters.                      One lesson every other week retrieval style arithmetic</p> <p>Every Friday complete times tables on <a href="http://urbrainy.com/mtc">urbrainy.com/mtc</a></p> <p>(7 Weeks)</p>

	Year 4 objectives
<p><b>Number and Place Value</b>  <b>3 weeks - some of these lessons may take longer than one lesson or may be practical</b></p> <p>Teacher notes</p> <ul style="list-style-type: none"> <li>• Ensure you are always using place value hats on all work presented in books.</li> <li>• Encourage children to identify whether odd or even.</li> <li>• Where appropriate, question the children about estimation when looking at pictorial representations.</li> </ul> <p>Place value hats...</p> <p>10    th   h + o  th</p>	To recognise the value of all of the digits in any 4-digit number - pictorial/concrete
	To recognise the value of all of the digits in numbers up to 10,000.
	To identify which digit has a certain value in numbers up to 10,000.
	To use multiple pictorial representations to represent any number up to 10,000.
	To read and write numbers up to 10,000 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 10,000
	To order numbers and pictorial representations of numbers- 4 numbers up to 10,000.
	To order numbers and use estimation to place on a number line - 4 numbers up to 10,000.
	To round any number up to 10,000 to the nearest 10. (Pictorial use of a number line, abstract use of place value hats).
	To round any number up to 1000 to the nearest 100. (Pictorial use of a number line, abstract use of place value hats).
To round any number up to 1000 to the nearest 1000. (Pictorial use of a number line, abstract use of place value hats).	
To use number lines to add missing numbers beyond 0 (consider gaps of 1,2,4 and 5).	

	Year 4 objectives
<p><b>Four operations</b>  <b>3 weeks - some of these lessons may take longer than one lesson or may be practical</b></p> <p>Teacher notes</p>	To mentally, add and subtract numbers up to 1000.
	To add 4 digit number using column addition with no exchange. (pictorial and abstract)
	To add 4 digit numbers using column addition with one exchange anywhere in the number. (pictorial and abstract)
	To add 4 digit numbers using column addition with multiple exchanges.

- 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.

H	T	O				
●●●●	●●●●	●●●●	+	4	5	5
●●●●	●●●●	●●●●		4	3	6

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

To subtract 4 digit number using column subtraction with no exchange. (pictorial and abstract)

To subtraction 4 digit numbers using column subtraction with one exchange anywhere in the number. (pictorial and abstract)

To subtract 4 digit numbers using column subtraction with multiple exchanges.

To solve addition and subtraction column methods for numbers up to 10,000 checking answers using inverse.

To solve two step addition and subtraction word problems.

Year 4 objectives	
<b>Addition and Subtraction</b> <b>3 weeks - some of these lessons may take longer than one lesson or may be practical</b>  Teacher notes <ul style="list-style-type: none"> <li>• Teacher to treat every question like a problem, e.g. <math>431 + 321 =</math> (ask: What estimate would we have, how can using number bonds tell us if there is an exchange etc?)</li> <li>• Although not explicitly said, concrete introduction, practical lessons can be completed without evidence for four operations.</li> <li>• Ensure you are always using place value hats on all work presented in books.</li> <li>• When adding and subtracting use pictorial and abstract side by side like in example below.</li> </ul>	To mentally, add and subtract numbers up to 1000.
	To add 4 digit number using column addition with no exchange. (pictorial and abstract)
	To add 4 digit numbers using column addition with one exchange anywhere in the number. (pictorial and abstract)
	To add 4 digit numbers using column addition with multiple exchanges.
	To subtract 4 digit number using column subtraction with no exchange. (pictorial and abstract)
	To subtraction 4 digit numbers using column subtraction with one exchange anywhere in the number. (pictorial and abstract)
	To subtract 4 digit numbers using column subtraction with multiple exchanges.
	To solve addition and subtraction column methods for numbers up to 10,000 checking answers using inverse.
	To solve two step addition and subtraction word problems.

H	T	O
●●●●	●●●●	●●●●
●●●●	●●●●	●●●●
	+	

	4	5	5
	4	3	6

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

Place value hats...

10 th h t o

### Multiplication and division

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

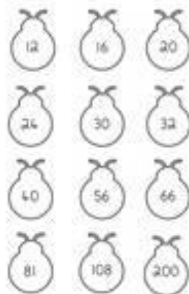
Teacher notes

- 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.

To identify factor pairs using a factor tree.

e.g.  $15 \times 3 = 45$   
 $5 \times 3 \times 3 = 45$

To identify factors of any given number.



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

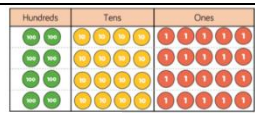
**To multiply 2 and 3 digits by 1 digit (pictorial and abstract) no exchange (using known times tables)**

**To multiply 2 and 3 digits by 1 digit (pictorial and abstract) with exchange (using known times tables)**

**To divide 3 digit numbers by 1 digit (use pictorial and abstract) no exchange.**

**To divide 3 digit numbers by 1 digit (use pictorial and abstract) exchange.**

**To solve scaling problems using multiplication and division.**



	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

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

### Statistics (2 weeks)

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

Teacher notes

- Solve one-step and two-step questions (e.g. how many more? How many fewer?)

To interpret pictograms into a table

To present data from a table to a pictogram

To interpret bar charts.

To present data on a bar chart.

To interpret time graphs.

To present data on a time graph.

