YEAR 5/6 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 5/6 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

	Y5	Y6
AUTUMN TERM 1	• Multiplication & Division Facts *X2, x5, x 10, x4, x8, x3, x6, x7, x11, x12, x9* • Time Telling and writing the time to the nearest minute, analogue and digital 12-hour and 24-hour clocks – Link to Autumn Wk 2 • Place Value Read, write, order and compare numbers including those with decimals. Include Rounding. Link to Y4 and Autumn Wks 3-5 • Angles Link to Y4 - acute & obtuse, order angles up to two right angles by size • *Teacher Directed* ?	• Multiplication & Division Facts *1-12x, deriving known facts, multiplying by 10, 100 and 1000* • Time Read and write time to the nearest minute, converting units – Link to Autumn Wk 2 • Place Value Read, write, order and compare numbers including those with decimals. Include Rounding. Link to Y5 and Autumn Wks 3-5 • Angles Link to Y5 - acute & obtuse, order angles up to two right angles by size, reflex angles, draw given angles and measure them in degrees • *Teacher Directed* ?
	Y5	**Y6**
AUTUMN TERM 2	• Multiplication & Division Facts *X2, x5, x 10, x4, x8, x3, x6, x7, x11, x12, x9* • Rounding numbers Link to Autumn Term Wk 5 • Multiplying & Dividing whole numbers by 10, 100 and 100 Link to Autumn Wk 6 • Fractions Link to Y4 – add + subtract with same denominator, equivalent fractions, fractions of quantity • *Teacher Directed* ?	• Multiplication & Division Facts *1-12x, deriving known facts* • Rounding numbers Link to Autumn Term Wk 5 • Multiplying & Dividing numbers by 10, 100 and 1000 Link to Autumn Wk 6 • Fractions Link to Y5 – add + subtract with same denominator, add + subtract with multiples of same denominator, mixed number and improper fractions, compare and order • *Teacher Directed* ?

YEAR 5/6 MATHEMATICS – RETRIEVAL PRACTICE (Memory & Recall)

RETRIEVAL PRACTICE

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4 areas as listed below AND 1 area as identified by class teacher – 1 per day every week of the term

	Y5	Y6
SPRING TERM 1	• Multiplication & Division Facts *1-12x* *Boss the Blue – x12* • Written Addition & Subtraction methods Whole numbers - Link to Autumn Wk 8 • Decimals Link to Autumn Wk 4 – read, write, order and compare up to three decimal places Link to Autumn Wk 11 – round decimals • Converting Measures Link to Autumn Wk 7 • *Teacher Directed* ?	• Multiplication & Division Facts *1-12x, deriving known facts, multiplying by 10, 100 and 1000* • Written Addition & Subtraction methods Including decimals - Link to Autumn Wk 8 • Decimals Link to Autumn Wk 4 – read, write, order and compare, represent Link to Y5 – rounding decimals Link to Y5 – decimal and percentage equivalents • Converting Measures Link to Autumn Wk 7 • *Teacher Directed* ?
	Y5	**Y6**
SPRING TERM 2	• Multiplication & Division Facts *1-12x and Using known facts to derive* *Boss the Blue – x12* • Properties of Shape 2D and 3D shape properties – link to Y3 & 4 – faces, edges, vertices, names, sort, compare, angles, types of line, symmetry • Written Addition & Subtraction methods Include calculating with the same number of decimal places – link to Spring Wk 4 • Fractions Link to Spring Wks 2 & 3 • *Teacher Directed* ?	• Multiplication & Division Facts *1-12x, deriving known facts, multiplying by 10, 100 and 1000* • Properties of Shape 2D and 3D shape properties – link to Y3-5 – faces, edges, vertices, names, sort, compare, angles, types of line, symmetry • Written Calculation methods Addition, subtraction, multiplication & division – link to Autumn Wk 8 and Spring Wk 5 • Fractions Link to Spring Wks 2 & 3 • *Teacher Directed* ?

