Fortuna Primary School
Stage 3 Maths (Equivalent to Y3 National Curriculum)

Prerequisite Knowledge

Before starting Stage 3 pupils should be secure at:

- Writing values to at least 1000 in numerals and words.
- Comparing and order values to 100.
- Counting forwards and backwards from values beyond 100 in 1s, 2s and 10s.
- Answering 10 more/less questions for numbers to at least 100.
- Using number bonds to derive related facts to 100.
- Calculating non-tricky additions and subtractions using a vertical column method.
- Counting in multiples of 2, 3, 5, 10, 50 and 100.
- Recalling their 2, 3, 5 and 10 timetables and related division facts.
- Deriving related facts for all four functions using commutative law.
- Splitting counters or shapes into 1/2, 1/3 & 1/4s.
- Using objects, jottings and mental methods to solve problems for all four operations.
- Choosing and using standard units to measure length, mass and volume to carry out investigations and solve problems.
- Telling the time to the nearest 5 minutes.
- Recognising and making values with British coinage.
- Naming and describing 2D and 3D shapes in terms of number of sides/edges, corners/vertices and lines of symmetry.
- Recording data in tally charts and pictograms.

End of Stage Success Criteria

When a child has progressed through Stage 3 they should:

- Be able to write values to at least 1000 in numerals and words.
- Be able to count confidently forwards and backwards from values to 1000 in 10s and 100s.
- Be able to answer 10 or 100 more/less questions for numbers to at least 1000 quickly and accurately.
- Be able to add and subtract mentally ones, tens or hundreds values to/from a mixed number.
- Be able to count confidently in multiples of 2, 3, 4, 5, 8, 10, 50 and 100.
- Be able to recall 2, 3, 4, 5, 8 and 10 times table facts and related division facts by heart.
- Be able to find a given fraction of a set of concrete objects, explaining how this relates to the numerator and denominator.
- Be able to identify when addition, subtraction, multiplication or division are required to solve a mathematical problem.
- Be able to use a formal written method to calculate for all four operations.
- Be able to use commutative law and associativity to derive related facts for all four functions.
- Be able to choose a standard unit of measure and make accurate measurements to carry out investigations or solve problems.
- Be able to read the time to the nearest minute and calculate durations for different units of time.
- Be able to calculate monetary totals and work out different ways to use coins to create these totals.
- Be able to use a ruler to draw polygons with sides measured in cm.
- Be able to name and describe shapes in terms of parallel sides/edges, perpendicular sides/edges, lines of symmetry and right angles.
- Be able to represent and interpret data in tables, pictograms and bar charts.

Key for Progression statements

(*) reworded from Programme of Study statement (+) new statements (^) split Programme of Study statements **NAHT Assessment Framework key performance indicators**

Arithmetic 1			
Objective	**Beginning**	**Developing**	**Secure**
3.1.a.1 (Count) Count from 0 in multiples of 100 (^)	I can chant the sequence 100, 200, 300 ... *and then…* I can chant the sequence 200, 400, 600 ... *and then…* I can count up to identify numbers that occur in both the sequence of 200s and the sequence of 300s.		
3.1.a.2 (Count) Find 10 or 100 more or less than a given number (^)	I can work out ten more than 23. *and then…* I can work out ten less than 372 or a 100 more than 604. *and then…* I can work out 20 more than 186 or 300 less than 902.		
3.1.b.1 (Represent Numbers) Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	I can identify the hundreds digit when presented with a three-digit number.	I can arrange three digit cards, e.g. 3, 4 and 7, to make the largest possible number and can justify my choice of 743 using the language of hundreds, tens and ones *and then…* I can solve problems such as 'Arrange the digit cards 4, 5 and 8 to make the number closest to 500' and can justify my choice using the language of place value.	
3.1.b.2 (Represent Numbers) Read and write numbers up to 1000 in numerals and in words	I can find a given page in a book of 200 pages and write it in words. *and then…* I can form a three-digit number from three digit cards and write it in words. *and then…* I can solve problems such as 'Given two numbers up to 1000, find another that is		

