YEAR 3/4 MATHS 2026/27

The LAAT Maths Curriculum powerfully aligns with the Trust's vision of Excellence, Exploration and Encouragement powered by Equity. It ensures every pupil is seen, supported and challenged, delivering a high-quality, inclusive mathematical education that builds strong foundations for lifelong learning, wellbeing and success.





YEAR 3/4 MATHEMATICS – RETRIEVAL PRACTICE

RETRIEVAL PRACTICE

Practising things that have already been taught; maybe in a previous year group or a previous term
4 areas as listed below AND 1 area as identified by class teacher – 1 per day every week of the term

	Y3	Y4
AUTUMN TERM 1	• Multiplication & Division Facts *X2, x5, x10* • Time telling the time to the nearest minute – analogue 12-hour clocks, roman numerals – link to Autumn Wks 2 & 3 • Ruler Skills Holding and using correctly, drawing straight lines • Compare and order numbers to 1000 Perfect partitioning, exchanged partitioning, <, >, =, positioning on number lines – link to Autumn Wks 4 & 5 • *Teacher Directed* ?	• Multiplication & Division Facts *X2, x5, x10, x4, x8, x3* • Time Read, write and convert time between analogue and digital 12- and 24-hour clocks – link to Autumn Wk 2 • Perimeter Link to Y3 – measure and calculate perimeter of simple shapes • Compare and order numbers beyond 1000 Perfect partitioning, exchanged partitioning, <, >, =, positioning on number lines – link to Autumn Wks 4 & 5 • *Teacher Directed* ?
	Y3	**Y4**
AUTUMN TERM 2	• Multiplication & Division Facts *X2, x5, x10* • Time telling the time to the nearest minute – analogue 12-hour clocks, roman numerals – link to Autumn Wks 2 & 3 • Money Add and subtract money of the same unit, finding change and combining amounts (no decimal notation) – link to Y2 • Estimating Number Link to Autumn Wk 7 • *Teacher Directed* ?	• Multiplication & Division Facts *X2, x5, x10, x4, x8, x3* • Time Read, write and convert time between analogue and digital 12- and 24-hour clocks – link to Autumn Wk 2 • Money Link to Y3 – add and subtract money including giving change • Rounding Round to the nearest 1000, 100 and 10 – link to Autumn Wk 7 • *Teacher Directed* ?

(Memory & Recall)

YEAR 3/4 MATHEMATICS – RETRIEVAL PRACTICE
(Memory & Recall)

RETRIEVAL PRACTICE

Practising things that have already been taught; maybe in a previous year group or a previous term
4 areas as listed below AND 1 area as identified by class teacher – 1 per day every week of the term

	Y3	Y4
SPRING TERM 1	• Multiplication & Division Facts *X2, x5, x 10, x4,* • Time telling the time to the nearest minute – 12- and 24-hour clocks – link to Spring Wk 1 • Names and Properties of Shapes 2D and 3D, sorting shapes on Carroll and Venn diagrams – link to Y2 Types of lines – link to Autumn Wk 15 • Fractions Understanding halves, quarters and one third – link to Y2 • *Teacher Directed* ?	• Multiplication & Division Facts *X2, x5, x 10, x4, x8, x3, x6, x7* • Time Convert years to months and weeks to days – link to Autmn Wk 1 • Properties of 2d and 3d Shapes Link to learning from Y3 – including , edges, vertices, faces, types of lines, symmetry Link to Autumn Wk 15 – polygons, regular and irregular, symmetry • Fractions Link to learning from Y3 – unit and non-unit fractions, including tenths • *Teacher Directed* ?
	Y3	**Y4**
SPRING TERM 2	• Multiplication & Division Facts *X2, x5, x 10, x4, x8,* • Time telling the time to the nearest minute – 12- and 24-hour clocks – link to Spring Wk 1 • Multiplying and Dividing by 10 and 100 Link to Spring Wk 3 • Statistics Link to Autumn Wk 14 – bar charts, pictograms and tables • *Teacher Directed* ?	• Multiplication & Division Facts *X2, x5, x 10, x4, x8, x3, x6, x7, x11, x12, x9* • Rounding Round to the nearest 1000, 100 and 10 • Multiplying and Dividing by 10 and 100 Link to Spring Wk 3 • Statistics Link to Autumn Wk 14 – different graphical methods, bar charts • *Teacher Directed* ?

YEAR 3/4 MATHEMATICS – RETRIEVAL PRACTICE
(Memory & Recall)

RETRIEVAL PRACTICE

Practising things that have already been taught; maybe in a previous year group or a previous term
4 areas as listed below AND 1 area as identified by class teacher – 1 per day every week of the term

		Y4
SUMMER TERM 1	• Multiplication & Division Facts *X2, x5, x 10, x4, x8,* *x3 after Wk 3* • Compare and order numbers to 1000 Link to Autumn Wks 4 & 5 • Angles Link to Spring Wk 6 • Fractions Compare and order – link to Spring Wk 11 • *Teacher Directed* ?	• Multiplication & Division Facts *X2, x5, x 10, x4, x8, x3, x6, x7, x11, x12, x9* • Rounding Round to the nearest 1000, 100 and 10 • Angles Link to Spring Wk 6 • Fractions Decimal numbers – link to Spring Wk 11 & 12 • *Teacher Directed* ?
	Y3	**Y4**
SUMMER TERM 2	• Multiplication & Division Facts *X2, x5, x 10, x4, x8, x3* • Written Addition & Subtraction methods Grid method – link to Summer Wks 1 & 2 • Measurement – Length & Perimeter Link to Autumn Wk 11 • Time Telling the time accurately – link to Spring Wk 1 • *Teacher Directed* ?	• Multiplication & Division Facts *X2, x5, x 10, x4, x8, x3, x6, x7, x11, x12, x9* • Written Addition & Subtraction methods Grid method – link to Summer Wks 1 & 2 • Measurement – Perimeter & Area Link to Autumn Wk 11 • Time Graphs Link to Spring Wk 1 • *Teacher Directed* ?

AUTUMN TERM		
WEEK: 1	**Wk Beg: 3 Sept**	**DOMAIN: Measurement - Time**

YEAR 3	YEAR 4
• Use vocabulary such as o'clock, morning, afternoon, noon and midnight *Make links to getting to know you activities and class timetables etc. If using short date in class, ensure children have an understanding of what the 3 parts of the short date represent. Write the short date as a 6-digit representation. E.g. 04.09.24. Make links to the children's own dates of birth, as appropriate.* • Know the number of days in each month, year and leap year *Know:* *- the number of days in a week* *- The number of days in a year / leap year* *- The number of days in each month* *- That a month is approximately 4 weeks long but not exactly* *Show children how to use knuckles to help remember how many days are in each month of the year.* *Use knuckles to answer questions about how many days are in the different months.* *Make simple comparisons of time; e.g. 7 weeks > 1 month, 7 days = 1 week, 7 months < 1 year* *Use this knowledge and interpret calendars, e.g. what day of the week was 9th January? My birthday is 24th July, what day of the week will this be? What day and date will it be two weeks later / earlier?*	• Convert between different units of measure • Convert from years to months; weeks to days *Ensure chn have Y3 knowledge secured of number of days in each month, a year and leap year; can use appropriate vocabulary and can interpret calendars.* *Convert weeks to days using multiplicative reasoning of known facts of the number of days in a week from Y3.* *Simple calculations of full weeks.* *This involves multiplying/dividing by 7. The 7x tables have not been taught at this point. Use repeated addition and double number lines to support.* *- Convert from smaller to larger – days to weeks (x7), E.g. 21 days = 3 weeks* *- Convert from larger to smaller – weeks to days (÷7)* *Complete missing information presented in comparison tables.* *Make comparisons of weeks / days using <, > and =* *Convert years to months using multiplicative reasoning of known facts of the number of months in a year from Y3.* *Simple calculations of full months.* *This involves multiplying/dividing by 12. The 12x tables have not been taught at this point. Use repeated addition and double number lines to support.* *- Convert from smaller to larger – months to years (x12), E.g. 24 months = 2 years* *- Convert from larger to smaller – years to months (÷12),* *Complete missing information presented in comparison tables.* *Make comparisons of weeks / days using <, > and =*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	Solve problems involving converting from years to months; weeks to days.

AUTUMN TERM		
WEEK: 2	**Wk Beg: 7 Sept**	**DOMAIN: Measurement - Time**

YEAR 3	YEAR 4
• Know the number of seconds in a minute • Compare time in terms of seconds, minutes and hours *Understand the difference in the units of time, how they relate to each other and when/how each unit might be used. Compare different units of time. E.g. 60 seconds = 1 minute, 60 minutes = 1 hour. Would you rather do homework for 25 minutes or for half an hour? Why?* • Estimate and read time with increasing accuracy, to the nearest minute • Tell and write the time from an analogue clock and 12-hour clocks *Consolidate and secure time from Y2 ensuring chn can accurately tell and write the time to the nearest quarter past/to and 5 minutes past and to, as necessary.* *Remind children that we count around the clock in 5 minutes up to 30 minutes past moving the minute hand to point as you count and this tells us how many minutes PAST the hour it is.* *But when we are past half past (minute hand at the 6), we are describing how long until / 'to' the next hour once we are past half past. Model that when we are finding minutes TO the hour, we can count back the 5s from the next o'clock.* *Move on to accurate telling of the time to the nearest minute using an analogue 12-hour clock.* *Recognise that we still use counting in 5s to helps us but then we add on the individual minutes. E.g. if it is 23 minutes past 6, we count in 5s to know that it is 20 past and then count the additional 3 minutes.* *Children should be able to start using their knowledge of the 5x table to help them calculate the number of minutes rather than counting around in 5s* *Focus only on the skill of telling the time accurately – am/pm will be covered in Spring Term.* *Ensure correct language for telling the time E.g. 25 minutes past 4 is the same as four twenty-five, Forty minutes past 4 is twenty to 5.*	• Read, write and convert time between analogue and digital 12- and 24-hour clocks *Focus on consolidating and securing time from Y3 ensuring chn can accurately read and tell the time to five minutes past/to and the nearest minute past/to* *Analogue and 12-hour digital clocks;* *Ensure children read the time PAST / TO correctly understanding that when the digital clock reads 9:50 we would still say this as 'ten to 10' rather than 50 minutes past 9.* *Ensure children record digital time using a colon* *Children should be able to:* - *Write digital time as analogue and vice versa* - *Draw digital time on an analogue clock and vice versa* *Introduce 24-hour digital to the children.* *Understand that 24-hour digital is represented with four digits and a colon* *Understand that as the 24 hours are now used, we don't need to use am/pm as we should know what part of the day it is according to the hour* *Understand that 00:00 is midnight and 12:00 is midday (noon)* *Know that after 12:00 noon, the hours continue counting. E.g. 1pm is 13:00* *Draw / write / describe time on analogue, 12-hour digital and 24-hour digital* *Convert and represent between each representation*
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AUTUMN TERM			
WEEK: 3	**Wk Beg: 14 Sept**	**DOMAIN: Y3: Measurement – Time**	**Y4: Number – Number and Place Value**

YEAR 3	YEAR 4
• Estimate and read time with increasing accuracy, to the nearest minute • Tell and write the time from an analogue clock and 12-hour clocks • Tell and write the time from an analogue clock, including using Roman Numerals from I to XII *Consolidate accurately telling of the time to the nearest minute using an analogue 12-hour clock from last week* *Introduce analogue clocks that use Roman Numerals.* *This is the first introduction to Roman Numerals and is only the understanding of 1-12 in connection to the clock.* *Recognise and understand how the numbers 1-12 are written around the clock as Roman Numerals.* *Ensure Roman Numerals are displayed around class clock as a permanent feature.* *Focus only on the skill of telling the time accurately using clocks with Roman Numerals – am/pm will be covered in Spring Term.* *Ensure correct language for telling the time E.g. 25 minutes past 4 is the same as four twenty-five, Forty minutes past 4 is twenty to 5.*	• Count backwards through zero to include negative numbers *Counting only – not calculating.* *Including on number lines.* *'Negative' is the adjective used to describe the property of the number (the opposite of positive). 'Minus' usually refers to the operation and is the opposite to 'plus', as 'subtract' is the opposite to 'add'.* • 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 *Make links to learning to using Roman Numerals 1-12 around the clock in Y3* *Boss the Blue – recognise and use Roman Numerals I to XII* *Put Roman Numerals in their historical context so pupils understand that there have been different ways to write whole numbers and that the important concepts of zero and place value were introduced over a period of time.* *Know that I represents 1, V represents 5, X represents 10, L represents 50 and C represents 100.* *Understand the rules of writing and reading Roman Numerals;* - *a symbol can only be repeated three times,* - *we subtract when a lower value digit is written to the left of a higher value,* - *we add when a lower value digit is written to the right of a higher value.* *Show how we write number 4 as 1 before 5 rather as 4 ones and link this to how to write multiples of 10 such as 40 being 10 before 50.*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	Solve number and practical problems that involve all of these ideas and with increasingly large positive numbers

