

Overview of Key Maths Objectives Year 1 - 6

	Aut 1	Aut 2	Spr 3	Spr 4	Sum 5	Sum 6
YF	See separate documentation.					
Y1	Order numbers 1-20 <ul style="list-style-type: none"> Orally recite numbers 1-20 forwards and backwards sequentially, starting from any given number Represent each number using manipulatives. i.e. Numicon, cubes, counters, animals ... Recognise number conservation: the quantity (count) does not change with physical rearrangement Realise the additive quality of numbers as you move up the number line Understanding that forward in the count means increasing size and backwards in the count means decreasing size 	Given a number, identify 1 more and 1 less <ul style="list-style-type: none"> Add 1 more and count how many now to 10 Remove 1 object and count how many now to 10 Add 1 more and count how many now to 20 Remove 1 object and count how many now to 20 Realise that 1 more is the next number when counting Realise that 1 less is the number before when counting 	Represent and use number bonds to 10 <ul style="list-style-type: none"> Using objects do addition to 5 Using objects do addition to 10 Realise that addition means combining two groups Find the total number of items in two groups by counting all of them Begin to do addition by counting on Know and can quickly recall number bonds 1 to 5 Know and can quickly recall number bonds 1 to 10 	Represent and use number bonds and related subtraction facts to 10 <ul style="list-style-type: none"> Using objects to 5 take away given amounts Using objects to 10 take away given amounts Realise that subtraction means taking objects away Say how many are left when some are taken away Use objects to find the difference between two numbers Begin to relate subtraction as the inverse of addition (if $3 + 5 = 8$, then $8 - 5 = 3$) 	Represent and use number bonds and related subtraction facts to 20 <ul style="list-style-type: none"> Using objects do addition to 20 Find the total number of items in two groups by counting all of them Begin to do addition by counting on Know and can quickly recall number bonds 1 to 20 Using objects to 20 take away given amounts Say how many are left when some are taken away Use objects to find the difference between two numbers Begin to relate subtraction as the inverse of addition (if $13 + 5 = 18$, then $18 - 5 = 13$) 	Find and name doubles and halves to 10 <ul style="list-style-type: none"> Share objects between two plates Combine two equal groups Can double numbers to 5 using objects Can divide up to 10 objects between 2 groups Can double numbers to 10 using objects Can divide up to 20 objects between 2 groups Can recall doubles to 10 Can recall half from 20
Y2	Compare and Order numbers 1-100: using <, > and = signs <ul style="list-style-type: none"> Orally recite numbers 1-100 forwards and backwards sequentially, starting from any given number Represent each number using manipulatives. i.e. Numicon, cubes, counters, animals ... Using concrete objects and pictorial representations, partition 2-digit numbers into 10s and 1s. Recognise and represent the place value of any 2-digit number i.e Show me how many 10s in 36. Move forwards and backwards along a number line with confidence realising the additive quantity of numbers Place three non-sequential numbers in increasing and decreasing order up to 100 Compare two different 2-digit numbers using more than/less than 	Given a number, say 10 more/less than any number to 100 <ul style="list-style-type: none"> Demonstrate 10 more/less than any 2-digit number using manipulatives, i.e. Dienes Recognise the pattern of adding/subtracting 10 from any 2-digit number i.e. What is the same? What is different? Fluently count forwards and backwards in 10s from any given number crossing 100s barrier Add 10 more and count how many now until the next 10 Subtract 10 and count how many now to the next 10 	Recall and use addition and subtraction facts to 100 fluently including the use of concrete objects and pictorial representations <ul style="list-style-type: none"> Begin to do addition by counting on in 10s and 1s using manipulatives (eg. Dienes) and resources (arrow cards) Begin to do addition by counting on in 10s and 1s mentally Begin to do subtraction by counting back in 10s and 1s using manipulatives (eg. Dienes) and resources (arrow cards). Begin to do subtraction by counting back in 10s and 1s mentally. Recall number bonds to 10 to derive number bonds to 100, i.e $3 + 7 = 10$ so $30 + 70 = 100$ Recognise and use the inverse relationship between addition and subtraction facts to 10 i.e. $3 + 7 = 10$ so $10 - 7 = 3$. Use the inverse relationship between addition and subtraction facts to 100, i.e. $30 + 70 = 100$ so $100 - 70 = 30$ Check calculations including by adding to check subtraction (inverse order) and adding numbers in a different order to check addition (commutative) i.e. $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$ etc. 	