	between them alphabetically.'		
3.1.e.1 (Round Numbers) Round whole numbers up to 100 to the nearest 10 (+)		I can round 18 to the nearest 10 with a supporting number line. *and then…* I can round 28 to the nearest 10. *and then…* I can explain why 28 rounds to 30 and 23 rounds to 20 to the nearest 10.	
3.1.b.3 (Represent Numbers) Identify, represent and estimate numbers to 1000 using different representations and partitioning in different ways (+)		I can represent some numbers beyond 100 in different ways and partition them in at least one way. *and then…* I can partition 462 in several ways and draw an appropriate diagram to show each of them.	I can partition a three-digit number and use that to work out its complement to 1000, explaining my reasoning using the language of place value.
3.2.a.2 (Understand Calculation) Understand the structure of situations that require addition or subtraction (+)	I can represent adding two numbers by placing two bars end to end. *and then…* I can represent adding two numbers by placing two bars end to end and subtracting two numbers by placing the bars side by side. *and then…* I can interpret addition as the combining of two sets, and subtraction as removing a part of a set.		
3.2.b.1 (Calculate Mentally) Mentally add and subtract numbers including a three-digit number with ones, tens or hundreds (*)	I can calculate 273 – 2. *and then…* I can calculate 283 – 40.	I can solve missing number problems such as 384 = 171 + ?. For non-tricky place values when working mentally at this stage	
3.2.e.1 (Use Written Calculation) Add and subtract numbers with up to three digits, using formal column methods of addition and subtraction		I can, with prompting, add and subtract two three-digit numbers. Children have previously looked at expanded column methods e.g. 27 + 12 = 20 + 7 10 + 2 30 + 9 = 39 Start with no-tricky columns, progressing to a single tricky column.	I can add and subtract 613 and 285 using a formal method of columnar addition or subtraction. *and then…* I can add and subtract 613 and 285 using a formal method of columnar addition or subtraction, explaining how it links with less formal methods.
3.3.a.3 (Understand F/D/P) Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10		I can continue the sequence 1/10, 3/10, 5/10 for two more terms, with prompting. I can divide a cake into ten equal pieces and identify four of them as four-tenths	I can continue the sequence 1/10, 4/10, 7/10 for five more terms. I can divide a cake into ten equal pieces and identify three of them as three-tenths. I can also share three cakes between ten people and, with prompting, say that each person gets three-tenths of a cake. *and then…* I can confidently count back from 3 1/10 in steps of seven-tenths. I can divide a cake into ten equal pieces and identify three of them as three-tenths. I can also share three cakes between ten people and explain that each person gets three-tenths of a cake.
3.3.b.2 (Convert F/D/P) Connect tenths to decimal measures and place value (+)			I can identify the digit after a decimal point as representing tenths. *and then…* I can explain that tenths are special because our number system is in base 10. I connect this with 0.3 being called three-tenths and the column after the decimal point being called tenths. *and then…* I can explain why tenths are special in our number system. I connect this with 0.3 being called three-tenths and the column after the decimal point being called tenths, as well as in contexts such as measures.

Geometry & Data			
Objective	**Beginning**	**Developing**	**Secure**
3.1.1 (Make and Visualise Shapes) Draw 2-D shapes with straight sides measured in cm (+)	I can draw a rectangle with sides of length 7 cm and 5 cm using a ruler. *and then…* I can draw a parallelogram with sides of length 7 cm and 5 cm using a ruler. *and then…* I can draw a diagram of any rectilinear		