AUTUMN TERM		
WEEK: 4	**Wk Beg: 21 Sept**	**DOMAIN: Number – Number and Place Value**

YEAR 3	YEAR 4
• Count in multiples of 100 *Begin with counting in multiples of 10 as a revisit from Y2 but also into the hundreds* *Move on to counting in steps of 100, forwards and backwards* *Counting from 0; orally, along number lines, with Base 10* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P16* • Read and write numbers up to 1000 in numerals • Read and write numbers up to 1000 in words • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) *Understanding the 'perfect' place value – hundreds, tens and ones. Know that 10 tens is equivalent to 100 and that 100 is ten times the size of 10.* *Understand zero as a place holder.* • Identify and represent numbers using different representations *Look at building/drawing numbers in different ways using 'perfect' place value to support the place value recognition above.* *Represent 'perfect' partitioning on part-whole models and in place value grids.* *Use Base 10 and/or Place Value counters.* *Include number lines and positioning number appropriately. Use variety of number lines including those that don't begin at 0 and those with different scales according to need.* • Find 10 or 100 more or less than a given number *Using knowledge of place value and not calculation. Ensure chn are confident with finding 1 more/less too.* *Represent a number (build, draw or write) and consider how that number changes if it has 1 / 10 / 100 more or less.* *Describe the new number appropriately and position on a number line.* • Compare and order numbers up to 1000 *Compare and order numbers with the 'perfect' place value – hundreds, tens and ones.* *Be able to say which number is smaller / larger. Compare with sentence stems and <, > and = symbols.* *E.g. Which is bigger? 356 or 365. How do you know?* *Position on a number line* *Include variety of representations of number: words, numerals, images* *Use language and symbols to compare* *Order more than 2 numbers*	• Count in multiples of 1000 *Begin with counting in multiples of 10 and 100 from Y3 but also into the thousands* *Move on to counting in steps of 1000, forwards and backwards* *Counting from 0; orally, along number lines, with Place Value counters* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P22* • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) *Understanding the 'perfect' place value – thousands, hundreds, tens and ones.* *Know that 10 tens is equivalent to 100 and that 100 is ten times the size of 10.* *Know that 10 hundreds is equivalent to 1000 and that 1000 is ten times the size of 100.* *Understand zero as a place holder.* • Identify and represent numbers using different representations *Look at building numbers in different ways to support the place value recognition above.* *Represent partitioning on part-whole models and in place value grids.* *Use place value counters, as required.* *Including number lines and positioning number appropriately. Use variety of number lines including those that don't begin at 0 and those with different scales according to need. Encourage children to use mid-way markers to help improve accuracy of positioning on a number line.* • Find 1000 more or less than a given number *Using knowledge of place value and not calculation. Ensure chn are confident with finding 1/ 10 / 100 more/less too.* *Represent a number (build, draw or write) and consider how that number changes if it has 1 / 10 / 100 more or less.* *Describe the new number appropriately and position on a number line.* • Compare and order numbers beyond 1000 *Compare and order numbers with the 'perfect' place value – thousands, hundreds, tens and ones.* *Be able to say which number is smaller / larger. Compare with sentence stems and <, > and = symbols.* *E.g. Which is bigger? 3561 or 3651. How do you know?* *Position on a number line* *Include variety of representations of number: words, numerals, images* *Use language and symbols to compare* *Order more than 2 numbers*
Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of these ideas and with increasingly large positive numbers

AUTUMN TERM		
WEEK: 5	**Wk Beg: 28 Sept**	**DOMAIN: Number – Number and Place Value**

YEAR 3	YEAR 4
• Count in multiples of 100 *Count from any number, forwards and backwards.* *Begin with counting in multiples of 10 as a revisit from Y2 but also into the hundreds* *Move on to counting in steps of 100 from any number* *Counting from any number; orally, along number lines, with Base 10* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P16*	• Count in multiples of 1000 *Count from any number, forwards and backwards.* *Begin with counting in multiples of 10 and 100 as a revisit from Y2 but also into the thousands* *Move on to counting in steps of 1000 from any number.* *Counting from any number; orally, along number lines, with Place Value counters* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P22*
• Read and write numbers up to 1000 in numerals • Read and write numbers up to 1000 in words	• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) *Ensure chn explore partitioning numbers in different ways. E.g. 2136 could be partitioned into 2 thousands, 1 hundred, 3 tens and 6 ones or 2 thousands, 13 tens, 6 ones or 21 hundreds, 3 tens and 6 ones or 2136 = 2120 + 16.* *Revisit and consolidate the principle of exchange from Y2/3 E.g. ten ones = 1 ten etc.* *Extend to exchange involving thousands. *Ensure coverage of exchange in both directions e.g. 1 ten = 10 ones in preparation for subtraction too.* *Identify how many hundreds there are in 4-digit numbers. E.g. 2362 has 23 hundreds, 6 tens and 2 ones* *Identify how many tens there are in 4-digit numbers. E.g. 2362 has 236 tens and 2 ones*
• Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) *Ensure chn explore partitioning numbers in different ways. E.g. 136 could be partitioned into 1 hundred, 3 tens and 6 ones or 13 tens, 6 ones or 136 = 120 + 16* *Revisit and consolidate the principle of exchange from Y2 E.g. ten ones = 1 ten etc.* *Extend to exchange with hundreds. *Ensure coverage of exchange in both directions e.g. 1 ten = 10 ones in preparation for subtraction too but also including exchange of hundreds* *Identify how many tens there are in 3-digit numbers. E.g. 236 has 23 tens and 6 ones*	
• Identify and represent numbers using different representations *Look at building/drawing numbers in different ways to show numbers partitioned in different ways.* *Represent partitioning the same number in different ways on part-whole models and in place value grids.* *Use Base 10 and/or Place Value counters.* *Include number lines and positioning number appropriately. Use variety of number lines including those that don't begin at 0 and those with different scales according to need.*	• Identify and represent numbers using different representations *Look at building/drawing numbers in different ways to show numbers partitioned in different ways.* *Represent partitioning the same number in different ways on part-whole models and in place value grids.* *Use Place Value counters, as required* *Include number lines and positioning number appropriately. Use variety of number lines including those that don't begin at 0 and those with different scales according to need.*
• Compare and order numbers up to 1000 *Compare 2 numbers with different representations of column values.* *E.g. 1 hundred, 3 tens and 6 ones or 14 tens, 6 ones – position on a number line* *E.g. which is bigger? 2 hundreds, 3 tens and 4 ones or 35 tens. Use number lines to support.* *Include variety of representations of number: words, numerals, images* *Use language and symbols to compare* *Order more than 2 numbers with different representations of column values.*	• Compare and order numbers beyond 1000 *Compare 2 numbers with different representations of column values.* *E.g. 2 thousands, 1 hundred, 3 tens and 6 ones or 2 thousands, 13 tens, 6 ones – position on a number line* *E.g. which is bigger? 21 hundreds, 3 tens and 6 ones or 2000 + 400 + 50 + 2. Use number lines to support.* *Include variety of representations of number: words, numerals, images* *Use language and symbols to compare* *Order more than 2 numbers with different representations of column values.*
Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of these ideas and with increasingly large positive numbers

AUTUMN TERM		
WEEK: 6	**Wk Beg: 5 Oct**	**DOMAIN: Number – Number and Place Value**

YEAR 3	YEAR 4
• Estimate numbers using different representations *Use variety of number lines including those that don't begin at 0 and those with different scales, according to need.* *Estimate numbers using nearest multiple of 10 or 100 to support – make links to counting in multiples of 10/100 in previous weeks* *Begin with estimating number on marked number lines. E.g. multiples of 10/100 marked on* *Move on to using pre-drawn number lines without the smaller intervals indicated – start and end points only* *Within estimation – consider on a number line using key milestones to support. E.g. is the number nearer 200, is it nearer 150 or nearer 200.* *If appropriate, draw own number lines to position number on making appropriate choices for start and end points considering nearest multiple of 10 / 100 before / after* • Estimate the answer to a calculation *Use nearest multiples of 10/100 to help estimate. E.g. 86 + 43 is approximately 90 + 40 = 130 so therefore our answer should be near 130*	• Estimate numbers using different representations *Use variety of number lines including those that don't begin at 0 and those with different scales, according to need.* *Estimate numbers using nearest multiple of 10, 100 or 1000 to support – make links to counting in multiples of 10/100/1000 in previous weeks* *Begin with estimating number on marked number lines. E.g. multiples of 10/100/1000 marked on* *Move on to using pre-drawn number lines without the smaller intervals indicated – start and end points only* *Within estimation – consider on a number line using key milestones to support. E.g. is the number nearer 2000, is it nearer 1500 or nearer 2000.* *Use halfway markers of 500/50/5 to improve estimation. What number would be halfway between 2000 and 3000?* *Identify the previous and next multiples of 1000, 100 and 10 as appropriate in preparation for rounding.* *If appropriate, draw own number lines to position number on making appropriate choices for start and end points considering nearest multiple of 10 / 100 / 1000 before / after*
Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of these ideas and with increasingly large positive numbers

AUTUMN TERM			
WEEK: 7	**Wk Beg: 12 Oct**	**DOMAIN: Y3: Statistics**	**Y4: Number – Number and Place Value**

YEAR 3	YEAR 4
• interpret data using tables • solve one-step and two-step questions [for example, 'how many more?' and 'how many fewer?'] using information presented in scaled bar charts and tables. *Begin with simple tables.* *Interpret, ask and answer questions.* *Introduce two-way tables as way to represent data* *Ensure children are confident with the use of the language 'rows' and 'columns' making links to previous learning on arrays in KS1* *Understand what data is being presented in the rows and columns of a two-way table* *Interpret, ask and answer questions.*	• Round any number to the nearest 1000 *This is the first time, children will experience rounding.* *Begin with rounding to the nearest 1000 as a larger milestone.* *Use knowledge of identifying nearest multiple of 1000.* *Ensure children understand the concept of rounding as approximation and not as a rule to be learnt.* *Understand that when rounding to the nearest 1000, we have to look at the digit in the hundreds column recognising if it is 0-4, we must down to the previous multiple of 1000 and if it is 5 or above, we must round to the next multiple of 1000* *Recognise that when rounding to the nearest 1000, your answer will be a multiple of 1000 etc* *Encourage children to use number lines to support rounding. E.g. round 3456 to the nearest 1000 … draw number line mark on 3000 and 4000, mark on mid-way marker of 3500, position 3456 approximately. Which multiple of 1000 is it nearer to? Which side of the halfway marker is it nearer to? etc* • Round any number to the nearest 100 *Move on to rounding to the nearest 100.* *Use knowledge of identifying nearest multiple of 100.* *Ensure children understand the concept of rounding as approximation and not as a rule to be learnt.* *Understand that when rounding to the nearest 100, we have to look at the digit in the tens column recognising if it is 0-4, we must round to the previous multiple of 100 and if it is 5 or above, we must round to the next multiple of 100* *Recognise that when rounding to the nearest 100, your answer will be a multiple of 100 etc* *Encourage children to use number lines to support rounding. E.g. round 345 to the nearest 100 … draw number line mark on 300 and 400, mark on mid-way marker of 350, position 345 approximately. Which multiple of 100 is it nearer to? Which side of the halfway marker is it nearer to? etc* • Round any number to the nearest 10 *Move on to rounding to the nearest 10.* *Use knowledge of identifying nearest multiple of 10.* *Ensure children understand the concept of rounding as approximation and not as a rule to be learnt.* *Understand that when rounding to the nearest 10, we have to look at the digit in the ones column recognising if it is 0-4, we must round to the previous multiple of 10 and if it is 5 or above, we must round to the next multiple of 10* *Recognise that when rounding to the nearest 10, your answer will be a multiple of 10 etc*

AUTUMN TERM			
WEEK: 7	**Wk Beg: 12 Oct**	**DOMAIN: Y3: Statistics**	**Y4: Number – Number and Place Value**

YEAR 3	YEAR 4
	Encourage children to use number lines to support rounding. E.g. round 34 to the nearest 10 … draw number line mark on 30 and 40, mark on mid-way marker of 35, position 34 approximately. Which multiple of 10 is it nearer to? Which side of the halfway marker is it nearer to? Etc • Round any number to the nearest 1000, 100 or 10 *Use knowledge from above to round to the nearest 1000, 100 or 10 knowing which columns to look at and decide whether to round to the next or previous multiple* *Recognise that we always look at the column ten times smaller / to the right to help us decide how to round. E.g. when rounding to the nearest thousand, we look at the hundreds etc* *Recognise that the smaller value we round to will always be more accurate. E.g. make links to a recipe, if we need 345g sugar, it will be more accurate to round to the nearest 10 rather than the nearest 100 or 1000 meaning our recipe will be more likely to turn out better than if we rounded to a larger column value*
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AUTUMN TERM		
WEEK: 8	**Wk Beg: 19 Oct**	**DOMAIN: Number – Addition & Subtraction**

