Year 4: Medium Term Plans

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number – Place Value				Number- Addition and Subtraction			Measurement - Length and Perimeter	Number- Multiplication and Division			Consolidation

Number – Place Value
●**Count in multiples of** 6, 7, 9. **25 and 1000.**
●Find 1000 more or less than a given number.
●Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)
●Order and compare numbers beyond 1000
●Identify, represent and estimate numbers using different representations.
●Round any number to the nearest 10, 100 or 1000
●Solve number and practical problems that involve all of the above and with increasingly large positive numbers.
●Count backwards through zero to include negative numbers.
●Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.

Week	Small steps	Key Questions	Notes and Guidance	Assessment
	Roman numerals to 100	Why is there no zero in the Roman Numerals? What might it look like? Do you notice any patterns? If 20 is XX what might 200 be? How can you check you have represented the Roman Numeral correctly?	Building on their Year 3 knowledge of numerals to 12 on a clock face, children explore Roman Numerals to 100 They explore what is the same and what is different between the number systems, for example there is no zero.	
	Round to the nearest 10	What is a multiple of 10? Which multiples of 10 does ____ sit	Starting with two digit numbers, children look at the position of a number on a	

		between? Which column do we look at when rounding to the nearest 10? Which number is being represented? Will we round it up or down? Why?	number line. They apply their understanding to three digit numbers, focusing on the number of ones and rounding up or down. Highlight the importance of five and the idea that although it is in the middle of the two numbers, the number is always rounded up.	
	Round to the nearest 100	How is rounding to the nearest 100 similar and different to the nearest 10? Which column do we need to look at when rounding to the nearest 100? Why do numbers up to 49 round down to the nearest 100 and numbers 50 to 99 round up?	Children compare rounding to the nearest 10 (looking at the ones column) to rounding to the nearest 100 (looking at the tens column). Children use their knowledge of multiples of 100, and understanding of which hundreds a number sits between, to help them round.	
	Count in 1,000s	How many hundreds make _____ thousands? How is counting in thousands similar to counting in 1s? When counting in thousands, which is the only digit to change? How many sweets would there be in ___ jars?	Children look at four-digit numbers for the first time. They explore what a thousand is through concrete and pictorial representations, recognising that 1,000 is made up of ten hundreds. They count in multiples of 1,000 combining numerals and words.	
	1,000s, 100s, 10s and 1s	Can you represent the number on a place value grid? How do you know you have formed the number correctly? What could you use to help you? How is the value of zero represented within a number?	Children represent numbers to 9,999on a place value grid and understand that a four-digit number is made up of 1,000s, 100s, 10s and 1s. Moving on from Base 10 blocks, children start to unitise by using place value counters and digits.	

	Partitioning	What number is being represented? If we have 10 hundreds, can we exchange them for something? If you know ten 100s are equal to 1000 and ten 10s are equal to 100, how can you use this to make different exchanges?	Children explore how numbers can be broken apart in more than one way. They need to understand that 5000 +300 +20 +9 is equal to 4000 +1300 +10 +19 is crucial; children explore this explicitly.	
	Number line to 10,000	Which side of the number line did you start from? Why? When estimating where a number should be placed, what facts can help you? Can you use your knowledge of place value to prove that you are correct? When a number line has no values at the end, what strategies could you use to help you figure out the missing value? Could there be more than one answer?	Children estimate, work out and draw numbers on a number line to 10,000 They need to understand that it is possible to count in steps from both sides. Number lines should be shown with or without start and end numbers, or with numbers already placed on it.	
	1,000 more or less	What is 1,000 more than/less than a number? Which column changes? What happens when I subtract 1,000 from 9,209? Can you show me two different ways of showing 1,000 more/less than e.g. pictures, place value charts, equipment. Complete this sentence: I know that 1,000 more than _____ is _____ because … I can prove this by _____	Building on Year 3, where they explored finding 1, 10 and 100 more or less, children now move onto finding 1,000 more or less than a given number. Show children that they can represent their answer in a number of ways, for example using numerals or Base 10	
	Compare numbers	Which numbers are being	Children compare 4-digit numbers using	