	(made up of right angles) shape with given dimensions.		
3.2.1 (Classify Shapes) Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	I can, with support, identify vertical, horizontal and parallel lines around the classroom with prompting. *and then…* I can look around the classroom environment and identify vertical lines and horizontal lines, noticing that they are perpendicular. I can identify instances of parallel lines in the classroom environment. *and then…* I can explain why horizontal and vertical lines are always perpendicular and pairs of vertical lines are always parallel.		
3.2.2 (Classify Shapes) Describe 2-D shapes using accurate language, including lengths of lines and angles greater or less than a right angle (+)	I can describe a square as having four sides that are the same length of 5 cm and that all four angles are right angles, with prompting. *and then…* I can describe a parallelogram as having opposite pairs of sides that are both 6 cm in length and that two of the angles are greater than a right angle and the other two are smaller than a right angle. *and then…* I can explain that a square is an example of a rectangle but that a rectangle is not an example of a square by referring to the lengths of their sides.		
3.4.2 (Describe Position) Continue to recognise and devise patterns and sequences in shapes (+)	I can predict the next shape in a repeating pattern. *and then…* I can predict the next shape in a pattern or sequence involving rotation or reflection. *and then…* I can predict the next shape in a pattern or sequence involving rotation and reflection.		
3.3.1 (Solve Shape Problems) Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn (^) Computing CC links: A good opportunity to use control devices such as Beebots or primary level coding tools		I can direct a sprite through a maze drawn on a square grid using the language of right angles to describe the turns to be made. *and then…* I can do the above to describe the clockwise turns to be made. I can retrace my steps by turning through two right angles and sort a set of angles according to whether they are greater than or less than a right angle. *and then…* I can devise a sequence of instructions to direct a sprite through a maze drawn on a square grid using the language of right angles to describe the clockwise turns to be made. I can retrace my steps by turning through two right angles.	
3.3.2 (Solve Shape Problems) Identify whether angles are greater than or less than a right angle Computing CC links: A good opportunity to use control devices such as Beebots or primary level coding tools		I can direct a sprite through a maze drawn on a square grid using the language of right angles to describe the turns to be made, with support, and identify whether an angle is greater than or less than a right angle by comparing it to the corner of a book. *and then…* I can sort a set of angles according to whether they are greater than or less than a right angle. *and then…* I can explain why a triangle cannot have more than one angle that is greater than a right angle.	
3.3.3 (Solve Shape Problems) Recognise angles as a property of shape or a description of a turn Computing CC links: A good opportunity to use control devices such as Beebots or primary level coding tools		I can draw a rectangle using a Beebot. *and then…* I can draw a rectangle using LOGO or a Beebot. *and then…* I can draw a variety of shapes using LOGO or a Beebot.	
3.5.1 (Describe Movement)		I can program a screen turtle, such as in	

Give and follow multi-step directions in own environment (+) Computing CC links: A good opportunity to use control devices such as Beebots or primary level coding tools		LOGO, to trace out a path, with prompts. *and then…* I can do the above independently. *and then…* I can do the above independently to complete a known shape.	
3.2.3 (Classify Shapes) Recognise 3-D shapes in different orientations and describe them (^)			I can explore the environment inside and outside the classroom and identify objects that are approximately the same as spheres and cylinders, with prompting. *and then…* I can identify objects that are approximately the same as known 3-D shapes. *and then…* I can do the above and explain why they might be that shape.
3.1.2 (Make and Visualise Shapes) Make 3-D shapes using modelling materials (^)			I can make a cube using more than one type of modelling material. *and then…* I can make cubes, cones and prisms using a variety of modelling materials. *and then…* I can select the most appropriate modelling material to make a particular 3-D shape.
3.4.1 (Describe Position) Mark a given square on a grid, e.g. A3 (+) Geography CC Link: A good opportunity to look at grid references for simple maps.			I can identify a square on a 5 by 5 square grid by referring to the row and column it is in, with support. *and then…* I can do the above independently. *and then…* I can do the above and I can devise my own system of labelling with the 'origin' in a different position.
3.3.2 (Solve Data Problems) Continue to count the number of objects in each category and sort the categories by quantity (+)	I can solve problems such as 'Which category has the most objects in it?'	I can solve problems such as 'Order the categories by the number of objects they contain'. *and then…* I can solve problems about the categories and make up some questions of my own about the situation.	
3.1.1 (Interpret Data) Interpret bar charts, pictograms and tables (^)	I can answer questions such as 'The number of people who had school lunch on Monday is 14. How many had school lunch on Thursday?' from a pictogram where each icon represents two people.	I can answer questions such as 'The number of people who had school lunch on Monday is 24. How many had school lunch on Thursday?' from a pictogram where each icon represents four people. *and then…* I can make up a series of questions about given tables, pictograms and bar charts.	
3.3.1 (Solve Data Problems) Solve problems with one or two steps using scaled bar charts, pictograms and tables (*)		I can solve problems such as 'How many fewer children have dogs as pets than have cats?' by interpreting an appropriate pictogram. *and then…* I can solve problems such as 'How many fewer children have dogs as pets than have cats?' by interpreting an appropriate diagram.	I can collect the appropriate data to answer questions about how many pets, and of what sort, the children in my class have.
		Children are expected to write the calculation as well as the answer to show they are reading charts and graphs accurately.	
3.2.1 (Present Data) Present data in bar charts, pictograms and tables (^)		I can draw a bar chart to represent information.	I can construct tables to collect information and then represent it using a bar chart. *and then…* I can design a table for collecting data and construct an appropriate graph to represent it, justifying my strategy.
		Children should be able to choose a suitable maximum value for the Y-axis. They may also begin to explore scaling the Y-axis in 2s.	