Year 4	
Strand	Suggested Small Steps (Not all small steps need to be taught as lessons and multiple could be taught in a lesson)
<b>Number and Place Value</b>	<p>Numbers to 1,000            100s, 10s and 1s            Number line to 1,000  <b>Round to the nearest 10</b>  <b>Round to the nearest 100</b>  <b>Count in 1000s</b>  <b>Identify, represent and estimate numbers to 10,000 activity</b>  <b>Recognise place value 1000s, 100s, 10s and 1s</b>            Partitioning            The number line to 10,000            Find 1, 10, 100 more or less  <b>1,000 more or less</b>  <b>Compare 4-digit numbers</b>  <b>Order numbers beyond 1000</b>  <b>Round to the nearest 1,000</b>  <b>Count multiples of 6,7,9 and 25</b>            Introducing negative numbers activity  <b>Count backwards through 0 to include negative numbers</b>            Read Roman numerals to 100  <b>Solve number and practical problems</b></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/  
Addition and Subtraction

Add and subtract 1s, 10s, 100s and 1,000s  
Add two 3-digit numbers - not crossing 10 or 100  
**Add two 4-digit numbers - no exchange**  
Add two 3-digit numbers - crossing 10 or 100  
**Add two 4-digit numbers - one exchange**  
**Add two 4-digit numbers - more than one exchange**  
Subtract a 3-digit number from a 3-digit number - no exchange 0  
**Subtract two 4-digit numbers - no exchange**  
Subtract a 3-digit number from a 3-digit number - exchange  
**Subtract two 4-digit numbers - one exchange**  
**Subtract two 4-digit numbers - more than one exchange**  
Efficient Subtraction  
Estimate answers  
Checking strategies using inverse  
Addition and subtraction two-step problems

## 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

Multiply by 10  
Multiply by 100  
Divide by 10  
Divide by 100  
**Multiply by 1 and 0**  
**Divide by 1 and itself**  
Multiply and divide by 3  
The 3 times-table  
Multiply and divide by 6  
6 times-table and division facts  
Multiply and divide by 9  
9 times-table and division facts  
Multiply and divide by 7  
7 times-table and division facts  
11 and 12 times-table  
**Recall multiplication and division facts up to  $12 \times 12$**   
**Multiply 3 numbers**  
**Factor pairs and commutativity in mental calculations**  
Efficient multiplication  
Written methods  
**Multiply 2-digits by 1-digit**  
**Multiply 3-digits by 1-digit**  
Divide 2-digits by 1-digit  
Divide 3-digits by 1-digit  
**Correspondence problems including use of distributive law.**

## Fractions

Unit and non-unit fractions

What is a fraction?

Tenths

Count in tenths

**Common and Equivalent fractions to  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$**

Fractions greater than 1

Count in fractions

Add fractions

**Add 2 or more fractions with the same denominator**

Subtract fractions

**Subtract 2 fractions with the same denominator**

Subtract from whole amounts

Fractions of a set of objects

Calculate fractions of a quantity

**Problem solving - calculate quantities and fractions to divide quantities including non-unit fractions**

Tenths and hundredths activity

**Recognise tenths and hundredths with equivalents**

**Tenths as decimals**

Tenths on a place value grid

Tenths on a number line

Divide 1-digit by 10

Divide 2-digits by 10

**Hundredths**

**Hundredths as decimals**

**Hundredths on a place value grid**

Divide 1 or 2-digits by 100

Bonds to 10 and 100

Make a whole

Write decimals

**Compare decimals up to 2d.p**

Order decimals

**Round decimals to whole numbers**

Halves and quarters

**Solve measure and money problems involving fractions and decimals to 2d.p**

Year 4	
Strand	Suggested Small Steps (Not all small steps need to be taught as lessons and multiple could be taught in a lesson)
<b>Geometry: Shape &amp; Position and Direction</b>	<p>Turns and angles  Right angles in shapes  Compare angles  <b>Identify acute and obtuse angles</b>  <b>Compare and order angles</b>  <b>Compare and classify 2-D shapes based on properties</b>  Triangles  Quadrilaterals  Horizontal and vertical  <b>Lines of symmetry in different orientations</b>  <b>Complete a symmetric figure</b></p> <p><b>Describe position as coordinates first quadrant</b>  <b>Draw on a grid specified points to create polygon</b>  Move on a grid  <b>Describe movement on a grid left/right up/down as translations</b></p>
<b>Measurement: Length/ Height</b>	<p>Equivalent lengths - m and cm  Equivalent lengths - mm and cm  Kilometres  Add lengths  Subtract lengths  Measure perimeter  Perimeter on a grid  Perimeter of a rectangle  <b>Perimeter of rectilinear shapes m and cm</b>  <b>Convert between km and m</b></p> <p><b>What is area?</b>  <b>Counting squares</b>  Making shapes  Comparing area</p>
<b>Measurement: Time</b>	<p><b>Read write and convert between analogue and digital 12hour and 24hour clocks</b>  <b>Solve problems involving converting hours to minutes, minutes to seconds, years to months, weeks to days</b></p>
<b>Measurement: money</b>	<p>Pounds and pence  Ordering money  <b>Estimate and compare money</b>  <b>Convert pounds and pence</b>  <b>Add money</b>  <b>Subtract money</b>  Find change  Working with money</p>

Year 4	
Strand	Suggested Small Steps (Not all small steps need to be taught as lessons and multiple could be taught in a lesson)
	Four operations
Statistics: Graphs and Charts	Interpret charts including bar charts and time graphs Comparison, sum and difference problems bar charts, pictograms, tables and other graphs Line graphs