Counting in steps of 2, 3 & 5 from 0 and in 10s from any number (forward and backward) <ul style="list-style-type: none"> Represent counting in 2s using manipulatives and a number line Represent counting in 5s using manipulatives and a number line Represent counting in 10s using manipulatives and a number line Represent counting in 3s using manipulatives and a number line Identify patterns in numbers <ul style="list-style-type: none"> All even numbers are multiples of 2 All numbers with a 0 or 5 in the units column are multiples of 5 All numbers with 0 units are multiples of 10 	Recall and use multiplication and division tables 2, 5 & 10 (fact families) <ul style="list-style-type: none"> Recite orally and write 2 times table ie $1 \times 2 = 2$ Using manipulatives, relate multiplying by 2 (doubling) to dividing by 2 (halving) ie times table families Recite orally and write 10 times table ie $1 \times 10 = 10$ Using manipulatives, relate multiplying by 10 to dividing by 10 ie times table families Recite orally and write 5 times table ie $1 \times 5 = 5$ Using manipulatives, relate multiplying by 5 to dividing by 5 ie times table families 	Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$ (making explicit links to multiplication and division) <ul style="list-style-type: none"> Recognise half as one of two equal parts of a shape and number of objects Recognise half as sharing and as grouping. For example, $\frac{1}{2}$ of $6 = 3$ in each half and 3 groups of 2 Recognise a quarter as half of a half using resources Recognise a quarter as one of four equal parts of a shape and a number of objects Recognise a quarter as sharing and as grouping. For example, $\frac{1}{4}$ of $8 = 2$ in each quarter and 2 groups of 4 Recognise a third as one of three equal parts of a shape and number of objects Recognise a third as sharing and grouping. For example, $\frac{1}{3}$ of $6 = 2$ in each third and 2 groups of 3 Rote count in $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$ as demonstrating placement on a number line.

	Aut 1	Aut 2	Spr 3	Spr 4	Sum 5	Sum 6
Y3	<p>Compare and Order numbers 1-1000 (using <, >, =)</p> <ul style="list-style-type: none"> Orally recite numbers 1-1000 forwards and backwards sequentially, starting from any given number Using arrow (place value) cards and other resources, partition 3-digit numbers into 100s, 10s and 1s. Recognise and represent the place value of any 3-digit number i.e. Show me how many 100s in 364. Place various different sized numbers on a blank number line Place three non-sequential numbers in increasing and decreasing order up to 1000 Compare two different 3-digit numbers using more than/less than 	<p>Identify, represent and estimate numbers using different representations</p> <ul style="list-style-type: none"> Recognise and represent the place value of any 3-digit number and identify the 10 before and after a chosen number i.e. show on a number line Recognise and represent the place value of any 3-digit number and identify the 100 before and after a chosen number i.e. show on a number line Represent any 3-digit number on a blank number line identifying the 10 before and the 10 after Represent any 3-digit number on a blank number line identifying the 100 before and the 100 after Estimate quantities, distances, weights and lengths using objects eg counters in a jar, length of 2 tables 	<p>Recall and use addition and subtraction facts to 1000 fluently including the use of concrete objects and pictorial representations</p> <ul style="list-style-type: none"> Demonstrate 10/100 more/less than any 2- and 3-digit number using manipulatives, i.e. Dienes & arrow cards Recognise the pattern of adding/subtracting 10 and 100 from any 3-digit number i.e. What is the same? What is different? Apply known facts of number bonds to 10/100 to develop fluent addition and subtraction calculations, i.e. $110 + 290 = 400$ Mentally add and subtract a three-digit number and 1s Mentally add and subtract a three-digit number and 10s Mentally add and subtract a three-digit number and 100s Recognise and use the inverse relationship between addition and subtraction facts to check calculations. 	