Measures			
Objective	**Beginning**	**Developing**	**Secure**
The objectives within the measures strand of the curriculum lend themselves particularly well to play and every effort should be made to incorporate play into the allocated maths lesson and maths into PSHE Play activities. Additionally cross-curricular should be made to the Science Curriculum.			
3.3.4 (Solve Measurement Problems) Measure, compare, add and subtract: lengths (m/cm/mm); mass	I can solve problems such as 'Which of these three pencils is longest?' *and then…* I can solve problems such as 'How much		

(kg/g); volume/capacity (l/ml)	longer is my pencil than Toby's pencil?' *and then…* I can solve problems such as 'Arrange these containers in order of capacity by eye, then check your order'.		
3.2.3 (Make Measurements) Continue to choose the appropriate tools and units when measuring, selecting from a wider range of measures (+)	I can select a jug with a scale on the side to measure liquid. *and then…* I can choose between a ruler, tape measure and trundle wheel when measuring length. *and then…* I can select an appropriate instrument to measure and use a wide variety of scales and units.		
3.3.5 (Solve Measurement Problems) Measure the distance around shapes in the classroom and outside environment (+)	I can use a trundle wheel to measure around the playground. *and then…* I can measure the total length of lines on a netball court or football pitch. *and then…* I can measure the distance around a picture and speculate on why that distance might be useful. – See 3.2.4 below for link to perimeter.		
3.1.4 (Understand Units of Measure) Record measurements using mixed units, e.g.1 kg 200 g (+)	I can measure the width of the classroom and record it using a mixture of metres and centimetres, with support. *and then…* I can measure the width of the classroom and record it using a mixture of metres and centimetres. *and then…* I can measure the width of the classroom and record it using a mixture of metres and centimetres and make suggestions about how that could be written using just one unit.		
3.2.4 (Make Measurements) Measure the perimeter of simple 2-D shapes	I can, with support, measure the perimeter of a rectangular picture. *and then…* I can measure the perimeter of a rectangle such as a book or picture. *and then…* I can measure the length and width of a rectangle and work out the perimeter.		
3.1.2 (Understand Units of Measure) Know the number of seconds in a minute and the number of days in each month, year and leap year	I can correctly identify some months with 30 days and some with 31 days. *and then…* I can work out that half a minute is the same as 30 seconds and knows how many months have 31 days and the effect of leap years.	I can work out how many days it is until my tenth birthday, taking leap years into account.	
3.2.1 (Make Measurements) Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight	I can tell the time to the nearest five minutes and, with prompting, identify times between the five minutes with reasonable accuracy and compare two times for completing a race and decide who won.	I can identify when it is 27 minutes past seven p.m. and know that it is then three minutes to bedtime and compare the times taken by runners to complete a race, placing them in ascending order.	I can tell the time on any clock and interpret it in terms of the next event and how long before it occurs. Is can also order the times to complete a marathon and identify the first three in the race. This includes clocks with Roman numerals. See 3.2.2 below.
3.1.1 (Understand Units of Measure) Convert between analogue and 12-hour digital clocks (+)	I can write three o'clock as 03:00.	I can write any analogue time in a digital format. *and then…* I can convert between analogue and digital format.	
3.2.2 (Make Measurements) Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks		I can interpret the quarter hours on an analogue clock marked with Roman numerals. Roman Numerals are I to X are taught at Stage 4, but children should be able to identify the value of the symbols by their position on the clock.	I can interpret the time on an analogue clock marked with Roman numerals and write it down in 12-hour and 24-hour clock times. *and then…* I can read the time fluently on any clock, deducing the time from the position of the hands irrespective of the markings.
3.3.1 (Solve Measurement Problems) Compare durations of events [for example to			I can solve problems such as 'Which film is shorter out of the two films you could watch this evening?'

