



Alverstone Infant School



Progression of KIRFs (Key Instant Recall Facts) and Place Value

Yr	Counting and Place Value	Multiplication Tables	Number Bonds	Doubling and Halving	Addition and Subtraction	Measures
	<p>Counting is essential in developing a deep understanding of the number system, number line and place value of numbers.</p> <p>Children need lots of practice at crossing boundaries, understanding the value of each digit in the place value columns.</p> <p>Children should become fluent in counting from any given number, in steps of any size.</p> <p>Children should be as fluent counting backwards as they are counting forwards.</p> <p>Counting links into understanding about number sequences.</p> <p>Children should become proficient in visualising a number line when counting.</p>	<p>Having a good knowledge and understanding of multiplication tables will allow the children easier access to written methods, multiplication, division, fractions, decimals, percentages, ratio and proportion</p> <p>There are different stages to learning multiplication tables:</p> <ul style="list-style-type: none"> Counting up Counting back Chanting Recalling multiplication facts Recalling division facts Recalling x10 greater and x10 smaller facts Recalling x100 greater and x100 smaller facts Extending into negative numbers Recalling related fraction facts Writing number sentences in different ways Understanding balancing number sentences 	<p>A good understanding of number bonds will allow the children to use this knowledge when solving problems.</p> <p>Children who are unable to rely on these key facts will ultimately be doing harder maths.</p> <p>Using number bonds in context is essential:</p> <ul style="list-style-type: none"> Money Measures <p>Links should be made to how basic number bonds to 10 can be used with other number bonds.</p> <p>Children should have a deep understanding of the power of the = sign, having experience of number sentences being written in many different ways, particularly with balancing calculations e.g.</p> <ul style="list-style-type: none"> $6 + 4 = 10$ $10 = 6 + 4$ $10 - 6 = 4$ $4 = 10 - 6$ $4 + 6 = 7 + 3$ <p>Links should be made to addition and subtraction facts within number bonds.</p>	<p>It is essential that children understand the opposite relationship of doubling and halving.</p> <p>Children should become proficient in partitioning, and partitioning in different ways, in order to double and halve successfully e.g.</p> <ul style="list-style-type: none"> $75 = 70 + 5$ $75 = 60 + 15$ <p>Children should develop a deep understanding of how simple doubling and halving can be used to double and halve larger numbers, comprehending the links and relationships e.g.</p> <ul style="list-style-type: none"> Double 6 = 12 Double 60 = 120 	<p>Children should become flexible when adding and subtracting mentally, using a range of different strategies:</p> <ul style="list-style-type: none"> Counting on Counting back Visualising a number line Use of fingers and other representations Partitioning Finding and using number bonds to aid easier calculations <p>Children should have a deep understanding of:</p> <ul style="list-style-type: none"> the = sign in balancing equations the < and > signs missing number calculations ... and should regularly use and recognise these types of number sentences. 	<p>In order for the children to be able to apply knowledge and understanding of different measures, they need to rapidly recall key measures facts.</p>

R	<p>Count the numbers in order to 5 Count back from 5 to 0 in order Count the numbers in order to 10 Count back from 10 to 0 in order Count the numbers in order to 20 Count back from 20 to 0 in order Read numbers to 10 Write numbers to 10 Count numbers to 10 Order numbers to 10 Read numbers to 20 Write numbers to 20 Count numbers to 20 Order numbers to 20</p>	<p>Count in 10s Count in 2s</p>	<p>Partition numbers to 5 into two groups</p>		<p>Use physical representations to add and subtract</p>	<p>Know the days of the week in order</p>
1	<p>Count forwards and backwards in steps of 10 Count forwards and backwards in steps of 2 Count forwards and backwards in steps of 5 Count to and across 100, forwards and backwards, from any given number Understand equal, more than, less than Given a number, identify one more and one less</p>	<p>x10</p>	<p>Know all number bonds to 5 Find patterns in number bonds to 5 Know all number bonds to 10 Find patterns in number bonds to 10 Know all addition facts for all numbers between 0 and 10 Know all subtraction facts for all numbers between 0 and 10 Understand missing number calculations</p>	<p>Know all doubles to 10 Know all halves to 10</p>	<p>Add a one digit number to a two digit number Subtract a one digit number from a two digit number Add numbers to 10 Subtract numbers to 10 Add a multiple of 10 to a two digit number (using a 100 square and flip flap) Subtract a multiple of 10 from a two digit number (using a 100 square and flip flap) Solve missing number calculations Understand the effect of adding and subtracting 0</p>	<p>Know the seasons in order Know the months of the year in order</p>

	Counting and Place Value	Multiplication Tables	Number Bonds	Doubling and Halving	Addition and Subtraction	Measures
2	<p>Count in 10s from any given number, forwards and backwards</p> <p>Count in 2s from any given number, forwards and backwards, crossing boundaries</p> <p>Count in steps of 2, 3 and 5 from 0, forwards and backwards</p> <p>Understand the value of T & U</p>	<p>x2 x5</p> <p>Children recognise odd and even numbers</p>	<p>Know all number bonds to 20 Find patterns in number bonds to 20</p> <p>Link number bonds to 20 to number bonds to 10</p> <p>Understand the = sign in balancing equations</p> <p>Use and understand < and > signs</p> <p>Understand missing number calculations</p>	<p>Know the doubles of all numbers to 20</p> <p>Know the halves of all numbers to 20</p>	<p>Add multiples of 10 including crossing significant boundaries</p> <p>Subtract multiples of 10 including crossing significant boundaries</p> <p>Know all addition facts for multiples of 10 to 100</p> <p>Know all subtraction facts for multiples of 10 to 100</p>	<p>Know how many p in a £</p> <p>Know the number of minutes in an hour</p> <p>Know the number of hours in a day</p>
3	<p>Count from 0 in multiples of 100 & 50</p> <p>Count from 0 in multiples of 4 & 8</p> <p>Count in 5s from any given number, forwards and backwards, crossing boundaries</p> <p>Count in 4s from any given number, forwards and backwards, crossing boundaries</p> <p>Count in 3s from any given number, forwards and backwards, crossing boundaries</p> <p>Find 10 or 100 more / less than a given number</p> <p>Understand the value of H, T & U</p>	<p>x4 x3 x8</p> <p>x50 x100</p> <p>Children recognise that multiples of even times tables are all even</p>	<p>Understand the = sign in balancing equations</p> <p>Use and understand < and > signs</p> <p>Understand missing number calculations</p> <p>Know all number bonds to 100 Visualise number bonds to 100 on a number line Find patterns within number bonds to 100</p>	<p>Know doubles of all whole numbers to 20</p> <p>Know halves of all whole numbers to 20</p> <p>Know doubles of all multiples of 10 to 500</p> <p>Know halves of all multiples of 10 to 500</p> <p>Know doubles of all multiples of 100 to 5000</p> <p>Know halves of all multiples of 100 to 5000</p>	<p>Know all addition and subtraction facts for multiples of 100 to 1000</p> <p>Know all addition and subtraction facts for multiples of 5 with a total of 100</p> <p>Know all addition and subtraction facts for number pairs that total 100</p> <p>Add and subtract mentally:</p> <ul style="list-style-type: none"> • A three digit number and ones • A three digit number and tens • A three digit number and hundreds 	<p>Know the number of seconds in a minute</p> <p>Know the number of days in each month, year and leap year</p> <p>Understand am and pm; noon and midnight</p> <p>Recognise right angles</p>