<p>Counting in steps of 4, 8, 50 and in 100 (forward and backward)</p> <ul style="list-style-type: none"> Represent counting in 4s using manipulatives and a number line Represent counting in 8s using manipulatives and a number line Represent the link between 2s, 4s and 8s explicitly using manipulatives i.e. doubling and halving. For example, $2 \times 5 = 10$ so $4 \times 5 = 20$ Represent counting in 50s using manipulatives and a number line Represent counting in 100s using manipulatives and a number line Represent the link between 50 and 100 explicitly using manipulatives i.e. 50 is half of 100 or 100 is double 50. For example, $8 \times 100 = 800$ so $8 \times 50 = 400$ 	<p>Recall and use multiplication and division tables 2, 3, 4, 5, 8 & 10 (fact families)</p> <ul style="list-style-type: none"> Revise facts for 2, 5 and 10 times tables improving fluency ie times table fact families for example $4 \times 5 = 20$, $20 \div 5 = 4$, $5 \times 4 = 20$, $20 \div 4 = 5$ Using manipulatives, relate multiplying by 4 (doubling and doubling again) to dividing by 4 (halving and halving again) Recite orally and write 4 and 8 times tables making the link between tables explicit i.e. doubling and halving. For example, $4 \times 3 = 12$ so $8 \times 3 = 24$ Recite orally and write 3 times table i.e. $1 \times 3 = 3$ Using manipulatives, relate multiplying by 3 to dividing by 3 ie times table families Using known table facts to derive related facts using commutativity and associativity (for example $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) <p><i>*2, 5 and 10 times tables are secured in year 2</i></p>	<p>Revise and recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{3}{4}$ as a non-unit fraction introducing tenths.</p> <ul style="list-style-type: none"> Revise facts for finding $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$ of shapes, objects and quantities. Recognise and show that tenths arise from dividing an object into 10 equal parts using manipulatives and/or images. i.e. Dienes, bead strings, Numicon Rote count in tenths crossing whole numbers. Place tenths on a 0 – 1 number line and connect with decimals Using manipulatives and pictures demonstrate equivalent fractions to $\frac{1}{2}$ ie $\frac{2}{4}$, $\frac{3}{6}$, $\frac{5}{10}$
Y4	<p>Compare and Order numbers beyond 1000 (using <, >, =) and back to include negative numbers</p> <ul style="list-style-type: none"> Orally recite numbers 1-1000 forwards and backwards sequentially, starting from any given number Using arrow (place value) cards and other resources, partition 4-digit numbers into 1000s, 100s, 10s and 1s. Recognise and represent the place value of any 4-digit number, i.e. Show me how many 1000s in 3624. Place various different sized numbers on a blank number line Places three non-sequential numbers in increasing and decreasing order beyond 1000 Compares two different 4-digit numbers using more than/less than Recognise negative numbers back from 0 using representations eg number line, thermometer Rote count backwards through 0 	<p>Identify, represent and estimate numbers using different representations</p> <ul style="list-style-type: none"> Recognise and represent the place value of any 4-digit number and identify the 100 before and after a chosen number i.e. show on a number line Recognise and represent the place value of any 4-digit number and identify the 1000 before and after a chosen number i.e. show on a number line Represent any 4-digit number on a blank number line identifying the 100 before and the 100 after Represent any 4-digit number on a blank number line identifying the 1000 before and the 1000 after Use estimation skills to approximate or check answers to calculations 	<p>Recall and use addition and subtraction facts to 1000 fluently including the use