calculate the time taken by particular events or tasks]			*and then…* I can solve problems such as 'There are three films on television this evening. Which is the shortest one?' *and then…* I can solve problems such as 'There are three films on television this evening. Which ones do I have time to watch between finishing my meal and going to bed?' Make explicit that column methods can not be use for mixed value times (e.g hours and minutes) as time is not metric – must be converted to minutes first.
3.1.3 (Understand Units of Measure) Become confident in exchanging between £ and p when handling money (+)		I can count a pile of coins, assembling them into piles worth £1. *and then…* I can count up a pile of coins and record the total using £ and p. *and then…* I can estimate the amount that a pile of coins is worth, recording the amount in £ and p. Check resources match the current coinage and bank notes used in the England.	
3.3.3 (Solve Measurement Problems) Add and subtract amounts of money to give change, recording £ and p separately (*)		I can solve problems such as 'I buy a comic for £1 and a drink for 55p. How much do I spend altogether?'	I can apply the previous to calculate how much change I would get from £2?' *and then…* I can solve problems such as 'I buy a comic for £1 and 45p and a drink for 83p. How much change do I get from £5?'
3.3.2 (Solve Measurement Problems) Continue to solve problems involving combinations of coins and notes (+)		I can solve problems such as 'I buy a comic for £1 and a drink for 55p. What coins could I use?' *and then…* I can solve problems such as 'I buy a comic for £1 and a drink for 55p. What is the minimum number of coins that I could use?'	I can solve problems such as 'I buy a comic for £1 and 45p and a drink for 83p. How many different combinations of coins could I use to pay for them exactly?'

Arithmetic 2			
Objective	**Beginning**	**Developing**	**Secure**
3.3.a.1 (Understand F/D/P) Recognise, find and write fractions of a discrete set of objects, unit fractions with small denominators (^)	I can arrange a set of 12 counters into six groups of two counters each and select, with prompting, 1/6 of them.	I can arrange a set of 24 counters into equal groups and select 1/6 of them, recording my selection using fraction notation. *and then…* I can identify what types of fraction can be made with a set of 24 counters, realising that quarters and sixths are possible but fifths are not.	
3.3.a.2 (Understand F/D/P) Recognise, find and write fractions of a discrete set of objects, non-unit fractions with small denominators (^)	I can arrange a set of 12 counters into six groups of two counters each and select, with prompting, 3/6 of them.	I can arrange a set of 24 counters into equal groups and select 4/6 of them, recording my selection using fraction notation. *and then…* I can identify what types of fraction can be made with a set of 24 counters. comparing 3/4 and 5/6 using the counters.	
3.3.b.1 (Convert F/D/P) Recognise and show, using diagrams, equivalent fractions with small denominators	I can draw a 3 by 2 rectangle and demonstrate that 1/2 is equivalent to 3/6 using appropriate shading.	I can draw a 2 by 4 rectangle and demonstrate that 2/8 is equivalent to 1/4 and that 4/8 is equivalent to 1/2. *and then…* I can draw a 4 by 3 rectangle and use it to illustrate several families of equivalences, explaining why certain fractions cannot be shown using the rectangle.	
3.3.c.1 (Use F/D/P as numbers) Compare and order unit fractions, and fractions with the same denominators		I can identify the larger of 1/3 and 1/5 and the larger of 2/5 and 3/5, with supporting diagrams.	I can identify the larger of 1/3 and 1/7 and identify the smaller out of 2/7 and 5/7. *and then…* I can give a general rule for identifying the larger of two unit fractions and the smaller of two fractions with the same denominator, explaining why they work.
3.3.c.3 (Use F/D/P as numbers) Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators		I can place 1/4, 1/2 and 3/4 at appropriate positions on a number line and 1/3, with prompts.	I can place 1/3 and 5/7 at appropriate places on a number line. *and then…* I can place any fraction in an appropriate position on the number line.