YEAR 3	YEAR 4
• Add and subtract numbers mentally, including a three-digit number and ones *Boss the Blue – use concrete equipment to support, as appropriate* *Adding and subtracting multiples of ones to/from any three-digit number.* *Use knowledge of number bonds to add/subtract ones bridging tens as appropriate.* • Add and subtract numbers mentally, including a three-digit number and tens *Boss the Blue – use concrete equipment to support, as appropriate* *Adding and subtracting multiples of tens to/from any three-digit number.* *Make links to previous Place Value learning considering the number of tens currently in the number and how many tens are being added/subtracted to it using knowledge of number bonds and column value rather than relying on counting.* *Consider with 'perfect place value'. E.g. 156 + 30 … 156 has 1 hundred, 5 tens and 6 ones. 30 is 3 tens so if I add these 3 tens to 156, I will now have 1 hundred, 8 tens, and 6 ones. 186.* *If appropriate, extend to explore numbers with exchanged column values. E.g. 156 + 30 … 156 is 15 tens and 6 ones. 30 is 3 tens so if I add these 3 tens to 156, I will now have 18 tens and 6 ones. 186* • Add and subtract numbers mentally, including a three-digit number and hundreds *Boss the Blue – use concrete equipment to support, as appropriate* *Adding and subtracting multiples of hundreds to/from any three-digit number.* *Make links to previous Place Value learning considering the number of hundreds currently in the number and how many hundreds are being added/subtracted to it using knowledge of number bonds and column value rather than relying on counting.* *E.g. 456 - 300 … 456 has 4 hundreds, 5 tens and 6 ones. 300 is 3 hundreds so if I subtract these 3 hundreds from 456, I will now have 1 hundred, 5 tens and 6 ones. 156* • Use inverse operations to check answers to a calculation *Understanding concept of inverse. Looking at the impact of answers when adding/subtracting quantities to place value columns and its inverse relationship, e.g. 347 + 30 is 377 (the tens have increased by 3) so if I look at the inverse relationship 377 – 30 I should know that the tens now need to decrease by 3 to end up where we began and vice versa*	• *Non-Statutory guidance: "Pupils continue to practise mental methods with increasingly large numbers to aid fluency"* • Use inverse operations to check answers to a calculation ***Addition and subtraction.*** *Build on similar strategies and concepts as in Y3 but including 4-digit numbers. E.g. 4 digit number and multiples of ones / tens / hundreds / thousands.* *E.g. 2154 + 40 …. The tens are increasing so 5 tens and 4 tens is 9 tens… 2194.* *E.g. 2154 - 40 …. The tens are decreasing so 5 tens subtract 4 tens is 1 ten… 2114.* *Ensure children are using knowledge of place value learning considering the number of ones / tens / hundreds / thousands are being added/subtracted using knowledge of number bonds and column value rather than relying on counting.* *Understand the concept of inverse.* *Look at the impact of answers when adding quantities to place value columns and its inverse relationship, e.g. 3450 + 30 is 3480 (the tens have increased by 3) so if I look at the inverse relationship 3480 – 30 I should know that the tens now need to decrease by 3 to end up where we began and vice versa.* *Move on to include examples that bridge powers of 10/100/1000 using knowledge of number bonds to support / partition parts.* *E.g. 2136 + 7 …. 7 can be partitioned into 4 and 3 …. 2136 + 4 is 2140 add the 3 is 2143.* *E.g. 2136 - 7 …. 7 can be partitioned into 6 and 1 …. 2136 -7 is 2130 subtract the 1 is 2129.* *Model bridging on number lines.* *Refer to From Exploration to Excellence: Mental Addition & Subtraction P37*
Solve problems, including missing number problems, using number facts and place value	Solve addition and subtraction problems in contexts, deciding which operation to use and why.

AUTUMN TERM		
WEEK: 9	**Wk Beg: 2 Nov**	**DOMAIN: Number - Addition**

YEAR 3	YEAR 4
• add numbers with up to three digits, using formal written methods of columnar addition *Focus on **securing 2-digit column addition** only this term following Build it – Draw it – Write it approach with and without exchange.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Addition – P17-19 & P21-22* • Estimate the answer to a calculation *Use nearest multiples of 10/100 to help estimate. E.g. 86 + 43 is approximately 90 + 40 = 130 so therefore our answer should be near 130*	• add numbers with up to 4 digits, using formal written methods of columnar addition, where appropriate *Boss the Blue – Write it for 2 and 3-digit calculations secured.* *Focus on **securing 3-digit column addition strategies** this term following Build it – Draw it **– Write it approach**, as appropriate, with and without exchange* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Addition – P28-29 & P23-26* • Estimate to check answers to a calculation *Use rounding to the nearest multiple of 10, 100 and 1000 to support estimation. E.g. 186 + 143 is approximately 190 + 140 = 330 so therefore our answer should be near 330*
Solve problems, including missing number problems, using number facts, place value, and more complex addition	Solve addition problems in contexts, deciding which operation to use and why.

AUTUMN TERM			
WEEK: 10	**Wk Beg: 9 Nov**	**DOMAIN: Number - Subtraction**	
YEAR 3		**YEAR 4**	
• subtract numbers with up to three digits, using formal written methods of columnar subtraction *Focus on **securing 2-digit column subtraction** only this term following Build it – Draw it – Write it approach with and without exchange.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Subtraction – P26-28 & P21-24, as appropriate* • Estimate the answer to a calculation *Use nearest multiples of 10/100 to help estimate. E.g. 86 - 43 is approximately 90 - 40 = 50 so therefore our answer should be near 50*		• subtract numbers with **up to** 4 digits, using formal written methods of columnar subtraction, where appropriate *Boss the Blue – Write it for 2 and 3-digit calculations secured.* *Focus on securing **3-digit column subtraction strategies** this term following Build it – Draw it **– Write it approach,** as appropriate, with and without exchange* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Subtraction – P35-36 & P29-33, as appropriate* • Estimate to check answers to a calculation *Use rounding to the nearest multiple of 10, 100 and 1000 to support estimation. E.g. 386 - 143 is approximately 390 - 140 so 390 – 100 is 290 then 290 – 40 is 250 so therefore our answer should be near 250.*	
solve problems, including missing number problems, using number facts, place value, and more complex subtraction		Solve subtraction problems in contexts, deciding which operation to use and why.	

AUTUMN TERM			
WEEK: 11	**Wk Beg: 16 Nov**	**DOMAIN: Y3: Measurement – Length & Perimeter**	**Y4: Perimeter & Area**

YEAR 3	YEAR 4
➲ 1 DAY – PUMA ASSESSMENT	**➲ 1 DAY – PUMA ASSESSMENT**
• Measure, compare, add and subtract: lengths (m/cm/mm); *Ensure ruler skills and accurate measuring are secure initially – this should have been consolidated through Retrieval Practice last term* *Include:* *- reading length of lines drawn against a ruler image – cm / cm and mm* *- measuring lines positioning own ruler accurately – cm / cm and mm* *- drawing lines – cm / cm and mm* *- measuring lengths of polygons – regular and irregular* *What would happen if the line / side was 2cm shorter/longer etc?* • Measure the perimeter of simple 2-d shapes *- Adding lengths of polygons to find the perimeter – regular and irregular* *Encourage children to show the calculations made to find the perimeter. E.g. Perimeter = ___cm + ___cm + ___cm + ___ cm. Perimeter = ___cm* *Discuss appropriate mental strategies to support calculation. Encourage children to find the easy way to calculate looking for known facts etc. Use a number line to support mental calculations as a scaffold.* *If appropriate, move on to consider comparing perimeter using simple scaling of integers. E.g. if each edge of the shape was now twice the size, what would the perimeter be now?*	• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres *Secure and consolidate learning from Y3 ensuring children understand what perimeter is and how to find the perimeter or regular and irregular polygons (including simple composite shapes)* *Move on to focus on regular (squares) and irregular (oblongs) rectangles and the different ways we could calculate the perimeter.* *Explore different ways to calculate the perimeter and expressing algebraically as in non-stat guidance, 2 (a + b) where a and b are in the same unit.* *Including:* *- adding all the lengths together. Perimeter = ___cm + ___cm + ___cm + ___ cm. Perimeter = ___cm. P = a + b + c + d* *- double the length added to double the width. The length is ___cm. The width is ___cm. Perimeter = 2 x length + 2 x width. Perimeter = ___cm. P = 2a + 2b* *- double the sum of the length and the width. The length is ___cm. The width is ___cm. The length + width is ___cm. Perimeter = 2 x length + width. Perimeter = ___cm. P = 2 (a+b)* *Brackets are not necessary in notation at this stage it's the understanding that we can double one side(a) and double the adjacent side (b) and add together. However they can be used to help notation, if ready. If so, understand that the brackets tell us to do that part of the calculation first – model jottings above brackets once calculated that part.* • Find the area of rectilinear shapes by counting squares *Understand what area is.* *Find area by counting squares – regular and irregular shapes* *Recognise that when a shape has the same number of squares inside it, it will have the same area regardless of how the shape looks.* *Move on to counting part squares as appropriate, e.g. 2 half squares (triangles)*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	*Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.*

AUTUMN TERM		
WEEK: 12	**Wk Beg: 23 Nov**	**DOMAIN: Number – Multiplication and Division**

YEAR 3	YEAR 4
➲ MTC Practice Data Submission opens on Insight ▪ Initial Data Submission Date this week – Friday 27th November ▪ MTC Practice – Final Data Submission Date – Friday 11th December	**➲ MTC Practice Data Submission opens on Insight** ▪ Initial Data Submission Date this week – Friday 27th November ▪ MTC Practice – Final Data Submission Date – Friday 11th December
• Count from 0 in multiples of 4 *Explore different representations for counting in steps. Recognise relationships between counting in steps of 2 and 4* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P15-20*	• Count in multiples of 6 and 7 *Explore different representations for counting in steps.* *Recognise relationships between counting in steps of 3 and 6.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P21-25*
• Recall and use multiplication and division facts for the 4 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know *Consolidate and secure 10x, 5x, 2x from Y2.* *Recognise relationships between counting in steps of 2 and 4 times and use doubling of 2x as a strategy to support and explore different representations to show this.* *Understand the commutative relationships between facts; e.g. 2 x 4 is the same product as 4 x 2.* *Understanding that multiplication is commutative but division is not* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P39-47*	• Recall multiplication and division facts for multiplication tables up to 12 × 12 • Use known facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; *Secure and consolidate knowledge of 2, 5, 10, 3, 4 and 8x tables from Y2/3.* *Focus on teaching the 6- and 7-times tables.* *Ensure teaching of strategies and not just practise or memorisation.* *E.g. 6x can be double 3x (if they know their 3s) or 6x can be 5x + 1x using 5x as an anchor.* *E.g. 7x using 5x as an anchor … 5x + 2x.* *Use notation of part-whole model as jottings to support thinking with anchor facts as a strategy to support 6x and 7x if we can't yet recall the facts* *Understand the commutative relationships between facts; e.g. 6 x 4 is the same product as 4 x 6.* *Understanding that multiplication is commutative but division is not* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P48-58* • Recognise and use factor pairs and commutativity in mental calculations *Children should know that factors are positive integers that are multiplied together.* *Understand that factor x factor = product and it doesn't matter which way round the factors go, the product will always be the same.* *Children do not need to generate factor pairs at this point but understand the language of factors and factor relationships within multiplication facts.* *When given a number, can children tell you a factor pair that would give that product.*
Solve problems, including missing number problems, involving multiplication and division	Solve problems involving multiplying and adding, including using the distributive law *e.g. Using anchor facts for 7x; doing 5 x and 2x and adding*

AUTUMN TERM		
WEEK: 13	**Wk Beg: 30 Nov**	**DOMAIN: Number - Multiplication**

YEAR 3	YEAR 4
➲ MTC Practice Data Submission opens on Insight ▪ Initial Data Submission Date this week – Friday 27th November ▪ MTC Practice – Final Data Submission Date – Friday 11th December	**➲ MTC Practice Data Submission opens on Insight** ▪ Initial Data Submission Date this week – Friday 27th November ▪ MTC Practice – Final Data Submission Date – Friday 11th December
• write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods *Consolidate and secure learning from Y2:* ***use and describe arrays to model equal groups, repeated addition, multiplication and commutativity.*** *Refer to From Exploration to Excellence: Written Multiplication – top P11* *Move on to* ***explore arrays flexibly using 'friendly numbers' to help find totals*** *Begin with looking at arrays involving multiples of 3 recognising that as we don't know our 3s yet, we could partition the array into groups of 2 and groups of 1 to help explaining that our 2s really help us here as we learnt them so well in Y2.* *Explore with other multiples, as appropriate, to show that even if we are faced with a fact we don't know, we can look for our friendly numbers to help. Friendly numbers – 1s, 2s, 5s and 10s initially* *Refer to From Exploration to Excellence: Written Multiplication – bottom P11*	• multiply two-digit numbers by a one-digit number using formal written layout ***Secure and consolidate compact short multiplication; two-digit numbers times one-digit numbers*** *In Y3, children drew the Grid method (writing products in the sections) and progressed to the expanded short notation (vertical notation of the grid) as appropriate.* *If children were ready, they may have been moved to the compact short but this will need securing.* *Refer to From Exploration to Excellence: Written Multiplication – top P15*
Solve problems, including missing number problems, involving multiplication	*National curriculum non-statutory guidance:* Solve problems in contexts, choosing the appropriate operations, working with increasingly harder numbers.

