KS1 - Year 2		
National Curriculum	**Key Performance Indicators**	**Working at Greater Depth**
Number and Place Value		
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	• Can count in 2s, 5s and 10s from 0 • Can count in 3s from 0 • Can count forwards and backwards in 10s from any number • Can count forwards and backwards in 5s from any number • Can count forwards and backwards in 2s from any number • Can solve problems involving counting *e.g. I say a number when counting in 2s and 10s. What could it be?*	• Can explain reasoning in counting activities *e.g. I count in 10s from 3; will I say 35?*
Recognise the place value of each digit in a two-digit number (tens, ones)	• Can partition a 2-digit number into tens and ones using structured resources to support them • Can identify the number of tens and ones in a written 2-digit numbers without structured resources 2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. TAF - Partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus	• Can solve problems involving 2 digit numbers *e.g. given 4 digit cards what are the range of numbers over 50 that you can make? How do you know you have them all?*
Identify, represent and estimate numbers using different representations, including the number line	• Can position 2-digit numbers on a marked number line and reason about where they are positioned 2NPV–2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. TAF - Read scales* in divisions of ones, twos, fives and tens	• Can position the same number on a variety of unmarked number lines and explain why the position is different • Can solve open ended problems using different representations *e.g. I have 4 beads to position on a spike abacus what range of numbers can I make?*

Compare and order numbers from 0 up to 100; use <, > and = signs	• Can compare numbers by creating 2-digit numbers using concrete equipment and reasoning about the size of the tens and ones digits • Can compare numbers by identifying their relative positions in the linear number system (number line) • Can position the <, > and = signs correctly between two 2-digit numbers	• Can position the <, > and = signs correctly between two calculations or create calculations to make the signs correct
Read and write numbers to at least 100 in numerals and in words	• Can read numbers from 1 – 100 in numerals • Can write numbers from 1 – 100 in words	• Can use the patterns in numbers 1 – 100 to investigate numbers over 100
Use place value and number facts to solve problems.	• Can use coins to make given amounts of money applying place value • Can solve problems linked to place value	• Can investigate the range of ways to make the amount using £1, 10p and 1p coins when given an amount of money, • Can solve open ended problems linked to place value

Addition and Subtraction		
Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	• Can relate number facts to 10 to adding and subtracting multiples of 10 within 100 • Can recall and use addition and subtraction facts to 20 fluently; derive and use related facts to 100 • Can solve missing box and missing symbol calculations 2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice. TAF – Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)	• Can find different possibilities for addition and subtraction calculations totalling a given number
Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: A two-digit number and ones A two-digit number and tens Two two-digit numbers Adding three one-digit numbers	• Can add and subtract numbers mentally, including: • a 2-digit number and 1s • a 2-digit number and 10s • 2 simple, 2-digit numbers, which do not involve bridging a 10 • adding 3 single-digit numbers • Can add and subtract two 2-digit numbers that bridge a multiple of 10 using jottings or a series of related number sentences to avoid overload of working memory • Can use concrete apparatus or pictorial representations to demonstrate how thy have calculated an answer. 2AS–1 Add and subtract across 10 2AS–3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number. 2AS–4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers. 2AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?". TAF – Add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 – 17)	• Can insert missing numbers and symbols into calculations involving addition and subtraction *e.g. 6 □ + □ 4 = 100* • Can discuss what's the same and what's different about addition and subtraction calculations

Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	• Can show that addition can be done in any order (commutative) • Can show that subtraction can't be done in any order TAF – Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)	• Can derive related addition and subtraction facts from a given fact
Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	• Can recognise and use the inverse relationship between addition and subtraction • Can check calculations using the inverse operation TAF – Recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)	• Can solve missing number problems within an addition and subtraction calculation, at least involving a 2-digit number and 1s or 10s • Can solve missing number problems within an addition and subtraction calculation, involving a wider range of numbers
Solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods	• Solve one-step addition problems using mental strategies • Solve one-step subtraction problems using mental strategies • Solve one-step addition problems using a written method in line with school calculation policy e.g. counting on a number line, partitioning • Solve one-step subtraction problems using a written method in line with school calculation policy e.g. counting back on a number line, partitioning • Understand when a word problem involves addition or subtraction	• Solve two-step problems using the most efficient strategy • Solve open – ended problems e.g. finding different possibilities to make an amount of money when given a selection of coins.