of concrete objects and pictorial representations</p> <ul style="list-style-type: none"> Mentally add and subtract a three-digit number and 1s Mentally add and subtract a three-digit number and 10s Mentally add and subtract a three-digit number and 100s Uses known number facts to add and subtract numbers mentally Uses known number facts to solve additions and subtractions in various contexts eg money, measures etc 	<p>Counting in steps of 6, 7, 9, 25 and in 1000 (forward and backward)</p> <ul style="list-style-type: none"> Represent counting in 6s using manipulatives and a number line Represent counting in 9s using manipulatives and a number line Represent counting in 7s using manipulatives and a number line Represent the link between 3s, 6s and 9s explicitly using manipulatives i.e. doubling, multiplying by 3, then finding halves and thirds. For example, $2 \times 3 = 6$, $3 \times 3 = 9$ Represent counting in 25s using manipulatives and a number line Represent counting in 1000s using pictorial representations and/or a number line 	<p>Recall and use multiplication and division tables up to 12×12 (fact families)</p> <ul style="list-style-type: none"> Revise previous learnt facts for 2, 3, 4, 5, 8 and 10 times tables improving fluency ie times table fact families for example $8 \times 4 = 32$, $32 \div 8 = 4$ Using manipulatives, relate multiplying by 6 and 9 to multiplying by 3 (doubling and tripling) Using manipulatives, relate dividing by 6 and 9 to dividing by 3 Recite orally and write 3, 6 and 9 times tables making the link between tables explicit i.e. doubling, tripling and halving, dividing by 3 Recite orally and write 7 times table i.e. $1 \times 7 = 7$ Recite orally and write 11 times table Recite orally and write 12 times table Using manipulatives, relate multiplying to dividing up to 12×12 ie times table families Orally answer questions on multiplications and derived division facts 	<p>Revise and recognise tenths, hundredths and relate to decimal equivalence.</p> <ul style="list-style-type: none"> Revise finding tenths by dividing an object or a number into 10 equal parts Recognise and show that hundredths arise from dividing an object into 100 equal parts using manipulatives and/or images. i.e. Dienes, bead strings, Numicon Identify and write equivalent fractions of tenths and hundredths eg $\frac{1}{10} = \frac{10}{100}$, making link between them – what is the same, what different? Recognise and write decimal equivalence of any number of tenths or hundredths Recognise and write decimal equivalence of $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$

	Aut 1	Aut 2	Spr 3	Spr 4	Sum 5	Sum 6
Y5	<p>Compare and Order numbers to at least a 1,000,000 and determine the value of each digit</p> <ul style="list-style-type: none"> Using arrow (place value) cards or headings and other resources, partition 7-digit numbers into 1,000,000s, 100,000s, 10,000s etc Recognise and represent the place value of any 7-digit number, i.e Show me how many 1,000,000s in 3,624,781. Place various different sized numbers on a blank number line Places three non-sequential numbers in increasing and decreasing order up to a 1,000,000 Compares two up to 7-digit numbers using more than/less than and find the difference Recognise negative numbers back from 0 using representations eg a thermometer Rote count forwards and backwards through 0 	<p>Identify, represent and round numbers up to 1,000,000</p> <ul style="list-style-type: none"> Recognise and represent the place value of any 5-digit number and identify the 10,000 before and after a chosen number i.e. show on a number line / blank number line Recognise and represent the place value of any 6-digit number and identify the 100,000 before and after a chosen number i.e. show on a number line / blank number line Recognise and represent the place value of any 7-digit number and identify the 1,000,000 before and after a chosen number i.e. show on a number line / blank number line Round any number up to a million to the nearest 10, 100, 1000, 10,000, 1000,000 	<p>Recall and use addition and subtraction facts up to 1,000,000 fluently</p> <ul style="list-style-type: none"> Mentally add and subtract a three-digit number and 1s Mentally add and subtract a three-digit number and 10s Mentally add and subtract a