AUTUMN TERM		
WEEK: 14	Wk Beg: 7 Dec	DOMAIN: Statistics

YEAR 3	YEAR 4
➲ MTC Practice Data Submission open on Insight ▪ Initial Data Submission Date this week – Friday 27th November ▪ MTC Practice – Final Data Submission Date – Friday 11th December • interpret data using pictograms and tables • solve one-step and two-step questions [for example, 'how many more?' and 'how many fewer?'] using information presented in pictograms and tables. *Make links back to Y2 looking at pictograms with 1-1 symbols and using tallies in tables* *Explore horizontal and vertical representations of pictograms* *Discuss appropriate choices for pictogram icons and also the meaning of when part icons are represented in a pictogram.* *Link to Fraction knowledge.* *Understand purpose of the key* *Ask and answer questions - take opportunities to apply previous learning on addition/subtraction strategies ensuring children recognise when to add/subtract for themselves* • present data using pictograms and tables • solve one-step and two-step questions [for example, 'how many more?' and 'how many fewer?'] using information presented in pictograms and tables. *Use ideas from above to support presenting given data.* *Present vertically and horizontally* *Build it – use counters/objects on large grid* *Consider appropriate use of symbol and how it could be used if in part* • interpret data using bar charts and tables *Make links to Y2 when children learnt about block diagrams where each block on the chart represents 1* *Explain that bar charts are similar but it makes use of a scale on the y-axis which can be in different multiples* *Explain that a bar chart has an x- and a y- axis. We can remember which is which because x is a cross and goes across!* *Do not use along the corridor / up the stairs analogy* *Understand and use simple scales (e.g. 2, 5, 10 units per cm) with increasing accuracy.* *Ask and answer questions - take opportunities to apply previous learning on addition/subtraction strategies ensuring children recognise when to add/subtract for themselves*	**➲ MTC Practice Data Submission open on Insight** ▪ Initial Data Submission Date this week – Friday 27th November ▪ MTC Practice – Final Data Submission Date – Friday 11th December • interpret discrete data using appropriate graphical methods, including bar charts *Appropriate graphical methods can include block graphs (each block represents 1), tallies, pictograms, bar charts and tables. Children should be familiar with all of these graphical methods from learning in Y2 and Y3.* *Explore different orientations, scales and icon values.* *Link to Fraction knowledge for part icons.* *Ask and answer questions - take opportunities to apply previous learning on addition/subtraction strategies ensuring children recognise when to add/subtract for themselves* • present discrete data using appropriate graphical methods, including bar charts *In Y3, children presented given data from pictograms, tally charts and tables to present in bar charts.* *Now, children should present their own data collected but must decide beforehand appropriate scales and representations for the presentation.* *If needed, provide some children with pre-drawn axes* *Ensure children label bar chart accurately including: axes, scales, labels on bars, chart title*

AUTUMN TERM		
WEEK: 14	**Wk Beg: 7 Dec**	**DOMAIN: Statistics**

YEAR 3	YEAR 4
• present data using bar charts and tables • solve one-step and two-step questions [for example, 'how many more?' and 'how many fewer?'] using information presented in scaled bar charts and tables. *Use information from pictograms, tally charts and tables to present in a bar chart* *Make appropriate choice of scale* *If needed, provide some children with pre-drawn axes* *Ensure children label bar chart accurately including: axes, scales, labels on bars, chart title*	
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	Solve comparison, sum and difference problems using information presented in bar charts, pictograms and tables

AUTUMN TERM		
WEEK: 15	**Wk Beg: 14 Dec**	**DOMAIN: Geometry – Properties of Shape**

YEAR 3	YEAR 4
• identify horizontal and vertical lines *Children should be familiar with the word vertical after finding vertical lines of symmetry in Y2.* *Introduce the word 'horizontal'* *Recognise vertical and horizontal lines in different contexts.* *Draw vertical and horizontal lines in different contexts.* *Ensure accuracy of vertically / horizontally straight lines and they do not slope at an angle.* *Identify lines in the environment* *Recognise examples and non-examples* *Making links to finding vertical lines of symmetry in Y2, identify horizontal lines of symmetry in 2d shape.* • identify pairs of perpendicular and parallel lines. *Introduce the word 'parallel'* *Understand that parallel lines stay the same distance apart and never meet* *Consider where we might find parallel lines* *Introduce the symbols to show parallel lines (arrowhead (>) on parallel lines in drawings or double vertical lines when writing shorthand sentences. E.g. Line A is parallel to Line B. Line A || Line B)* *Introduce the word 'perpendicular'* *Understand that perpendicular lines meet at a right angle* *Remind children of the symbol we use to mark a right angle in a shape which they learned in Y3.* *Recognise parallel and perpendicular lines in different contexts.* *Draw parallel and perpendicular lines in different contexts.* *Recognise examples and non-examples*	• compare and classify geometric shapes, based on their properties *Link back to knowledge of names and properties of 2D shape from Y2 and Y3 (edges, vertices, symmetry, types of line – vertical, horizontal, parallel and perpendicular)* *Introduce the word 'polygon'* *Understand that not all 2d shapes are polygons* *Know that polygons have 3 or more straight sides* *Sort 2d shapes as polygons or non-polygons in a table* *Introduce the words 'regular' and 'irregular'* *Understand that regular polygons are shapes with 3 or more straight sides that are all the same length and have the same size interior (inside) angles* *Sort polygons as regular or irregular in a table* *Explain why a shape is regular or irregular* *Recognise that a 'traditional' rectangle (an oblong) with two long sides and two short sides is not a regular polygon as not all sides are equal* *Understand that a rectangle is a polygon with 4 straight sides and 4 right angles* *Understand that a square is a polygon with 4 straight sides, which are equal length, and 4 right angles* *Know that we can also call a square a rectangle as it still has 4 straight sides and 4 right angle, which is the definition of a rectangle.* • identify lines of symmetry in 2-d shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry. *Link to finding vertical lines of symmetry in Y2 and horizontal lines of symmetry in Y3.* *Remind children that symmetry occurs when both sides of the line are the same.* *Move on to finding lines of symmetry in any direction, including diagonally* *Explore different lines of symmetry by cutting / folding / using mirrors* *Draw on different lines of symmetry* *Draw missing halves of symmetry* *Sort shapes according to the number of lines of symmetry* *Explore the connection between the number of lines of symmetry and the number of sides of a regular shape (all sides are equal and all interior angles are equal)*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	*Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.*

SPRING TERM			
WEEK: 1	**Wk Beg: 5 Jan**	**DOMAIN: Y3: Measurement – Time**	**Y4: Statistics – Time graphs**

YEAR 3	YEAR 4
• use vocabulary such as o'clock, a.m./p.m. morning, afternoon, noon and midnight • tell and write the time from an analogue clock, including using roman numerals from I to XII, and 12-hour and 24-hour clocks • Estimate and read time with increasing accuracy, to the nearest minute • Record and compare time in terms of minutes and hours *Boss the Blue – tell the time accurately to five minutes to* *Revisit analogue 12-hour clock (including those with Roman Numerals) and use of vocabulary from Autumn term.* *Introduce using digital 12-hour clocks.* *Make links to reading the time PAST / TO from the Autumn term understanding that when the digital clock reads 9:50 we would still say this as 'ten to 10' rather than 50 minutes past 9.* *Ensure children record digital time using a colon* *Look at correct language for telling the time e.g. Five past 3 in the afternoon / morning = 3.:5pm / 3:05am and 4:40pm is twenty to 5 in the afternoon.* *Write digital time as analogue and vice versa* *Draw digital time on an analogue clock and vice versa* *Match times* *Look at time over 24 hours using 12-hour digital (e.g. 3pm is 3:00pm not 15.00)* *Do not use 24-hour digital clock – this is covered in Y4*	• interpret continuous data using time graphs *Introduce children to line graphs for the first time.* *Discuss how line graphs often look at how something changes over time – continuous data as it is not something that can be counted.* *Ensure children recognise that a line graphs is created from knowing specific data at certain points in time but that anything in between is likely to be an estimate. Explain that often dotted lines are used to join up the points for this reason.* *Ask and answer questions - take opportunities to apply previous learning on addition/subtraction strategies ensuring children recognise when to add/subtract for themselves* • present continuous data using time graphs *Present given data – e.g. measures (distance, height, weight, temperature, time)* *Use appropriate scales and labels* *Plot data accurately and then join up the points with dotted lines* *If needed, provide some children with pre-drawn axes*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	Solve comparison problems using information presented in other graphs

SPRING TERM		
WEEK: 2	**Wk Beg: 11 Jan**	**DOMAIN: Number – Multiplication and Division**

YEAR 3	YEAR 4
• Count from 0 in multiples of 8 *Explore different representations for counting in steps. Recognise relationships between counting in steps of 2, 4 and 8.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P15-20* • Recall and use multiplication and division facts for the 8 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know *Consolidate and secure 4x from Autumn Wk 11* *Recognise relationships between counting in steps of 2, 4 and 8 times and use doubling of 2x as a strategy to support and explore different representations to show this.* *Understand the commutative relationships between facts; e.g. 2 x 8 is the same product as 8 x 2.* *Understanding that multiplication is commutative but division is not* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P39-47*	• Count in multiples of 9 *Explore different representations for counting in steps. Recognise relationships between counting in steps of 3 and 9.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P21-25* • Recall multiplication and division facts for multiplication tables up to 12 × 12 • Use known facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; *Secure and consolidate knowledge of 2, 5, 10, 3, 4 and 8x tables from Y2/3.* *Secure and consolidate knowledge of 6x and 7x from Autumn term.* *Focus on teaching the 11-, 12- and 9-times tables.* *Ensure teaching of strategies and not just practise or memorisation.* *E.g. 11x can be 10x and 1x using 10 anchor facts* *E.g. 12x can be 10x and 2x using anchor facts* *E.g. 9x can use 10x and subtract 1x as anchor facts* *Use notation of part-whole model as jottings to support thinking with anchor facts as a strategy to support 11x, 12x and 9x if we can't yet recall the facts* *Understand the commutative relationships between facts; e.g. 6 x 9 is the same product as 9 x 6.* *Understanding that multiplication is commutative but division is not* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P48-58* • Recognise and use factor pairs and commutativity in mental calculations *Children should know that factors are positive integers that are multiplied together.* *Understand that factor x factor = product and it doesn't matter which way round the factors go, the product will always be the same.* *Children do not need to generate factor pairs at this point but understand the language of factors and factor relationships within multiplication facts.* *When given a number, can children tell you a factor pair that would give that product.*
Solve number problems and practical problems involving these ideas.	Solve problems involving multiplying and adding, including using the distributive law *e.g. Using anchor facts for 11x; doing 10x and 1x and adding*

SPRING TERM		
WEEK: 3	**Wk Beg: 18 Jan**	**DOMAIN: Number – Multiplication and Division & Fractions**