		presented? Do you start counting the thousands, hundreds, tens or ones first? Why? Which column do you start comparing from? Why? What strategy did you use to compare the two numbers? Is this the same or different to your partner? How many answers can you find?	comparison language and symbols to determine which is greater and which is smaller. Children should represent numbers using concrete manipulatives and draw them pictorially.	
	Order numbers	Which number is the greatest? Which number is smallest? How do you know? Why have you chosen to order the numbers this way? What strategy did you use to solve this problem?	Children explore ordering a set of numbers in ascending and descending order. Children find the largest or smallest number from a set.	
	Round to the nearest 1,000	Which thousands numbers does _____ sit between? Which place value column do we need to look at when we round the nearest 1,000?	Children round to the nearest thousand for the first time, building on their knowledge of rounding to the nearest 10 and 100 Children must understand which thousands number a number sits between. When rounding to the nearest 1,000, children should look at the digits in the hundreds column?	
	Count in 25s	What should the correct number be? Can you notice a pattern as the numbers increase/decrease? What digit do multiples of 25 end in? What's the same and what's different when counting in 50s and 25s?	Focusing on patterns, children count in 25s. They use their knowledge of counting in 50s and 100s to become fluent in 25s. Children should recognise and use the fact that there are four 25s in 100	
	Negative numbers	Can you use the words positive and	Children recognise that there are numbers	

		negative in a sentence to describe numbers? What do you notice about positive and negative numbers on the number line? Can you see any symmetry? Is −1degrees warmer or colder than −4degrees?	below zero. It is essential that this concept is linked to real life situations such as temperature, water depth, money etc. Children should be able to count back through zero. This can be supported through the use of number squares, number lines or other visual aids.	

Addition and Subtraction

NC Objectives:
•Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.
•Estimate and use inverse operations to check answers to a calculation.
•Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why

	1s, 10s, 100s, 1,000s	Can you represent the numbers using Base 10 and place value counters? What's the same about the representations? What's different? If we are adding tens, are the digits in the tens column the only ones that change? Do the ones/hundreds/thousands ever change?	Children build on prior learning of adding and subtracting hundreds, tens and ones. They are introduced to adding and subtracting thousands. Children should use concrete representations (Base 10, place value counters etc.) before moving to abstract and mental methods.	
	Add Two 4-digit Numbers (1)	How many ones are there altogether? Can we make an exchange? Why? (Repeat questions for other columns) Is it more difficult to add 3-digit or 4-digit numbers without exchanging? Why? How can you find the missing	Children use their understanding of addition of 3-digit numbers to add two 4-digit numbers with no exchange. They use concrete equipment and a place value grid to support their understanding alongside column addition.	

		numbers? Do you need to add or subtract?		
	Add Two 4 - digit Numbers (2)	How many ones do we have altogether? Can we make an exchange? Why? How many ones do we exchange for one ten? Do we have any ones remaining? (Repeat for other columns.) Why is it important to line up the digits in the correct column when adding numbers with different amounts of digits? Which columns are affected if there are more than ten tens altogether?	Children add two 4-digit numbers with one exchange. They use a place value grid to support understanding alongside column addition. They explore exchanges as they occur in different place value columns and look for similarities/differences.	
	Add Two 4 - digit Numbers (3)	How many ones do we have altogether? Can we make an exchange? Why? How many ones do we exchange for one ten? How many ones are remaining? (Repeat for each column.) Why do you have to add the digits from the right to the left, starting with the smallest place value column? Would the answer be the same if you went left to right? What is different about the total of 4,844 and 2,156?	Building on adding two 4-digit numbers with one exchange, children explore multiple exchanges within an addition. Ensure children continue to use equipment alongside the written method to help secure understanding of why exchanges take place and how we record them.	

		Can you think of two other numbers where this would happen?		
	Subtract Two 4-digit Numbers (1)	How much further does Car A travel than Car B per year? Do you need to make both numbers when you are subtracting with counters? Why? Why is it important to always subtract the smallest place value column first? How are your bar models different for the two problems? Can you use the written method to calculate the missing numbers?	Building on their experiences in Year 3, children use their knowledge of subtracting using the formal column method to subtract two 4-digit numbers. Children will focus on calculations with no exchanges, concentrating on the value of each digit.	
	Subtract Two 4-digit Numbers (2)	What can you find out? When do we need to exchange in a subtraction? How do we indicate the exchange on the written method? How many bars are you going to use in your bar model? Can you find out how many tokens Mo has? Can you find out how many tokens they have altogether? Can you create your own scenario for a friend to represent?	Building on their experiences in Year 3, children use their knowledge of subtracting using the formal column method to subtract two 4-digit numbers. Children explore subtractions where there is one exchange. They use place value counters to model the exchange and match this with the written column method.	
	Subtract Two 4-digit Numbers (3)	When do we need to exchange within a column subtraction? What happens if there is a zero in the next column? How do we exchange?	Children explore what happens when a subtraction has more than one exchange. They can continue to use manipulatives to support their understanding. Some children may feel confident calculating with a written	

