

Uplands - Mental calculation Progression of Skills

Reception	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6
Counting on and back –						
Count in ones forward and backward up to 20.	Count on and back in jumps of one on a number line from a given number up to 100 Count in 2s, 5s and 10s	Mentally add and subtract one-digit numbers in jumps of one starting on a 2 digit. Count on and back in jumps of ten using a 2-digit number. Count in steps of 2, 3, and 5.	Mentally count on and back in jumps of one starting with a 3-digit number. Count on and back starting with a 3-digit number and tens. Count on and back using a 3-digit number and hundreds. Can use known times table facts to make more efficient jumps forward and backward. 2,3,4,6,8 Count in multiples of 50	Mentally count on and back in jumps of one starting with a 4-digit number. Count on and back starting with a 4-digit number and tens. Count on and back using a 4-digit number and hundreds. Count on and back using a 4-digit number and thousands. Can use known times table facts to count on and back. Count in multiples of 25. Count backwards through 0 to	Count forward and back numbers up to 1,000,000	

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				include negative numbers.		
Number bonds						
Able to recall number bonds to 5. Number bonds within 5.	Recall number bonds to 10 fluently. Recall number bonds within 10. Know number bonds to 20 using addition and subtraction.	Recall number bonds to 100 linked to related facts e.g $2 + 8 = 10$ $20 + 80 = 100$	Know all the complements to 100 using known number bonds. E.g $22 + 78 = 100$ Know pairs of multiples of 100 that total 1000 $100 + 900 = 1000$	Know number bonds to 10,000. e.g $1000 + 9000 = 10,000$.	Know number bonds to 1,000,000 using known number facts from previous years. e.g $100,000 + 900,000 = 1,000,000$	
Number facts						
	Recognise all coins.	Number and Place value: Be able to recognise odd and even numbers. Multiplication and Division: Know the 2, 5 and 10 times table and related division facts. Fractions:	Multiplication and Division: Know the related times table and division facts for 3, 4, 6 and 8. Fraction: Understand fraction facts that make a whole. e.g $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{5}{5} = 1$ whole	Multiplication and Division: Reliably know related times table and division facts up to 12×12 . Fractions Know the effect of dividing by 10, 100. Recognise $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$ as decimals.	Multiplication and Division: Find related facts from knowing 12×12 multiplication and division facts. Recognise all square numbers to 12×12 Recognise all prime numbers to 19. Fractions: Know the effect of finding $\frac{1}{10}$, $\frac{1}{100}$	Measure: $1\text{km} = 0.621371$ miles Formula for area of a quadrilateral = length x width Formula for area of a triangle = $\frac{1}{2}$ base x height Formula for finding the volume of a cube = length x width x height

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		<p>Be able to find $\frac{1}{2}$ of all even numbers to 20.</p> <p>Measure: Be able to recognise 100cm = 1m 10mm = 1cm To know time facts within an hour Whole hour = 60 minutes $\frac{1}{2}$ an hour = 30 minutes $\frac{1}{4}$ of an hour = 15 minutes $\frac{3}{4}$ of an hour = 45 minutes</p>	<p>Begin to recognise equivalent fractions.</p> <p>Measure: Know the number of seconds in a minute. Know how many days in each month, year/leap year. Use related facts on how to make £1 using p and £100. Be able to convert between 1000g = 1kg 1000ml = 1l 1000cm = 1km</p>	<p>Recognise equivalent unit and non-unit fractions.</p> <p>Measure Know the number of minutes in 2 hours. Number of hours in 2 days. Know the number of minutes in $1\frac{1}{2}$ hours.</p>	<p>and 1/1000 of a number.</p>	<p>Fractions:</p> <p>$\frac{1}{8} = 12.5\% = 0.125$</p> <p>$\frac{1}{3} = 33.3\% = 0.333$</p> <p>Geometry:</p> <p>Diameter = 2x radius</p> <p>Radius = $\frac{1}{2}$ diameter</p>
			<p>Children to begin to recognise that with a two-digit number and a single digit number that they can add/subtract a whole ten and find the difference.</p>	<p>Begin to add and subtract three and two-digit numbers to compensate and find the difference using whole ten or hundred.</p>	<p>Children to become more fluent with compensating when using decimals.</p> <p>Children to begin to recognise calculations where it becomes</p>	

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			E.g $66 + 9$ $66 + 10 - 1$.	Children to use known times table facts to find the difference e.g 19×7 $(20 \times 7) - (1 \times 7)$	appropriate to use over a formal method. Children to develop multiplication facts to 3-digit numbers 399×6 $(400 \times 6) - (1 \times 6)$	
Be able to split a single digit number into repeated addition within 10.	Be able to partition a 2-digit number within 20 into 10s and 1s.	Be able to partition two 2-digit numbers into 10s and 1s to add and subtract.	Split a 3-digit number into 100s, 10s and 1s and add and subtract. (Where appropriate split a 3 digit number into 100s and 10s or 100s and 1s).	Split a 4-digit number into 1000s, 100s, 10s and 1s and add and subtract. (Where appropriate split a 4 digit number into 1000s, and another suitable number).	Split decimals into wholes, tenths and hundredths and add and subtract them. Children to partition three 2-digit numbers and add and subtract them (Where appropriate) Use related partitioning facts to add and subtract numbers up to 1,000,000 (where appropriate).	
				Children to use known number facts to split a 2-digit number into tens and ones	Children to use known times table facts to multiply a single 3-digit number by a single number.	Children to use known times table facts up to 12×12 to multiply two 2-digit numbers by

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				<p>and multiply them separately. e.g 15×6 $10 \times 6 + 5 \times 6$</p>	<p>e.g 215×5 $200 \times 5 + 10 \times 5 + 5 \times 5$ $= 1075$</p>	<p>partitioning 1 number into 10s and the 1s. e.g 42×12 $40 \times 12 + 2 \times 12 = 288$</p>
					<p>Know that:</p> <p>$10\% = 0.1 = \frac{1}{10} = \frac{10}{100}$ $= \frac{100}{1000}$</p> <p>$50\% = 0.5 = \frac{1}{2} = \frac{5}{10} = \frac{50}{100}$</p> <p>$25\% = 0.25 = \frac{1}{4} = \frac{4}{10} = \frac{40}{100}$</p> <p>$75\% = 0.75 = \frac{3}{4} = \frac{75}{100}$</p> <p>$20\% = 0.2 = \frac{1}{5} = \frac{2}{10} = \frac{20}{100}$</p> <p>$40\% = 0.4 = \frac{4}{10} = \frac{40}{100}$</p>	<p>To recognise related percentage facts.</p> <p>For example: If I know 1% then I can find 2% by doubling. If I know 10% then I can find 5% by halving</p>