YEAR 3	YEAR 4
• *Non-Statutory guidance: "Use multiplication facts to derive related facts "* - *multiply any one or two-digit whole number by 10* - *multiply any one-digit whole number by 100* *Use known facts and place value scaling. Understand place value scaling and what happens to the place value of a number when it is multiplied by 10 or 100 – model on a place value grid.* *Ensure children understand the role of the place value holders.* *Ensure children recognise that each column value is made ten times bigger when we multiply by 10 etc.* *Ensure children see connection with multiplying by 10 and 100.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P60-63* • Recognise that tenths arise from dividing an object into 10 equal parts • Recognise that tenths arise from dividing one-digit numbers or quantities by 10 *Look at tenths as a denominator understanding that the whole is split into ten equal parts.* *Use different representations of tenths to show that it doesn't matter what the whole is, if it is split into ten equal parts, it is split into tenths.* *Move on to model with a number line.* *What would happen if we split the whole space between 0 and 1 into ten equal parts.* *Remind children that if it was a length of ribbon or rectangle like above, we would split the space on the number line into ten equal parts.* *Explain that anything, including numbers can be split into ten equal parts – divided by 10!* • count up and down in tenths *Count up and down in tenths from 0 through whole numbers. E.g. 0, 1 tenth, 2 tenths, ….. 9 tenths, 1 whole (10 tenths), 1 and 1 tenth* *Model with language and denominators.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P18* • *Non-Statutory guidance: "Use division facts to derive related facts "* • *Non-Statutory guidance: "Pupils connect tenths to place value, decimal measures and to division by 10 "* - *divide any multiple of ten by 10* - *divide any 3-digit multiple of a hundred by 100* *Use known facts and place value scaling.* *Understand place value scaling and what happens to the place value of a number when it is divided by 10 or 100 – model on a place value grid. Ensure children understand that each column is made ten times smaller and that the zeros do not just disappear.* *Introduce decimal notation using a place value chart to show how the decimal point is fixed and that the digits can move in either direction around the decimal point. But that the zeros after the decimals point are place holders that in this case hold no value and so can be removed.* *Ensure children see connection with dividing by 10 and 100.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P60-63*	• Use place value, known and derived facts to multiply mentally *Make links to multiplying one- or two-digit numbers by 10 from Y3* *Move on to:* - *multiply any whole number, by 10* - *multiply any one-digit or two-digit whole number by 100* *Use known facts and place value scaling. Understand place value scaling and what happens to the place value of a number when it is multiplied by 10 or 100 – model on a place value grid.* *Ensure children understand the role of the place value holders.* *Ensure children recognise that each column value is made ten times bigger when we multiply by 10 etc.* *Ensure children see connection with multiplying by 10 and 100.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P64-67* • recognise that hundredths arise when dividing an object by one hundred • recognise that hundredths arise when dividing tenths by ten. *Make links to tenths from Y3* *Move on to look at hundredths as a denominator understanding that the whole is split into one hundred equal parts.* *Use different representations of hundredths to show that it doesn't matter what the whole is, if it is split into one hundred equal parts, it is split into hundredths.* *Understand the role of the denominator of $\frac{1}{100}$ in that the whole has been split into 100 equal parts.* *Recognise that the numerator tells us how many of the equal parts to consider.* *Ensure children recognise that when tenths are divided by ten (split into ten equal parts), we have hundredths* *Use blank squares split into ten equal parts (columns or rows) understanding that we now have tenths. Split each of those tenths into ten equal parts – how many equal parts has the whole shape been split into now?* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P24* • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • Use place value, known and derived facts to divide mentally *Make links to dividing multiples of 10 / 100 in Y3* *Move on to:* - *divide a one- or two-digit number by 10* - *divide a one- or two-digit number by 100* *Use known facts and place value scaling.* *Understand place value scaling and what happens to the place value of a number when it is divided by 10 or 100 – model on a place value grid.* *Ensure children understand the role of the place value holders.* *Ensure children recognise that each column value is made ten times smaller when we divide by 10 etc.* *Ensure children see connection with dividing by 10 and 100.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P64-67*
Solve number problems and practical problems involving these ideas.	Solve number problems and practical problems involving these ideas.

SPRING TERM		
WEEK: 4	**Wk Beg: 25 Jan**	**DOMAIN: Number - Addition**

YEAR 3	YEAR 4
• add numbers with up to three digits, using formal written methods of columnar addition *Introduce **3-digit column addition including up to one exchange only** – including HTO + TO and HTO + HTO; The one exchange can be in any position; tens or ones.* *Follow Build it-Draw it – Write it approach.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Addition – P23-26* • Estimate the answer to a calculation to check answers to a calculation *Use nearest multiples of 10/100 to help estimate. E.g. 186 + 143 is approximately 190 + 140 = 330 so therefore our answer should be near 330*	• add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate ***Introduce 4-digit column addition** including **up to one exchange only** - including ThHTO + TO/HTO/ThHTO.* *The one exchange can be in any position; hundreds, tens or ones.* *Children should have a solid enough understanding of 2- and 3- digit written column addition to move straight to Write it stage of 4-digit column addition.* *Use Build-it – Draw it as a scaffold to support if not secure.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Addition – P29-31, as appropriate* • Estimate to check answers to a calculation *Use rounding to the nearest multiple of 10, 100 and 1000 to support estimation. E.g. 1816 + 1143 is approximately 1800 + 1100 = 2900 so therefore our answer should be near 2900*
Solve problems, including missing number problems, using number facts, place value, and more complex addition	Solve addition two-step problems in contexts, deciding which operations and methods to use and why.

SPRING TERM		
WEEK: 5	**Wk Beg: 1 Feb**	**DOMAIN: Number - Subtraction**

YEAR 3	YEAR 4
• subtract numbers with up to three digits, using formal written methods of columnar subtraction *Introduce **3-digit column subtraction including up to one exchange only** – including HTO - TO and HTO - HTO; The one exchange can be in any position; tens or ones.* *Follow build it-Draw it – Write it approach.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Subtraction – P29-33, as appropriate* • Use inverse operations to a calculation to check answers to a calculation *Ensure children recognise addition as the inverse of subtraction. Use learning from last week to prove / check their subtraction is correct.* *Could we use the inverse to go back and prove our working from last week too?*	• subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate ***Introduce 4-digit column subtraction** including **up to one exchange only** - including ThHTO - TO/HTO/ThHTO.* *The one exchange can be in any position; hundreds, tens or ones.* *Children should have a solid enough understanding of 2- and 3- digit written column subtraction to move straight to Write it stage of 4-digit column subtraction.* *Use Build-it – Draw it as a scaffold to support if not secure.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Subtraction – P37-38, as appropriate* • Use inverse operations to check answers to a calculation *Ensure children recognise addition as the inverse of subtraction. Use learning from last week to prove / check their subtraction is correct.* *Could we use the inverse to go back and prove our working from last week too?*
Solve problems, including missing number problems, using number facts, place value, and more complex subtraction	Solve subtraction two-step problems in contexts, deciding which operations and methods to use and why.

SPRING TERM		
WEEK: 6	**Wk Beg: 8 Feb**	**DOMAIN: Geometry – Properties of Shape**

YEAR 3	YEAR 4
• recognise angles as a property of shape or a description of a turn *Make links to Y2 when children described turns using quarter, half and three-quarter turns* *Explain to the children that 'angles' describe the size of the turn. The smaller the turn, the smaller the angle size.* *Recognise that a quarter turn is a smaller angle than a half turn etc* • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; *Introduce the term 'right angle' as another name for a quarter turn* *Introduce the symbol for right angle* *Recognise that two right angles are the same as a half turn and three right-angles are the same as a three-quarter turn* *Understand that to make a complete turn, you are turning four right-angles* *Recognise right angles in 2d shape* *Recognise right angles in different orientations* *Draw a line to another line to make a right angle* • identify whether angles are greater than or less than a right angle *Compare angles considering if an angle is smaller or larger than a right angle* *Only compare acute and obtuse angles to right angles.* *Introduce the terms 'acute' and 'obtuse' to describe angles than smaller or larger than a right angle.* *Understand that obtuse angles are greater than 1 right angle but smaller than 2 right angles* *Sort angles into a table considering if they are =, < or > than a right angle* *Identify and label angles in shapes and images*	• identify acute and obtuse angles *Consolidate learning from Y3 understanding:* - *right angles* - *the terms 'acute' and 'obtuse' to describe angles than smaller or larger than a right angle.* - *that obtuse angles are greater than 1 right angle but smaller than 2 right angles* - *Identifying and labelling angles in shapes and images* *Do not go into reflex angles and using degrees to measure angles – this will be covered in Y5* • compare and order angles up to two right angles by size *Compare different types of angle: right, acute and obtuse* *Compare angles of the same type: right, acute and obtuse* *Comparisons done through observation and comparison to right angles – which was is nearer to the size of a right angle.* *Measuring angles is covered in Y5* *Order more than 2 angles by size* • compare and classify geometric shapes, including triangles, based on their properties and sizes *Explain how triangles can all be classed as a triangle (a polygon with 3 straight sides) but that triangles can also look very different* *Explain that there are different types of triangles:* - *equilateral: all sides are the same length (Play on word – equil …. Equal sides)* - *isosceles: 2 sides are the same length (Play on word – is…'ice' … the shape of an ice-cream cone)* - *scalene: all sides are a different length* - *right angled: includes a right angle* *Show children the symbol for showing equal length sides on a polygon (|- 1 vertical straight line through the middle of each equal side)* *Understand that the number of equal sides matches the number of angles that are the same inside the polygon.* *E.g. equilateral triangle – all equal sides so all equal angles* *Isosceles – 2 equal sides so 2 equal angles* *Identify and name types of triangles* *Sort and match types of triangles* *Explain why a triangle is a particular type* *Make types of triangle on a geoboard* *Name and describe the triangles made* *Use dotted paper to draw the triangle made on the geoboards*

SPRING TERM		
WEEK: 6	**Wk Beg: 8 Feb**	**DOMAIN: Geometry – Properties of Shape**

YEAR 3	YEAR 4
	Draw triangles on blank paper considering the properties and accurate ruler use *If needed, children can join marked points.*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	*Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.*

SPRING TERM		
WEEK: 7	**Wk Beg: 22 Feb**	**DOMAIN: Number - Multiplication**

YEAR 3	YEAR 4
• write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods *Remind children of learning in Autumn Wk 11 where we explored arrays flexibly using 'friendly numbers' to help find totals* *Move on to* ***explore flexible use of arrays for numbers greater than 10 as a link into Grid method.*** *Refer to From Exploration to Excellence: Written Multiplication – top P12* *Introduce* ***efficient array building using Base 10 equipment in grids*** *(grid method – Build it).* *Explain that multiplication is like addition and subtraction in that we always start working with the smallest values first. Multiply the ones and then multiply the tens.* *Refer to From Exploration to Excellence: Written Multiplication – P12* ***Use pictorial representations of the Grid method*** *(Draw it – can draw equipment in the place value grid or draw the grid and write products in if they know them)* *Refer to From Exploration to Excellence: Written Multiplication – P13, as appropriate*	• multiply three-digit numbers by a one-digit number using formal written layout ***Introduce three-digit numbers times one-digit numbers.*** *Boss the Blue – Grid method (writing products)* ***Secure expanded notation of HTO X O.*** *Model with Build it (Grid method – positioning equipment in a place value grid), Draw it (Grid method – drawing place value grid with equipment or products calculated within) into Write it (expanded short), as appropriate.* *Ensure some calculations use zero as a place holder.* *Refer to From Exploration to Excellence: Written Multiplication – bottom P15 & top P16*
Solve problems, including missing number problems, involving multiplication	*National curriculum non-statutory guidance:* Solve problems in contexts, choosing the appropriate operations, working with increasingly harder numbers.

SPRING TERM		
WEEK: 8	**Wk Beg: 1 Mar**	**DOMAIN: Number - Division**

YEAR 3	YEAR 4
➲ 1 DAY – PUMA ASSESSMENT • write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, using mental and progressing to formal written methods *Boss the Blue – children only work with divisors linking to their times tables knowledge* *Consolidate and **secure Y2 understanding of difference between grouping and sharing.*** *Understand that we can still group and share numbers in the same way with larger quantities but that it becomes quite inefficient.* *Refer to From Exploration to Excellence: Written Division – P9. P12 & top P13* *Move on to understand that we can group larger quantities more efficiently scaling and our knowledge of place value.* ***Group multiples of 10 more efficiently using Base 10 on a place value grid.*** *Ensure children recognise that to group a number in its quantity value (e.g. 60) is inefficient as we have to have 60 ones to make groups of 3.* *But we can group 60 into groups of 3 thinking about the column value so 60 can be thought of as 6 tens and we can put 6 tens into groups of 3 tens.* *Build it!* *Refer to From Exploration to Excellence: Written Division – bottom P13 & P14*	**➲ 1 DAY – PUMA ASSESSMENT** • *Non-Statutory Guidance: "Pupils practise to become fluent in the formal written method of short division with exact answers"* • 'divide' two-digit numbers by a one-digit number ***Secure and consolidate using place value scaling as a more efficient way of grouping; building groups on a place value grid in preparation for using the formal written methods, two-digit divided by one-digit numbers, including those when exchanging a ten for ones is necessary*** *BUILD IT!* *Boss the Blue – children only work with divisors linking to their times tables knowledge* *Refer to From Exploration to Excellence: Written Division – P18 & P15-16* *Move on to **make links from grouping place value equipment on a grid to formal short division notation using pictorial representations to support*** *DRAW IT!* *Boss the Blue – children only work with divisors linking to their times tables knowledge* *Refer to From Exploration to Excellence: Written Division – P19, as appropriate*
Solve problems, including missing number problems, involving division	*National curriculum non-statutory guidance:* Solve problems in contexts, choosing the appropriate operations, working with increasingly harder numbers.