		Can you use place value counters or Base 10 to support your understanding? How can you find the missing 4-digit number? Are you going to add or subtract?	method. Encourage children to continue to explain their working to ensure they have a secure understanding of exchange within 4-digits numbers	
	Efficient Subtraction	Is the column method always the most efficient method? When we find the difference, what happens if we take one off each number? Is the difference the same? How does this help us when subtracting large numbers? When is it more efficient to count on rather than use the column method? Can you represent your subtraction in a part-whole model or a bar model?	Children use their understanding of column subtraction and mental methods to find the most efficient methods of subtraction. They compare the different methods of subtraction and discuss whether they would partition, take away or find the difference.	
	Estimate Answers	When in real life would we use an estimate? Why should an estimate be quick? Why have you rounded to the nearest 10/100/1,000?	In this step, children use their knowledge of rounding to estimate answers for calculations and word problems. They build on their understanding of near numbers in Year 3 to make sensible estimates.	
	Checking Strategies	Does the equal sign have to go at the end? Could we write an addition or subtraction with the equals sign at the beginning? How many more facts can you write now?	Children explore ways of checking to see if an answer is correct by using inverse operations. Checking using inverse is to be encouraged so that children are using a different method and not just potentially repeating	

		Which calculations do you use to find the missing numbers? Which strategies do you use to check your calculations? How can you tell if your answer is sensible? What is the inverse of addition? What is the inverse of subtraction?	An error, for example, if they add in a different order.	

Length and Perimeter NC Objectives •Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetre sand metres. •Convert between different units of measure [for example, kilometre to metre].				
	Kilometres	Can you research different athletic running races? What different distances are the races? Can you convert the distances from metres into kilometres? Which other sports have races over distances measured in metres or kilometres? If 10 children ran 100 metres each, how far would they run altogether? Can we go outside and do this? How long do you think it will take to run 1 kilometre? How can we calculate half a kilometre? Can you find other fractions of a kilometre?	Children multiply and divide by 1,000 to convert between kilometres and metres. They apply their understanding of adding and subtracting with four-digit numbers to find two lengths that add up to a whole number of kilometres. Children find fractions of kilometres, using their Year 3 knowledge of finding fractions of amounts. Encourage children to use bar models to support their understanding.	

	Perimeter on a Grid	What is perimeter? How can we find the perimeter of a shape? What do you think rectilinear means? Which part of the word sounds familiar? If a rectangle has a perimeter of 16 cm, could one of the sides measure 14 cm? 8 cm? 7 cm?	Children calculate the perimeter of rectilinear shapes by counting squares on a grid. Rectilinear shapes are shapes where all the sides meet at right angles. Encourage children to label the length of each side and to mark off each side as they add the lengths together. Ensure that children are given centimetre squared paper to draw the shapes on to support their calculation of the perimeter.	
	Perimeter of a Rectangle	If I know the length and width of a rectangle, how can I calculate the perimeter? Can you tell me 2 different ways? Which way do you find the most efficient? If I know the perimeter of a shape and the length of one of the sides, how can I calculate the length of the missing side? Can a rectangle where the length and width are integers, ever have an odd perimeter? Why?	Children calculate the perimeter of rectangles (including squares) that are not on a squared grid. When given the length and width, children explore different approaches of finding the perimeter: adding all the sides together, and adding the length and width together then multiplying by 2 Children use their understanding of perimeter to calculate missing lengths and to investigate the possible perimeters of squares and rectangles.	
	Perimeter of Rectilinear Shapes	How many different rectilinear shapes can you draw with a perimeter of 24 cm? How many sides do they each have? What is the longest side? What is the shortest side? Why are opposite sides important when calculating the perimeter of	Children will begin to calculate perimeter of rectilinear shapes without using squared paper. They use addition and subtraction to calculate the missing sides. Teachers may use part-whole models to support the understanding of how to calculate missing sides.	

		rectilinear shapes? If one side is 10 cm long, and the opposite side is made up of two lengths, one of which is 3 cm, how do you know what the missing length is? Can you show this on a part-whole model? If a rectilinear shape has a perimeter of 24 cm, what is the greatest number of sides it could have? What is the least number of sides it could have?	Encourage children to continue to label each side of the shape and to mark off each side as they calculate the whole perimeter.	

Multiplication and Division

NC Objectives:

•Recall and use multiplication and division facts for multiplication tables up to 12 ×12.

•Count in multiples of 6, 7, 9, 25 and 1,000

•Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

•Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as nn objects are connected to mmobjects.