3.3.c.2 (Use F/D/P as numbers) Add and subtract fractions with the same denominator within one whole [for example 5/7 + 1/7 = 6/7]			I can calculate 1/4 + 1/4 = 2/4. *and then…* I can calculate 2/9 + 8/9 = 10/9 and 10/9 – 8/9 = 2/9. *and then…* I can calculate 2/9 + 8/9 = 10/9 and 10/9 – 8/9 = 2/9. I realise that 10/9 is greater than one and can suggest ways to record this.
3.2.a.4 (Understand Calculation) Understand the structure of situations that require multiplication (+)	I can represent multiplying by placing equal bars side by side, with prompts. *and then…* I can do the above independently. *and then…* I can represent multiplying by placing equal bars side by side, and as repeated addition.		
3.1.a.3 (Count) Count from 0 in multiples of 4, 8 and 50 (^)	I can make some progress with the 4, 8, 12 … sequence	I can chant the sequence 8, 16, 24 … *and then…* I can count up to identify numbers that occur in both the sequence of 8s and the sequence of 50s.	
3.2.b.3 (Calculate Mentally) Calculate mentally using multiplication and division facts for the 3, 4 and 8 multiplication tables, including two-digit numbers times one-digit numbers (^)	I can respond correctly when asked for answers to multiplication questions involving facts from the 3, 4 and 8 multiplication tables and solve word problems such as 'Cupcakes come in boxes of four cakes. How many cupcakes are in six boxes?' *and then…* I can readily recall the facts from the 2, 3, 4, 5, 8 and 10 multiplication tables and use them within a calculation, such as 'There are eight apples in a bag. How many are in four such bags?' and solve word problems such as 'There are 96 cupcakes to put into boxes which hold 8 cupcakes each. How many boxes are needed?'		I can solve problems such as 'Using 2, 3, 4 and 8, make as many numbers from 1 to 30 as you can' and solve word problems such as 'I have a number of cupcakes. I can pack them in boxes which contain four cakes, three cakes or eight cakes. In each case I will fill all of the boxes with none left over. What is the least number of cupcakes I could have?'
3.2.d.1 (Recall) Develop recall of number facts linking addition and multiplication (+)	I can identify doubles and halves by recalling my 2 multiplication table facts and knowledge of even numbers.	I can identify sequences such as 3, 6, 9 by recalling addition or multiplication facts. *and then…* I can identify relationships between numbers by recalling addition and multiplication facts.	
3.2.d.2 (Recall) Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	I can recall or quickly work out answers to questions such as 3 x 8 = ? or 6 x 8 = ?. *and then…* I can quickly respond to questions such as 4 x 8 = ? and 21 ÷ 3 = ?. *and then…* I can solve problems such as 'What number appears in the multiplication table for both 3 and 8?'		
3.2.a.3 (Understand Calculation) Use commutativity and associativity and multiplication facts to derive related facts (+)	I can work out 2 x 8 x 5 by changing it to 2 x 5 x 8 = 10 x 8 = 80 with, prompting. *and then…* I can work out 6 x 3 x 5 by changing it to 6 x 5 x 3 = 30 x 3 = 90.		I can work out 60 ÷ 3 by changing it to 6 ÷ 3 x 10 = 2 x 10 = 20.
3.2.e.2 (Use Written Calculation) Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods		I can calculate 3 x 27, using jottings for support.	I can calculate 3 x 27 using a formal written method such as the grid method and 81 ÷ 3 using a formal written method such as chunking. *and then…* I can multiply and divide two-digit numbers by a single digit, explaining how my method works and extending it to more digits.