SPRING TERM		
WEEK: 9	**Wk Beg: 8 Mar**	**DOMAIN: Number - Division**

YEAR 3	YEAR 4
➲ MTC Practice Data Submission opens on Insight ▪ Initial Data Submission Date this week – Friday 12th March ▪ MTC Practice – Final Data Submission Date – Friday 26th March • write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, using mental and <u>progressing</u> to formal written methods ***Use place value scaling as a more efficient way of grouping; building groups on a place value grid, two-digit divided by one-digit numbers*** *Ensure children understand what each part of the number sentence represents* *Group 2-digit numbers on a place value grid using place value scaling working with calculations that do not require exchange.* *Group according to column value – e.g. 69 is 6 tens and 9 ones. So 69 ÷ 3 can be thought of in its column values, so how many groups of 3 tens can you make with 6 tens and how many groups of 3 ones can you make with 9 ones… 2 groups of tens and 3 groups of ones … 23.* *Build it!* *Boss the Blue – children only work with divisors linking to their times tables knowledge* *Refer to From Exploration to Excellence: Written Division – P15-16*	**➲ MTC Practice Data Submission opens on Insight** ▪ Initial Data Submission Date this week – Friday 12th March ▪ MTC Practice – Final Data Submission Date – Friday 26th March • *Non-Statutory Guidance: "Pupils practise to become fluent in the formal written method of short division with exact answers"* • 'divide' two-digit numbers by a one-digit number ***Make links from grouping place value equipment on a grid to formal short division notation; 2-digit divided by one-digit numbers*** *WRITE IT!* *Boss the Blue – use Build it/Draw it as a scaffold alongside to support Write-it* *Refer to From Exploration to Excellence: Written Division – P19, as appropriate*
Solve problems, including missing number problems, involving division	*National curriculum non-statutory guidance:* Solve problems in contexts, choosing the appropriate operations, working with increasingly harder numbers.

SPRING TERM

WEEK: 10	Wk Beg: 15 Mar	DOMAIN: Fractions

YEAR 3

➲ MTC Practice Data Submission open on Insight

- Initial Data Submission Date opened Friday 12th March
- MTC Practice – Final Data Submission Date – Friday 26th March

- recognise and use unit fractions with small denominators
- Recognise that tenths arise from dividing an object into 10 equal parts

Understanding the role of the denominator.
Chn continue to recognise fractions as parts of whole and shape. Small denominators linked to the tables that they know. E.g. 2, 5, 10, 4, 8, 3.
Children have only experienced halves, quarters and one-third in Y2. Other denominators and fractions are new concepts.
Make links to language of division. E.g. 1/3 is the whole divided into 3 equal parts.
Include tenths as a denominator making links to Spring Wk 3

- recognise and use non-unit fractions with small denominators

Understanding the role of the denominator and then the role of the numerator.
Recognise we act on the denominator (split the whole into said number of equal parts) before the numerator tells us how many of the equal parts are to be considered.

Look at fractions of shape – ensure children need to recognise how many equal parts the shape needs to be split into and not just using pre-partitioned shapes.

Include non-unit fractions with denominators of 2, 5, 10, 4, 8 and 3 in line with times tables knowledge.

Solve problems that involve all of these ideas.

YEAR 4

➲ MTC Practice Data Submission open on Insight

- Initial Data Submission Date opened Friday 12th March
- MTC Practice – Final Data Submission Date – Friday 26th March

- Recognise and write decimal equivalents of any number of tenths

Consolidate and secure understanding tenths.
Link back to Y3 and link back to Spring Wk 3 working with place value charts.
Make links to counting along a number line in different representations.
Ensure variations of language to describe the same concept – e.g. one tenth = $\frac{1}{10} = 0.1$
Refer to From Exploration to Excellence: Mental Multiplication & Division - P18

- Compare numbers with the same number of decimal places

Make comparisons and order decimal numbers with tenths.
Represent numbers with one decimal place in different ways including on a number line and with decimal place value counters

- recognise and write decimal equivalents to $\frac{1}{2}$

Reinforce that decimals and fractions are different ways of expressing numbers and proportions.
Explore different representations and language variations of the fraction. E.g. ½ = one half = 0.5 = five tenths

- Round decimals with one decimal to the nearest whole number

This is the first time, children will experience rounding decimals.
Link to rounding whole numbers in Autumn Wk 6.

Using knowledge of identifying nearest whole number before and after.
Ensure children understand the concept of rounding as approximation and not as a rule to be learnt.
Understand that when rounding to the nearest 1, we have to look at the digit in the tenths column recognising if it is 0-4, we must round to the previous multiple of 1 and if it is 5 or above, we must round to the next multiple of 1

Recognise that when rounding to the nearest whole number, your answer will be a whole number.

Encourage children to use number lines to support rounding. E.g. round 34.7 to the nearest whole number … draw number line mark on 34 and 35, mark on mid-way marker of 34.5, position 34.7 approximately. Which whole number is it nearer to? Which side of the halfway marker is it nearer to?

Solve simple problems involving fractions and decimals to two decimal places

SPRING TERM

WEEK: 11	Wk Beg: 22 Mar	DOMAIN: Fractions

YEAR 3

➲ MTC Practice Data Submission open on Insight

- Initial Data Submission Date opened Friday 12th March
- MTC Practice – Final Data Submission Date – Friday 26th March

- compare and order fractions with the same denominator

Look at denominators of 2, 5, 10, 4, 8 and 3 in line with times tables knowledge initially. If appropriate, look at other denominators too.

Compare 2 fractions with the same denominator.

Build it – provide pre-divided strips to build a fraction wall

- *label equal parts with worded language and symbolic. E.g. One quarter / $\frac{1}{4}$*
- *Compare two fractions of the same denominator working with a partner using fraction wall strips*
-

Draw it – shade bar models noticing connection from paper strips
Remind children that as the strips all represented one whole, they were all the same size and so this should be the same with our bar models – they should all be the same length as they all represent one whole that has been split into a different number of equal parts

Write it - Compare fractions using language 'greater than and 'smaller than'

- *Compare fractions using symbols < and >*

Order more than 2 fractions with the same denominator.

- compare and order unit fractions

Use folding of paper strips (Build-it) and bar model (Draw-it) to compare unit fractions

Understand that the smaller the numerator, the bigger the part recognising that when the whole is split into fewer equal parts, each part will be bigger compared to if the same whole was split into more equal parts

Compare 2 unit fractions paying attention to the denominator to help compare
Order more than 2 unit fractions

Solve problems that involve all of these ideas.

YEAR 4

➲ MTC Practice Data Submission open on Insight

- Initial Data Submission Date opened Friday 12th March
- MTC Practice – Final Data Submission Date – Friday 26th March

- Recognise and write decimal equivalents of any number of **hundredths**
- count up and down in hundredths

Consolidate and secure understanding hundredths.
Link back to Spring Wk 3 working with place value charts.
Ensure variations of language to describe the same concept – e.g. three hundredths = $\frac{3}{100} = 0.03$
Make links to counting along a number line in different representations.
Refer to From Exploration to Excellence: Mental Multiplication & Division - P24

Move onto numbers including more than 9 hundredths, e.g. 27 hundredths.
Show 27 hundredths on a hundred square – what do you notice?
What is this the same as? 27 hundredths is the same as 2 tenths and 7 hundredths. How would we write this as a decimal number? 0.27

- Compare numbers with the same number of decimal places up to two decimal places

Make comparisons and order decimal numbers with tenths and hundreds
Represent numbers with one decimal place in different ways including on a number line and with decimal place value counters

- recognise and write decimal equivalents to $\frac{1}{4}$, and $\frac{3}{4}$

Reinforce that decimals and fractions are different ways of expressing numbers and proportions.
Link to shading on a hundred square.
Shade in one quarter – what do you notice? How can we describe this in different ways? E.g. one quarter = 25 hundredths = $\frac{25}{100} = 0.25$

Solve simple problems involving fractions and decimals to two decimal places

SUMMER TERM			
WEEK: 1	**Wk Beg: 14 Apr**	**DOMAIN: Y3: Measurement**	**Y4: Fractions**

YEAR 3	YEAR 4
• Measure and compare mass (kg/g); • Measure and compare volume and capacity (l/ml) *Build on learning from Y2 where the children measured:* - *mass in kg OR g up to 100g* - *volume in l or ml (up to 100ml)* *Extend measuring in grams up to 1000g / ml up to 1000ml* *Measure to the nearest g.* *Use equipment such as:* - *balance scales with g weights and circular scales to find the masses of different objects.* - *containers with capacity marked on, jugs, measuring cylinders to find the volume of different containers.* *If scales, have not all markers labelled – link back to work completed on estimating and identifying numbers on number lines in Autumn Wk 5* *Know that 1kg = 1000g* *Know that 1l = 1000ml* *Introduce measuring mass with mixed units of kg and g and l and ml* *Make links to work completed on estimating and identifying numbers on number lines in Autumn Wk 5 to calculate unknown markers of grams between kg scales* *Make links to fractions and division to help calculate unknown values on a scale. E.g. if 4 intervals for 100g / 100ml on a scale, how much must each interval be worth* *Do not use decimal notation for mass – use 'and'. E.g. 2kg and 300g OR 2l and 300ml. Decimal notation is introduced in Y4.* *Use different units to of measurement to measure and compare, e.g. whole kg, 25g and whole l, 25ml* • add and subtract: mass (kg/g); • add and subtract: volume and capacity (l/ml) *Add single units first. E.g. kg + kg, g + g / l + l , ml + ml* *Move on to kg + g / l + ml* *Use part-whole models to add mixed units.* *E.g. 1kg 200g + 2kg 450g … add the kg then add the grams OR 1l 200ml + 2l 450ml … add the l then add the ml*	• Use place value, known and derived facts to multiply mentally • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths *Link back to learning in Spring Wk 3 where we used place value grids to multiply / divide by 10 and 100.* *Use this knowledge to **introduce by multiplying and dividing by 1000** to support conversion of measures* • convert between different units of measure [for example, kilometre to metre;]] • Compare and calculate different measures *Converting measures of length, mass and volume, as appropriate* *Link back to Y3 understanding that 1000m = 1km, 1000g = 1kg and 1000ml = 1l* *Simple conversion of different measures using multiplication and division by 1000.* *Ensure children understand the connection to the measures being a thousand times bigger / smaller.* *Teach meaning of key vocabulary.* *Know that kilo means one thousand so 1 kilometre/gram means 1000 metres/grams.* *Know that milli means 'one thousandth' so millimetre/litre means one thousandth of a metre/litre.* *Use double number lines to model and support.* *Convert single units initially. E.g. 4kg = 4000g* *Move on to converting mixed units. E.g. 3km 500m = 3500m* *Compare different measures using conversion to support. E.g. Which is bigger? 2700g or 2kg 750g … 2700g < 2750g* • Compare and calculate different measures • recognise and write decimal equivalents to $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}$ • recognise and write decimal equivalents of any number of tenths *Move on to conversion of fractions of metres, litres, km and kg.* *Write as fractions, decimals and quantity. E.g.* $\frac{1}{2}kg = 0.5kg = 500g$ *Use stacked number lines to model and support.* *Compare different representations of measure. E.g. .* $\frac{1}{2}kg > 300g$
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	Solve simple measure problems involving decimals to two decimal places

SUMMER TERM			
WEEK: 2	**Wk Beg: 19 Apr**	**DOMAIN: Number - Addition**	
YEAR 3		**YEAR 4**	
• add numbers with up to three digits, using formal written methods of columnar addition *Introduce **3-digit column addition including more than one exchange** – including HTO + TO and HTO + HTO;* *Follow Build it-Draw it – Write it approach.* *Boss the Blue – use Build it/Draw it as a scaffold alongside to support Write-it* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Addition – P23-26* • Use inverse operations to a calculation to check answers to a calculation *Ensure children recognise subtraction as the inverse of addition. Link back to learning in Spring Wk 5*		• add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate *Introduce 4-digit column addition including **more than one exchange** - including ThHTO + TO/HTO/ThHTO.* *Children should have a solid enough understanding of 2- and 3- digit written column addition to move straight to Write it stage of 4-digit column addition.* *Use Build-it – Draw it as a scaffold to support if not secure.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Addition – P29-31, as appropriate* • Use inverse operations to a calculation to check answers to a calculation *Ensure children recognise subtraction as the inverse of addition. Link back to learning in Spring Wk 5.*	
Solve problems, including missing number problems, using number facts, place value, and more complex addition		Solve addition two-step problems in contexts, deciding which operations and methods to use and why.	

SUMMER TERM			
WEEK: 3	**Wk Beg: 26 Apr**	**DOMAIN: Number - Subtraction**	
YEAR 3			**YEAR 4**
• subtract numbers with up to three digits, using formal written methods of columnar subtraction *Introduce **3-digit column subtraction including more than one exchange** – including HTO - TO and HTO - HTO; Follow Build it-Draw it – Write it approach.* *Boss the Blue – use Build it/Draw it as a scaffold alongside to support Write-it* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Subtraction – P29-33, as appropriate* • Use inverse operations to a calculation to check answers to a calculation *Ensure children recognise addition as the inverse of subtraction. Link back to learning last week.*			• subtract numbers with up to 4 digits using the formal written methods of columnar addition where appropriate *Introduce 4-digit column subtraction including **more than one exchange** - including ThHTO - TO/HTO/ThHTO. Children should have a solid enough understanding of 2- and 3- digit written column subtraction to move straight to Write it stage of 4-digit column subtraction.* *Use Build-it – Draw it though as a scaffold to support if not secure.* *Encourage chn to consider if calculation can be done mentally first before going to a written method. Choice making.* *Refer to From Exploration to Excellence: Written Subtraction – P37-38, as appropriate* • Use inverse operations to a calculation to check answers to a calculation *Ensure children recognise subtraction as the inverse of addition. Link back to learning last week.*
Solve problems, including missing number problems, using number facts, place value, and more complex subtraction			Solve subtraction two-step problems in contexts, deciding which operations and methods to use and why.