three-digit number and 100s Uses known number facts to add and subtract increasingly large numbers mentally Uses known number facts to solve additions and subtractions in various contexts eg money, measures etc 	<p>Recall and use multiplication and division tables up to 12 x 12 (fact families)</p> <ul style="list-style-type: none"> Revise previous learnt times table facts improving fluency ie times table fact families for example $8 \times 4 = 32$, $32 \div 8 = 4$ Multiply and divide numbers mentally, drawing upon known facts Recognise and list squared numbers Recognise and list cubed numbers Multiply and divide whole numbers by 10, 100, and 1,000 Multiply and divide whole numbers involving decimals by 10, 100 and 1,000 	<p>Identify multiples, factors and prime numbers</p> <ul style="list-style-type: none"> Use and understands the term multiples Use and understands the term factors Use and understands the term prime numbers 	<p>Fractions related to decimal equivalence and percentage.</p> <ul style="list-style-type: none"> Practise counting forwards and backwards in simple fractions, beyond 1 Identify equivalent fractions using a number line or other visual representations eg fraction wall Convert mixed numbers to / from improper fractions Recognise and write decimal equivalence of any number of tenths, hundredths and thousandths eg $0.71 = 71 / 100$ Recognise decimal equivalence of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ Recognise that $1 = 100\%$ of a whole quantity
Y6	<p>Compare and Order numbers to at least a 10,000,000 and determine the value of each digit</p> <ul style="list-style-type: none"> Using arrow (place value) cards or headings and other resources, partition 8-digit numbers into 10,000,000s, 1,000,000s, 100,000s etc Recognise and represent the place value of any 8-digit number, i.e Show me how many 10,000,000s in 39,624,781. Say, read and write numbers up to 10,000,000 Place various different sized numbers on a blank number line Places three non-sequential numbers in increasing and decreasing order up to a 10,000,000 Compares two up to 8-digit numbers using more than/less than and find the difference Recognise negative numbers back from 0 using representations eg a thermometer Rote count forwards and backwards through 0 	<p>Identify, represent and round any whole number</p> <ul style="list-style-type: none"> Recognise and represent the place value of any 7-digit number and identify the 1,000,000 before and after a chosen number i.e. show on a number line / blank number line Recognise and represent the place value of any 8-digit number and identify the 1,000,000 before and after a chosen number i.e. show on a number line / blank number line Round any number to the nearest 10, 100, 1000, 10,000, 1,000,000, 10,000,000 	<p>Use knowledge of addition, subtraction, multiplication and division to perform calculations, including mixed operations and large numbers</p> <ul style="list-style-type: none"> Continue to use all multiplication tables knowledge to calculate mathematical statements in order to maintain their fluency eg $8 \times 3 = 24$ so $80 \times 3 = 240$ Use their knowledge of the order of operations to carry out calculations involving 4 operations eg $5 + 4 \times 3 - 1 = ?$ Revise common factors, common multiples and prime numbers Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve multi-step problems involving 4 operations in context 	<p>Calculating with fractions, including decimal equivalence and percentage.</p> <ul style="list-style-type: none"> Practise addition and subtraction of fractions including fractions with different denominators Practise multiplication and division of fractions including fractions with different denominators Practise fraction calculations using all 4 operations Practise understanding of relationship between unit fractions and multiplication and division for example, if a $\frac{1}{4}$ of a length is 36cm, then the whole length is $36 \times 4 = 144\text{cm}$ Practise converting simple fractions to a decimal fraction eg $\frac{3}{8} = 3 \div 8 = 0.375$ Practise multiplying decimals by whole numbers eg $0.4 \times 2 = 0.8$ Practise converting equivalent fractions, decimals and percentages eg $\frac{1}{4} = 0.25 = 25\%$ 	<p>Revision and Preparation based on Teacher Assessment</p>	