Multiplication and Division		
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	• Can use concrete objects to show understanding of multiplication • Can recall the 10x table in a random order • Can recall the 2x table in a random order • Can recall the 5x table in a random order • Can recognise odd and even numbers TAF - Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary	• Can recognise patterns between the 5 and 10 times tables • Can explain reasoning about the answers to word problems *e.g. Would you rather have 5 packets of biscuits with 3 in each packet, or 4 packets of biscuits with 10 in each packet?* • Can explain reasoning about what happens when you add and multiply pairs of odd and even numbers
Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	• Can write addition sentences as multiplication sentences and vice versa • Can when shown an array, write the 4 addition and multiplication sentences that the image represents and 2 division facts 2MD–1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division). TAF - Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary	• Can use 2, 5 and 10 times tables to work out other facts *e.g. When looking at an array of 8 x 7, how can the 2, 5 and 10 times tables be used to work this out*

Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	• Can use an array to explain the commutative law *e.g. Why 2 x 5 is the same as 5 x 2?* • Can use an array to record the 2 division sentences that can be made from the image • Can explain why a division calculation cannot be done in any *order e.g. Why is 2 ÷ 10 not 5?* TAF – Recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary	• Can solve reasoning questions about related facts *e.g. True or false* *5 × 6 = 6 × 5* *5 × 3 = 10 × 6* *5 × 4 = 2 × 10* *Explain your reasoning.*
Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	• Can use materials, arrays, repeated addition, mental methods, and multiplication and division facts to solve multiplication word problems in context • Can use materials, arrays, mental methods, and multiplication and division facts to solve sharing word problems in context • Can use materials, arrays, mental methods, and multiplication and division facts to solve grouping word problems in context • Can use materials, arrays, repeated addition, mental methods, and multiplication and division facts to solve multi-step problems involving multiplication and division in context	• Can solve "I think of a number" problems involving multiplication and division • Can solve open ended problems involving multiplication and division where there is more than one option as the answer *e.g. If you wanted to share cakes equally between 5 people, what quantity of cakes could be used?* • Can explain why there is a remainder in some problems and why the remainder cannot be greater than the divisor

Fractions, Decimals & Percentages		
Recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}$ of a length, shape, set of objects or quantity	• Can find unit fractions $\frac{1}{3}, \frac{1}{4}, \frac{1}{2}$ of lengths, shapes or quantities by splitting into equal parts. • Can find non-unit fractions $\frac{2}{3}, \frac{2}{4}, \frac{3}{4}$ of lengths, shapes or quantities by selecting more than one part after splitting equally • Can find unit fractions $\frac{1}{3}, \frac{1}{4}, \frac{1}{2}$ of a set of objects by splitting into equal groups and make links to division • Can find non-unit fractions $\frac{2}{3}, \frac{2}{4}, \frac{3}{4}$ of a set of objects by splitting equally then totalling the number of groups identified by looking at the numerator TAF – Identify $\frac{1}{4}, \frac{1}{3}, \frac{1}{2}, \frac{2}{4}, \frac{3}{4}$ of a number or shape, and know that all parts must be equal parts of the whole	• Can solve two step word problems involving ½ and ¼ • Can compare fractions using greater than and less than and explain why.
Write simple fractions for example, $\frac{1}{2}$ of 6 = 3	• Can record fractions in writing and understand what each part represents • Can use a fraction as an operator on a number and record as a number sentence • Can calculate by dividing the number by the denominator and multiplying by the numerator	• Can solve missing number problems e.g. ¾ of □ =15
Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	• Count in fractions up to 10 and place on a number line • Use a number line to show that ½ is equivalent to $\frac{2}{4}$ • Reason about the equivalence of $\frac{1}{2}$ and $\frac{2}{4}$ using objects or images	• Can place other fractions in their relative positions on an unmarked number line from 0 to ¾

Geometry: Properties of Shape		
Identify and describe the properties of 2-D shapes, including the number of sides and lines symmetry in a vertical line	• Can identify the number of sides on a range of 2D shapes • Can identify the number of vertices on a range of 2D shapes • Can define a polygon as a shape with straight sides and identify whether a 2D shape is a polygon or not • Can identify shapes by counting the number of sides or vertices including knowing quadrilateral as the generic term for a 4-sided shape • Recognises irregular shapes and can reason about this e.g. knows that every 5 sided polygon is a pentagon. • Can distinguish a square and a rectangle as special quadrilaterals and explain which properties define them • Can identify lines of symmetry on 2D shapes 2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties TAF - Name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.	• Can explain why a square is a special type of rectangle. • Can compare shapes e.g. identifying a reason why each shape could be the odd one out using properties to reason
Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	• Can recognise and name 3-D shapes, including cuboids, prisms and cones • Can describe the properties of 3-D shapes, including number of faces, edges and vertices 2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties TAF – Name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.	• Can solve problems using properties of 3D shapes shape *e.g. Jack has made a cube using 12 sticks and 8 balls of modelling clay. What shape could he make with: 6 sticks and 4 balls of clay? 4 long sticks, 8 short sticks 8 balls of clay?*

Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]	• Can identify 2-D shapes on the surface of a 3-D shape, including: • A triangle on a pyramid • A square on a cube • A rectangle on a cuboid • A circle on a cylinder and cone • A triangle and rectangle on a triangular prism	• Can reason as to what shape it could or couldn't be based on knowing one of the faces of a 3D shape
Compare and sort common 2-D and 3-D shapes and everyday objects.	• Can sort and classify 2-D and 3-D shapes and everyday objects using a Venn diagram, according to their properties • Can sort and classify 2-D and 3-D shapes and everyday objects using a Carroll diagram	• Solve reasoning questions about 2D and 3D shapes *e.g. For a given set of 2D and/or 3D shapes, say what is the same and what is different; Which is the odd one out, etc*
Geometry: Position & Direction		
Order and arrange combinations of mathematical objects in patterns and sequences	• Can continue and create patterns of shapes, including those in different orientations. • Can identify the unit of repeat in a given pattern	• Can predict what the n^{th} shape in a pattern would be by identifying and using the unit of repeat e.g. in an ABC pattern the 10^{th} item will be A 3 lots of the unit of repeat then 1 more.
Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	• Confidently uses and understands terms, forwards, backwards, left and right, up and down to describe routes on a grid • Can recognise when an image has been rotated a whole, half, quarter or three-quarter turn • Can rotate themselves or an object clockwise or ant-clockwise • Can program robots using instructions given in right angles	• Given a series of directions and an end point can use inverse to undo the directions to calculate the start point

Measurement		
Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	• Can make sensible estimations in relation to all areas of measure • Can measure accurately in centimetres and metres using rulers and metre sticks • Can record measures using correct abbreviations cm and m • Can measure accurately in grams and kilograms using measuring scales • Can record measures using correct abbreviations g and kg • Can measure accurately in millilitres and litres using measuring vessels • Can record measures using correct abbreviations ml and l • Can measure accurately in degrees Celsius • Can record measures using correct abbreviations °C • Can measure accurately in hours, seconds and minutes • Can decide the correct unit of measure to use in a given situation *e.g. What unit of measure would we use to measure the mass of an apple?* • Can decide on the appropriate measuring tool to use in a given situation *e.g. what would you use to see how much water is in this cup?*	• Solve two step problems involving measures • Notice and use relationship between some units of measure e.g. 20mm on ruler = 2cm so how much is 40mm in cm?
Compare and order lengths, mass, volume/capacity and record the results using >, < and =	• Can compare and order different units of measure • Can use ‹ › and = to record comparisons	• Can solve two step problems involving comparison of measures
Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	• Can record using symbols £ and p (separately, depending on the unit being used) • Can add together different coins and find the total • Can find coins that make a particular amount *e.g. Which coins could you use to make 20p*?	• Can solve two step problems involving combining amounts of money.

Find different combinations of coins that equal the same amounts of money	• Can say how many different combinations of coins can you use to make a given total *e.g. 20p* TAF – Use different coins to make the same amount	• Can solve problems like: *Holly has a 5p, 1p, 50p and 10p. Harry has the same amount of money but has 6 coins. What are they? Is there only one answer?*
Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	• Can find totals of different amounts of money • Can decide which coins could be used to pay for the total • Can solve subtraction problems such as *Jess has saved 62p. She spends 15p. How much does she have left?* • Can find change from a given amount *e.g. Jess buys a banana for 23p. She pays for it using a 50p. How much change does she get?*	• Can solve problems in the context of giving change *e.g. Grace uses a £2 coin to buy a can of drink which costs 85p. She is given four coins in change. Find all the possible combinations of coins that could have been given.*
Compare and sequence intervals of time	• Can describe intervals of time in days • Can state the difference between time in days. • Can measure accurately in hours, seconds and minutes • Can add and subtract intervals to times on clocks	• Can organise events considering their sequence and amount of time.
Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times	• Can tell the time to quarter past the hour • Can tell the time to quarter to the hour • Can tell the time to the 5 minutes TAF – Read the time on a clock to the nearest 15 minutes	• Can reason around the purpose of the minute and hour hand *e.g. There isn't any point in having a minute hand on a clock because I can read the time without it'. Do you agree with this statement?*
Know the number of minutes in an hour and the number of hours in a day	• Know that there are 60 minutes in an hour • Know that there are 24 hours in a day	• *Can use these facts to solve problems where you convert between minutes and hours or hours and days*

Statistics		
Interpret and construct simple pictograms, tally charts, block diagrams and simple tables	• Can generate data in everyday situations *e.g. How many children eat dinner or packed lunch?* • Can present data in different ways using a scale of 2, 5 or 10 • Can answer retrieval questions from the charts and graphs that they are working with	• Can evaluate the effectiveness of graphs and tables *e.g. Does this chart tell us how popular school dinners are? Reason why or why not?*
Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	• Can answer questions about the data that they have collected using scales of 2, 5 and 10 *e.g. which is the most popular chocolate bar when a full chocolate bar represents 2 people on a pictogram?*	• Can answer reasoning questioning about the data *e.g. tell me a truth and a fiction about this graph? What is the same and different about these two charts?*
Ask and answer questions about totalling and comparing categorical data.	• Can find the total of two categories on a pictogram, tally, block diagram and simple table • Can find the difference between two categories on a pictogram, tally, block diagram and simple table	• Can answer reasoning questioning about the data *e.g. What would be a silly answer to the question, what is the difference in the number of children who like rugby and football? Explain reasoning*