SUMMER TERM		
WEEK: 4	**Wk Beg: 4 May**	**DOMAIN: Number – Multiplication and Division**

YEAR 3	YEAR 4
• Recall and use multiplication and division facts for the 3 multiplication tables • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know *Explore different representations of the 3x table.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P39-47* *Make links to our work on flexible arrays with multiplying by 3 in Autumn Wk 12, what did we partition the 3 into to help? 2 and 1.* *Explain that using our 2s here is using 2 as an anchor fact. Explain that we can use our 2s, 5s and 10s our anchor facts as we learnt those so well in Y2 and are our grounded facts.* *Introduce notation of part-whole model as jottings to support thinking with anchor facts as a strategy to support 3x if we can't yet recall the facts* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P46-47* *Understand the commutative relationships between facts; e.g. 2 x 3 is the same product as 3 x 2.* *Understanding that multiplication is commutative but division is not*	• Recall multiplication and division facts for multiplication tables up to 12 × 12 *Secure and consolidate knowledge of 2, 5, 10, 3, 4 and 8x tables from Y2/3,* *Secure and consolidate knowledge of 6x and 7x from Autumn term* *Secure and consolidate knowledge of 11x, 12x and 9x from Spring term.* *Multiplication and Division facts.* *Continue to prepare for Y4 MTC over this term by providing time to log on to Practice Area.* *Also encourage use of check practice on timestables.co.uk / Mrs Thompson's MTC / Pinpoint Maths* *Discuss test technique such as not pressing enter.* *Practice on devices that will be used in the test.*
Solve problems, including missing number problems, involving multiplication and division	Solve problems involving multiplying and adding, including using the distributive law *e.g. Using anchor facts for 11x; doing 10x and 1x and adding*

SUMMER TERM		
WEEK: 5	**Wk Beg: 10 May**	**DOMAIN: Number - Multiplication**

YEAR 3	YEAR 4
• write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and <u>progressing</u> to formal written methods *Consolidate and secure learning from Spring Wk 7 using pictorial representations of the Grid method (encourage children to draw the grid and write products in now as drawing the concrete equipment is quite inefficient)* *Boss the Blue – secure Grid Methods (Draw it – with drawings of concrete equipment, if required)* *Refer to From Exploration to Excellence: Written Multiplication – P13, as appropriate* ***Introduce expanded short notation of multiplication as a vertical representation of the Grid method.*** *Encourage children to scale known facts to help when multiplying tens. Link back to last week.* *Refer to From Exploration to Excellence: Written Multiplication – P13, as appropriate* *<u>If and when ready,</u>* ***progress from expanded short notation of multiplication to compact short*** *Refer to From Exploration to Excellence: Written Multiplication – P13, as appropriate*	• multiply three-digit numbers by a one-digit number using formal written layout *Consolidate and secure learning from Spring Wk 7 - expanded notation of HTO X O.* *Boss the Blue – secure expanded notation* ***Progress from expanded short to compact short multiplication*** *if place value knowledge is secure enough.* *Encourage children to use language of column value to support. E.g. 132 x 4 … 4 x 2 ones is 8 ones then 4 x 3 tens is 12 tens which is 1 hundred and 2 tens, 4 x 1 hundred is 4 hundred plus the one hundred exchanged form the tens.* *Ensure some calculations use zero as a place holder.* *Refer to From Exploration to Excellence: Written Multiplication – bottom P16*
Solve problems, including missing number problems, involving multiplication	*National curriculum non-statutory guidance:* Solve problems in contexts, choosing the appropriate operations, working with increasingly harder numbers.

SUMMER TERM		
WEEK: 6	**Wk Beg: 17 May**	**DOMAIN: Number - Division**

YEAR 3	YEAR 4
• write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, using mental and progressing to formal written methods *Boss the Blue – children only work with divisors linking to their times tables knowledge* ***Use place value scaling as a more efficient way of grouping; building groups on a place value grid in preparation for using the formal written methods, two-digit divided by one-digit numbers, including those when exchanging a ten for ones is necessary*** *Ensure children understand what each part of the number sentence represents* *Group 2-digit numbers on a place value grid using place value scaling working with calculations that do require exchange.* *Build it!* *Refer to From Exploration to Excellence: Written Division – P15-16*	• *Non-Statutory Guidance: "Pupils practise to become fluent in the formal written method of short division with exact answers"* • 'divide' three-digit numbers by a one-digit number ***Make links from grouping place value equipment on a grid to formal short division notation; 3-digit divided by one-digit numbers*** *Model with Build it – Draw it to show the connections to dividing 2-digit numbers as in Spring Wk 8.* *Some children will have a solid enough understanding of 2-digit short division from Spring term that they can move to Write it for 3-digit with ease.* *Use Build-it – Draw it though as a scaffold to support if not secure.* *Refer to From Exploration to Excellence: Written Division – P20*
Solve problems, including missing number problems, involving division	*National curriculum non-statutory guidance:* Solve problems in contexts, choosing the appropriate operations, working with increasingly harder numbers.

SUMMER TERM		
WEEK: 7	**Wk Beg: 24 May**	**DOMAIN: Fractions**

YEAR 3	YEAR 4
• recognise and use fractions **as numbers**: unit fractions and non-unit fractions with small denominators *Focus on this as a starter. Count forwards and backwards in fractions.* *Complete missing gaps on a number line counting in fractions* *Use double number lines to model counting in quarters and halves etc.* *Move on to begin to look at relations between equivalent fractions on a number line including beyond 1, e.g. 1* $\frac{2}{4}$ *is the same as* $1\frac{1}{2}$.	• *Non-Statutory Guidance: "Pupils practise counting using simple fractions forwards and backwards"* *Focus on this as a starter. Consider fractions as numbers along a number line*
• add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7}+\frac{1}{7}=\frac{6}{7}$] *Use paper strips (Build-it) and bar model (Draw-it) to add fractions within one whole* *Write-it – as number sentences* *Recognise that the denominator does not change when we are adding / subtracting fractions* *Recognise that when the numerator and denominator are equal, we have one whole. E.g.* $\frac{5}{5}=1$ *whole.* • Recognise and show, using diagrams, equivalent fractions with small denominators *Use denominators linked to multiplication knowledge; 2, 4, 8, 5, 10, 3* *Look at equivalent relationships of halves and quarters, quarters and eighths initially* *Build it – use paper strips of the same length to fold into fractions – building a fraction wall* - *Fold horizontal strips in half vertically (halves)* - *Fold another one the same way and then in half again (quarters)* - *As above and fold again (eighths)* *Recognise that the strips are all the same length as they all still represent one whole* *Draw it – draw bar models noticing connection from paper strips* *Remind children that as the strips all represented one whole, they were all the same size and so this should be the same with our bar models – they should all be the same length as they all represent one whole that has been split into a different number of equal parts* *Write it - Compare equivalent relationships* *Use the language of 'is equivalent to'* *Write and complete number sentences showing equivalences* *Move on to look at equivalent relationships of fifths and tenths* *If appropriate, look at equivalent relationships of thirds, sixths and ninths*	• add and subtract fractions with the same denominator *Link to Y3 where they used paper strips (Build-it) and bar model (Draw-it) to add and subtract fractions within a whole.* *Move on to include bridging one whole, e.g. 5/7 + 4/7 = 9/7.* *Children write this as an improper fraction (numerator > denominator) and do not need to convert this to a mixed number as this will be secured in Y5.* *Ensure children understand that this has bridged a whole so show through visual representations such as bar with 7/7 shaded and then two more on another bar.* *Use paper strips (Build-it) and bar model (Draw it) to support.* • Recognise and show, using diagrams, families of common equivalent fractions *Link to Y3 where they used paper strips (Build-it) and bar model (Draw-it) to show equivalent fractions.* *Recap importance of comparing equivalent fractions when the whole is the same. E.g. same size strip / bar / number line* *We can see the equivalence by splitting the same whole into different amounts of equal parts* *Recognise the multiplicative relationships between the numerators and the denominators of the equivalent fractions.* *Use knowledge of factors and multiples to recognise equivalent fractions* *Begin with equivalence of unit fractions* *Move on to find equivalent fractions of non-unit fractions applying understanding of multiplicative relationships across the numerators and denominators.* *Use paper strips (Build-it) and bar models (Draw it) to model and support.* *Using denominators of fractions and tables that they know.* *Understand equivalent fractions have the same value and position on a number line.*
Solve problems that involve all of these ideas.	Solve problems involving increasingly harder fractions

SUMMER TERM		
WEEK: 8	**Wk Beg: 7 June**	**DOMAIN: Fractions**

YEAR 3	YEAR 4
• Recognise, find and write **unit fractions**, with small denominators, of a discrete set of objects *Make links to finding $\frac{1}{2}, \frac{1}{3}$ and $\frac{1}{4}$ in Y2.* *Now use denominators linked to multiplication knowledge; 2, 4, 8, 5, 10, 3* *Make links to division and sharing.* *E.g. $\frac{1}{8}$ means share quantity into 8 equal groups and then describe 1 of the parts. $\frac{1}{5}$ means share quantity into 5 equal groups and then describe 1 of the parts.* *Connect the language of division and fractions:* *E.g. half means split the whole into two equal parts so the denominator is 2* *Third means split the whole into three equal parts so the denominator is 3* *Quarter means split the whole into four equal parts so the denominator is 4 (Watch out for incorrect use of the word fourth instead of quarter!)* *Fifth means split the whole into five equal parts so the denominator is 5* *Eighth means split the whole into eight equal parts so the denominator is 8* *Tenth means split the whole into ten equal parts so the denominator is 10* *Understand that we act on the denominator first splitting the whole into set number of equal parts.* *Then we act on the numerator which tells us how many of those equal parts to consider.* *Build it - Find fractions of objects* *Draw it - Find fractions of images* *- Draw own pictures to find fractions. E.g. use the denominator to tell us how many parts (circles / split bar into), share quantity equally into each circle / part, then the numerator tells us how many of those parts we need to consider/identify* *Write it – Write number sentences to show fractions of number* • Recognise, find and write **non-unit fractions,** with small denominators, of a discrete set of objects *As above, moving on to when then numerator is more than 1 recognising that we act on the denominator first to know how many parts the whole needs to be split into and then work with numerator to determine how many of those parts we need to consider/identify*	**➲ MTC Window Opens** • Recognise, find and write **increasingly harder fractions**, to calculate quantities, where the answer is a whole number' *Link back to Y3 understanding that we act on the denominator first and then the numerator. Recap Build-it and Draw-it from Y3, as appropriate before moving to write-it.* *Begin with finding unit fractions of quantities before moving on to non-unit fractions* *Make links to language of division and recognise the connection to fractions.* *Include problems presented as a fraction of an amount but also questions presented as a division.* *E.g. 24 cakes are divided between 3 boxes. Mr Smith buys two of the boxes. How many cakes does he buy? What fraction of the cakes does he buy?* *Recognise that dividing by 3 is the same as finding a third. 24 ÷ 3 is the same as $\frac{1}{3}$ of 24 which is 8. 8 cakes in each box. Mr Smith buys 2 boxes. He buys 2 out of the 3 equal boxes. He buys $\frac{2}{3}$ of the cakes.* *E.g. Tom has 42 flowers in a vase. 1/7 of them are pink. The rest are yellow. What fraction of the flowers are yellow? How many of the flowers are yellow?* *E.g. 42 cupcakes have been divided between 7 boxes. Class 1 take 1 box of cakes and Class 2 take the remaining boxes. How many boxes do Class 2 take?* *How many cakes do Class 1 have? How many cakes do Class 2 have?* *What fraction of the cakes do Class 1 have? What fraction of the cakes do Class 2 have?*
Solve problems that involve all of these ideas	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number

SUMMER TERM			
WEEK: 9	**Wk Beg: 14 June**	**DOMAIN: Y3: Geometry – Properties of Shape**	**Y4: Geometry – Position and Direction**