	Multiply by 10	Can you represent these calculations with concrete objects or a drawing? Can you explain what you did to a partner? What do you notice when multiplying by 10? Does it always work? What’s the same and what’s different about 5 buses with 10 passengers on each and 10 buses with 5 passengers on each?	Children need to be able to visualise and understand making a number ten times bigger and that ‘ten times bigger’ is the same as ‘multiply by 10’ The language of ‘ten lots of’ is vital to use in this step. The understanding of the commutative law is essential because children need to see calculations such as 10 ×3 and 3 ×10 as equal.	
	Multiply by 100	How do the Base10 help us to show Multiplying by 100? Can you think of a time when you Would need to multiply by 100? Will you produce a greater number If you multiply by 100 rather than 10? Why? Can you use multiplying by 10 To help you multiply by 100? Explain why .	Children build on multiplying by 10 and see links between multiplying by 10 and multiplying by 100 Use place value counters and Base 10 to explore what is happening to the value of the digits in the calculation and encourage children to see a rule so they can begin to move away from concrete representations.	
	Divide by 10	What has happened to the value of the digits? Can you represent the calculation using manipulatives? Why do we need to exchange tens for ones? When dividing using a place value chart, in which direction do the digits move?	Exploring questions with whole number answers only, children divide by 10 They should use concrete manipulatives and place value charts to see the link between dividing by 10 and the position of the digits before and after the calculation. Using concrete resources, children should begin to understand the relationship between multiplying and dividing by 10 as the inverse of the other.	
	Divide by 100	How can you use dividing by 10 to	Children divide by 100 with whole number	

		help you divide by 100? How are multiplying and dividing by 100 related? Write a multiplication and division fact family using 100 as one of the numbers.	answers. Money and measure is a good real-life context for this, as coins can be used for the concrete stage.	
	Multiply by 1 and 0	What does multiplying by 1 mean? What's the same and what's different about multiplying by 1 and multiplying by 0?	Children explore the result of multiplying by 1, using concrete equipment. Linked to this, they look at multiplying by 0 and use concrete equipment and pictorial representations of multiplying by 0	
	Divide by 1	What does sharing mean? Give an example. What does grouping mean? Give an example. Can you write a worded question where you need to group? Can you write a worded question where you need to share?	Children learn what happens to a number when you divide it by 1 or by itself. Using concrete and pictorial representations, children demonstrate how both the sharing and grouping structures of division can be used to divide a number by 1 or itself.	
	Multiply and Divide by 6	How many equal groups do we have? How many are in each group? How many do we have altogether? Can you write a number sentence to show this? Can you represent the problem in a picture? What does each number in the calculation represent?	Children draw on their knowledge of times tables facts in order to multiply and divide by 6 They use their knowledge of equal groups in using concrete and pictorial methods to solve multiplication and division problems.	
	6 Times Table & Division Facts	What do you notice about the 3 times table and the 6 times table? Can you use 3 ×___ to work out 6 ×____? Can you use 7 × 5 to work out 7	Children use known table facts to become fluent in the six times table. For example, applying knowledge of the 3 times table by understanding that each multiple of 6 is double the equivalent	

		×6? Which known fact did you use?	multiple of 3 Children should also be able to apply this knowledge to multiplying and dividing by 10 and 100 (for example, knowing that 30 ×6 =180 because they know that 3 ×6 =18).	
	Multiply and Divide by 9	What's the same about each question? What's different? Can you use concrete or pictorial representations to help you answer the questions? What other facts can you link to this fact? What other times tables will help you with this times table? What does each number in the calculation represent? How many lots of 9 do we have? How many groups of 9 do we have?	Children use their previous knowledge of multiplying and dividing to become fluent in the 9 times table. They apply their knowledge in different contexts.	
	9 Times Table **&** **Division Facts**	How did you work out the missing numbers? What do you notice about the multiples of 9? What do you notice about the 9 times table and the 10 times table?	Children use known times table facts to become fluent in the 9 times table. For example, knowing that each multiple of 9 is one less than the equivalent multiple of 10, and using that knowledge to derive related facts. Children should also be able to apply the knowledge of the 9 times table when multiplying and dividing by 10 and 100	
	Multiply and Divide by 7	How many do we have altogether? What do you notice? Can you work out the answers by partitioning 7 into 4 and 3? Which multiples of 7 do you already	Children use their knowledge of multiplication and division to multiply by 7 They count in 7s, and use their knowledge of equal groups supported by use of concrete and pictorial methods to solve multiplication	

		know from your other tables?	calculations and problems. They explore commutativity and also understand that multiplication and division are inverse operations.	
	7 Times Table & Division Facts	If you know the answer to three times seven, how does it help you? What's the same and what's different about the number facts? How does your 7 times table help you work out the answers?	Children apply the facts from the 7 times table (and other previously learned tables) to solve calculations with larger numbers. They need to spend some time exploring links between multiplication tables and investigating how this can help with mental strategies for calculation.	