Reasoning			
Objective	**Beginning**	**Developing**	**Secure**
3.1.c.1 (Order and Compare) Compare and order numbers up to 1000	I can choose the smaller number out of 306 and 360. *and then…* I can place the correct sign (=, < and >) in statements such as between 304 and 187 and between 425 and 394. *and then…* I can solve problems in the context of measurement such as ordering the heights of mountains.		
3.1.d.1 (Solve Number Problems) Solve number problems and practical problems with number and place value from the Year 3 curriculum (*)	I can solve problems such as 'I have 156 plastic cubes and give away 10 of them. How many do I have left?'	I can solve problems such as 'A path is 750 cm long. It is to be paved with slabs of length 50 cm. How many slabs are needed?' *and then…* I can solve problems such as 'I have 362 plastic cubes and boxes that will hold 50, 20, 8 or 4 at a time. What is the fewest number of boxes I need to box them all?'	

3.2.b.2 (Calculate Mentally) Continue to use addition and subtraction facts to 20 and derive related facts up to 100 (+)		I can correctly answer 16 + 2 = 18 and deduce that 16 + 22 = 38.	I can deduce that 32 + 37 = 69 from 2 + 7 = 9 and 42 + 37 = 79. *and then…* I can make up problems such as 'I am thinking of two numbers. Their sum is 87 and their difference is 17. What are the numbers?'
3.2.f.1 (Check) Check addition calculations using subtraction and addition and subtraction calculations using rounding (*) Rounding to the nearest 10 and 100 is actually taught in Stage 4 of Rising Stars (See Stage 4 Arithmetic 1: 4.1.e.1) If children are struggling it is cross referenced in Stage 4 so it can be taught when children's rounding skills are more secure.		I can check the answer to 19 + 8 = 27 by working out 27 – 8 = 19 or by realising that 19 is close to 20 and 8 is close to 10 so the answer should be close to 30.	I can check the answer to 217 + 48 = 265 by working out 265 – 48 = 217 or by rounding the numbers to 200 + 50 = 250. I can check the answer to 217 – 48 by rounding to 200 – 50 = 150. *and then…* I can check the answer to 217 + 48 = 265 by selecting from a range of checking strategies for the most appropriate one or by rounding the numbers to 200 + 50 = 250. I can check the answer to 217 – 48 by rounding to 200 – 50 = 150 and predict whether the estimate will be an over-estimate or an under-estimate.
3.2.a.1 (Understand Calculation) Use understanding of place value and partitioning to develop methods for addition and subtraction with larger numbers (+)		I can work out 129 – 43 by changing it to 120 + 9 – 40 + 3 = 80 + 6 = 86.	I can work out 143 – 68 by changing it to 140 + 3 – 60 – 8 = 80 – 5 = 75. *and then…* I can devise different ways to partition numbers to work out addition and subtraction problems.
3.2.c.1 (Solve Calculation Problems) Solve problems including missing number problems, using place value and more complex addition and subtraction (^)	I can solve problems such as 'You have four cards with the digits 1, 2, 3 and 4 on them, one digit per card. Arrange them to make two two-digit numbers so that the sum of them is as large as possible. A clue is that one of the numbers could be 42'. *and then…* I can solve problems such as 'You have four cards with the digits 2, 4, 7 and 8 on them, one digit per card. Arrange them to make two two-digit numbers so that the sum of them is as large as possible'. *and then…* I can solve problems such as 'You have six cards with the digits 2, 3, 4, 6, 7 and 8 on them, one digit per card. Arrange them to make three two-digit numbers so that the sum of them is as near 100 as possible'.		