YEAR 3	YEAR 4
➲ 1 DAY – PUMA ASSESSMENT • draw 2-D shapes *Use knowledge of properties of 2D shape from Y2 and Autumn Wk 14 (edges, vertices, symmetry, horizontal and vertical lines, perpendicular and parallel lines)* *Use geoboards and elastic bands to make shapes.* *Name and describe the shapes made.* *Use dotted paper to draw the shape made on the geoboards* *Draw shapes on blank paper considering the properties and accurate ruler use* *If needed, children can join marked points.* *Describe the properties of 2d shapes drawn using accurate language (edges, vertices, symmetry, types of line, length of sides)* *If appropriate, move on to consider comparing dimensions using simple scaling of integers. E.g. if each edge of the shape was now twice the size, what would the shape look like now?*	**➲ MTC Window Open** **➲ 1 DAY – PUMA ASSESSMENT** • describe positions on a 2-D grid as coordinates in the first quadrant *Discussing the labelling of the axes – x comes before y in the alphabet so x is first in the co-ordinate. Make links to the axes on bar charts.* *Non-statutory guidance: pupils draw a pair of axes in one quadrant, with equal scales and integer labels.* *Describe positions with language and co-ordinate – The x co-ordinate of the point is __, the y co-ordinate of the point is __. The point is (__,__)* • plot specified points *Plot positions described with language or co-ordinate* • plot specified points and draw sides to complete a given polygon *Describe and plot the position of different shape vertices, draw lines to connect vertices and produce polygons.* *Make links to knowledge of properties of shape from Autumn and Spring term* • Describe movement between positions as translations of a given unit to the left/right and up/down *Understand what a translation is. E.g. a translation moves something from one place to another without changing its appearance.* *Understand that translations could move up, down, left or right along the x or y axes.* *Describe a translation. E.g. The original point was (5, 2). It has been translated and is now at (7, 2). The point has moved two spaces to the right along the x axes.* *Perform a translation. E.g. The point (3, 7) is moved two spaces up the y axes. What is the new position of the point?*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	*Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.*

SUMMER TERM		
WEEK: 10	**Wk Beg: 21 June**	**DOMAIN: Measurement - Money**

YEAR 3	YEAR 4
• count from 0 in multiples of 50 and 100 (PV POS) *Make links to counting in values of 50p/100p money along a number line* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P20 & P16* • add amounts of money, using both £ and p in practical contexts *Begin with adding money of the same unit building from Y2.* *Make links to learning about money in Y2 where they learnt to reorder the coins to help find a total, count on from the largest coin and look for ways to make groups of 10p* *Extend this to making multiples of 10p to help with counting* *Extend to mixed units of £ and p understanding to add all values of the same unit first and then combine* *Understand that 100p = £1* *Use part-whole models to show values of money greater than £1 to show mixed units. E.g. 172p is £1 and 72p* *Do not use decimal notation for money – use 'and'. E.g. £4 and 36p. Decimal notation for money is introduced in Y4.* • subtract amounts of money to give change, using both £ and p in practical contexts *Move on to subtracting money of the same unit building from Y2* *Recap from Y2 that finding change is the same as finding the difference between two values of money but one is the cost of something and the other is the amount you pay with. But because we have paid too much money, the difference is the change we are given.* *Extend to mixed units of £ and p* *Practice finding change from typical amounts, e.g. £5, £10, £20 as we would have these notes / coins to pay with.* *Encourage children to think about appropriate multiples to count up to making appropriate choices of coin.* *Use representations to model the shopkeeper's method of counting up, using concrete equipment, alongside such as:* *- the number line to mark both values of money on and then count on to find the difference* *- two bars stacked to show the difference between the smaller and larger value. Use coins to count up from smaller amount to find the difference* *Refer to From Exploration to Excellence: Mental Addition & Subtraction P36*	• count from 0 in multiples of 25 (PV POS) • Convert between different units of measure *Convert £ and p. Up to and including Y3, chn have represented money using 'and' to separate £ and p.* *Introduce decimal notation of money for the first time making links to tenths and hundredths covered in Spring term understanding that tenths and hundredths of the pound represent pence.* *Ensure children recognise that money is always represented with 2 decimal places such as £2.50 is not £2.5.* *Similarly consider how to represent money with less than 10p. E.g. £2.02.* *Ensure children understand how to represent values of £ and p as a decimal. E.g. £3 and 47p = £3.47 or 347p. We use one unit only to represent money now.* • compare money in pounds and pence *Compare different representations of money. E.g. 347p > £3.25* • calculate money in pounds and pence *Column method should not be used to add or subtract values of money at this stage. Calculation of decimals in columns is covered in Y5.* *Make links to adding money in Y3 where they learnt to reorder the coins to help find a total, count on from the largest coin and look for ways to make multiples of 10p* *Make links to Y3 where they used representations to model the shopkeeper's method of counting up, using concrete equipment, alongside such as:* *- the number line to mark both values of money on and then count on to find the difference* *- two bars stacked to show the difference between the smaller and larger value. Use coins to count up from smaller amount to find the difference* *Add and subtract values of money represented as decimals using the same strategies as in Y3 understanding the new decimal notation of money in the calculation.*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	Solve simple money problems involving decimals to two decimal places

SUMMER TERM		
WEEK: 11	**Wk Beg: 28 June**	**DOMAIN: Number – Multiplication and Division**

YEAR 3	YEAR 4
• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including positive scaling problems *Derive scaled facts of multiples of 10.* Scaling known facts by 10. E.g. If I know 3 x 2 = 6, I can use scaling of place value columns to support. E.g. 3 x 2 tens is 6 tens (column value) which is 3 x 20 = 60 (quantity value) *Refer to From Exploration to Excellence: Mental Multiplication & Division - P75-78*	• Use place value, known and derived facts to multiply and divide mentally *Consolidate and secure deriving scaled facts of multiples of 10 from Y3.* E.g. If I know 3 x 2 = 6, I can use scaling of place value columns to support. E.g. 3 x 2 tens is 6 tens (column value) which is 3 x 20 = 60 (quantity value) *Refer to From Exploration to Excellence: Mental Multiplication & Division - P60-63* *Introduce deriving scaled facts of multiples of 100.* *E.g. 600 ÷ 3 can be derived from 6 ÷ 3.* If I know 6 ÷ 3 =2. I can use scaling of place value columns to support. E.g. 6 ones ÷ 3 is 2 so 6 hundreds ÷ 3 is 2 hundreds (column value) 600 ÷ 3 = 200 (quantity value) *Refer to From Exploration to Excellence: Mental Multiplication & Division - P64-67*
solve positive integer scaling problems *e.g. blue ribbon is 3cm long, red ribbon is 20 times as long. How long is the red ribbon?*	solve problems involving integer scaling problems *e.g. Pack of pens has 2 blue pens and 5 red pens. If I buy 20 blue pens, how many red pens do I have?* *e.g. a fence panel is 3m long. A farm needs 200 of the fence panels around his field. What is the perimeter of his field?*

SUMMER TERM		
WEEK: 12	**Wk Beg: 5 July**	**DOMAIN: Measurement - Time**

YEAR 3	YEAR 4
• compare durations of events [for example to calculate the time taken by particular events or tasks]. *Introduce durations of events as the time it takes for something to happen.* *Explain that if we are to find the duration of an event, we need to know the start time and finish time* *Find the durations of events less than an hour* *Begin within the hour before crossing the hour boundary* *Find durations of time between analogue times* *Find durations of time between 12-hour digital times* *Model how to use a number line to help calculate durations of events using key milestones to help, e.g. half past, o'clock, counting on full hours* *Refer to From Exploration to Excellence: Mental Addition & Subtraction P47*	• Convert between different units of measure (for example, hour to minute) *Focus on simple conversion problems to develop the knowledge of conversion between hours/minutes, minutes/seconds.* *This involves multiplying/dividing by 60.* *Use mental skills from last week to support this.* *E.g. derive facts from 6x table and use scaling by 10 alongside.* *E.g. 3 hours converted to minutes …. 3 x 60 .. I know 3 x 6 = 18 and then 18 x 10 = 180. So 3 hours = 180 minutes.* *Use double number lines to model and support.* - *Convert from smaller to larger – minutes to hours, seconds to minutes (x60)* - *Convert from larger to smaller – hours to minutes, minutes to seconds (÷60)* • Compare and calculate different measures *Compare different representations of measure. E.g. 180 minutes > 2 hours* *Complete missing information presented in comparison tables.*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	Solve problems involving converting from hours to minutes, minutes to seconds

SUMMER TERM		
WEEK: 13	**Wk Beg: 12 July**	**DOMAIN: Geometry – Properties of Shape**

YEAR 3	YEAR 4
• recognise 3-d shapes in different orientations and describe them *Link back to learning in Y2 where children described 3d shapes considering their properties of faces, edges and vertices* *Build on this to recognise and name 3d shapes in different orientations.* *Describe the different properties of the shape* *Ensure children are clear on the difference between a curved surface and a circular face* *Identify a shape from descriptions provided* *Complete a table to show the different properties of 3d shapes – faces, edges, vertices, curved surfaces* • make 3-d shapes using modelling materials *Make 3d shapes from different materials, such as straws, cubes, playdoh, spaghetti and marshmallows* *Sheets of paper can be used for curved surfaces* *Describe the shapes made considering the properties above* *Consider if we can describe the shapes using the language horizontal, vertical, perpendicular and parallel – link back to Autumn Wk 15* *Give images to copy to make 3d shapes – e.g. cube shapes* *Build shapes using knowledge of properties* *Nets are explored later in KS2 and do not need to be covered now*	• compare and classify geometric shapes, including quadrilaterals, based on their properties and sizes *Introduce the vocabulary 'quadrilateral'* *Understand that quadrilaterals are polygons with 4 straight sides, 4 angles and 4 vertices* *Identify and name different quadrilaterals including square, rectangle, trapezium, rhombus, parallelogram* *Sort and match different quadrilaterals* *Use Venn diagrams and Carroll diagrams to sort and compare.* *Explain why a quadrilateral is a particular type* *Make types of quadrilateral on a geoboard* *Name and describe the quadrilaterals made* *Use dotted paper to draw the quadrilateral made on the geoboards* *Draw quadrilaterals on blank paper considering the properties and accurate ruler use* *If needed, children can join marked points.*
Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.	*Whilst no programme of study is directly connected to problem solving in this domain. The curriculum aims to ensure all pupils become fluent, reason mathematically and solve problems and so opportunities should be provided within this sequence of learning.*

SUMMER TERM		
WEEK: 14	**Wk Beg: 19 July**	**DOMAIN: Number – Multiplication and Division**

YEAR 3	YEAR 4
• solve problems correspondence problems in which n objects are connected to m objects. *Boss the Blue – use build it -draw it to support* *Correspondence problems – finding all possible solutions e.g. how many ways can you have the ice cream flavours and toppings* *Show children how to systematically list all possibilities to see how many combinations can be made* *Use a table to ensure we have covered all possibilities.* *E.g. a table of two columns; one column for flavours and one for toppings* *First column would have vanilla listed on four rows alongside the four different toppings (sprinkles, syrup, flake, nuts) in the next column* *Then next four rows would be strawberry ice-cream matched with all four toppings* *What do you notice about the number of flavours, the number of toppings and the number of possibilities?* *Repeat with another example such as jumpers & trousers, hats & scarfs, crisps & sandwiches.* *What do you notice about the number of flavours, the number of toppings and the number of possibilities?* *Enable the children to notice for themselves that if we multiply the number of category 1 (e.g. hats) v the number of category 2 (e.g. scarves), we will get the number of possibilities.* *Use this to conjecture (make a prediction) for another set of categories before testing (specialising)* *What can we generalise about correspondence problems then? (General rule)*	• recognise and use commutativity in mental calculations • multiplying together three numbers *Focus on as a starter each day considering commutativity within the calculation and finding the easy way using known facts* • solve problems involving harder correspondence problems such as n objects are connected to m objects. *Consolidate and secure learning from Y3 on correspondence problems – finding all possible solutions e.g. how many ways can you have the ice cream flavours and toppings* *Ensure children can:* - *systematically list all possibilities to see how many combinations can be made* - *use a table to ensure all possibilities were covered* - *notice that if we multiply the number of category 1 (e.g. hats) v the number of category 2 (e.g. scarves), we will get the number of possibilities.* *Move on to consider correspondence problems with 3 options (e.g. options for 4 hats ABCD , 3 scarves 123 and 2 gloves ab)* *Show children how to systematically list all possibilities to see how many combinations can be made* *Encourage children to consider the first two options and find all possibilities first. E.g. 4 hats and 3 scarves* *Move on to think about 3rd option and recognise that all the possibilities for the 4 hats and 3 scarves can be matched with either gloves a or gloves b* *Use a table to ensure we have covered all possibilities.* *Repeat with another example such as jumpers, trousers, socks OR crisps, sandwiches, drink etc* *What do you notice about the number of possibilities when you have 3 options to consider?* *Enable the children to notice for themselves that if we multiply the number of category 1 (e.g. hats) by the number of category 2 (e.g. scarves) and then by the number of category 3 (e.g. gloves) we will get the number of possibilities.* *Use this to conjecture (make a prediction) for another set of categories before testing (specialising) What can we generalise about correspondence problems then? (General rule)*
Solve correspondence problems	*National curriculum non-statutory guidance:* Solve problems in contexts, choosing the appropriate operations, working with increasingly harder numbers.