YEAR 5/6 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*		
	Y5	**Y6**
SUMMER TERM 1	• Multiplication & Division Facts *1-12x and Using known facts to derive, multiplying facts by 10 and 100* *Boss the Blue – x9* • Perimeter Link to Spring Wk 9 • Position & Direction Link to Spring Wk 10 • Rounding Link to Autumn Wk 5 & 11 • *Teacher Directed* ?	• Multiplication & Division Facts *1-12x, deriving known facts, multiplying by 10, 100 and 1000* • Perimeter & Area Link to Spring Wk 9 • Position & Direction Link to Spring Wk 10 • Rounding Link to Autumn Wk 5 • *Teacher Directed* ?
	Y5	**Y6**
SUMMER TERM 2	• Multiplication & Division Facts *1-12x and Using known facts to derive – link to Autumn Wk 9* *Boss the Blue – x9* • Angles Link to Autumn Wk 14 & 15 • Percentages Link to Spring Wk 7 • Statistics Link to Spring Wk 11 • *Teacher Directed* ?	• Multiplication & Division Facts *1-12x, deriving known facts, multiplying by 10, 100 and 1000* • Angles Link to Autumn Wk 14 & 15 • Percentages Link to Spring Wk 7 • Statistics Link to Spring Wk 11 • *Teacher Directed* ?

AUTUMN TERM		
WEEK: 1	**Wk Beg: 3 Sept**	**DOMAIN: Number – Number and Place Value**

YEAR 5	YEAR 6
• Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero *Focus on this as a starter* *Including on number lines.* *Counting and interpreting only – calculating with negatives is in Y6.* *'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'.*	• Use negative numbers in context, and calculate intervals across zero *Read and interpret temperatures in tables* *Read, interpret and calculate with negative numbers on a vertical number line – link to thermometers* *Read, interpret and calculate with negative numbers on a horizontal number line* *Add and subtract from positive and negative numbers.* *Show and calculate differences (distance between two numbers) using a number line using zero as a bridge* *E.g. 7 – 12, -4 + 6, -3 – 5,* *Children do not need to subtract negative numbers, e.g. 7 - -3 in Y6* *Look at number sequences that include negative numbers, complete missing terms*
Solve problems involving converting units of time	Solve problems involving the calculation and conversion of units of measure

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

YEAR 5	YEAR 6
• solve problems involving time *Secure and consolidate reading and writing the time accurately using 12- and 24-hour clocks, analogue and digital.* *Draw / write / describe time on analogue, 12-hour digital and 24-hour digital accurately* *Convert and represent between each representation* • convert between units of time *Secure and consolidate conversion of simple units of time from Y4.* *Use double number lines to model and support conversions.* *Convert weeks to days using multiplicative reasoning of known facts of the number of days in a week .* *Convert years to months using multiplicative reasoning of known facts of the number of months in a year* *- Convert from smaller to larger – months to years, days to weeks (x12, x7)* *- Convert from larger to smaller – years to months, weeks to days (÷12, ÷7)* *Convert minutes to hours using multiplicative reasoning of known facts of the number of minutes in an hour.* *Convert seconds to minutes using multiplicative reasoning of known facts of the number of seconds in a minute.* *- Convert from smaller to larger – minutes to hours, seconds to minutes (x60)* *- Convert from larger to smaller – hours to minutes, minutes to seconds (÷60)* *Use knowledge of scaling 6 times tables facts to support minutes, hours, seconds and minutes.* *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.* *Complete missing information presented in comparison tables.* *Move on to more-complex calculations, including mixed units and express answers in the simplest form. E.g. 24 days = 3 weeks and 3 days* *E.g. A recipe needs 8 ½ minutes in the oven but Tom gives 45 seconds less time. How much time did Tom give the item in the oven?*	• read, write and convert between standard units, converting measurements of **time** from a smaller unit of measure to a larger unit, and vice versa *Convert smaller to larger – minutes to hours, seconds to minutes, weeks to months, months to years, hours to days, days to weeks* *Convert larger to smaller – years to months, months to weeks, minutes to seconds, hours to minutes, days to hours, weeks to days* *Use double number lines to model and support conversions.* *Include more complex conversions and give answers in the simplest form. E.g. 38 months = 3 years and 2 months* *Include calculations finding time intervals. E.g. a cake went in the oven at twenty to nine in the morning. It was baked at 9.47am. How long did the cake take to bake?* *Include problems using mixed units. E.g. a bus leaves Lincoln at 8.32am. It takes 76 minutes to arrive at its destination. What time does the bus arrive?* *Refer to From Exploration to Excellence: Mental Addition & Subtraction P47-50*
Solve problems involving converting units of time	Solve number and practical problems that involve these ideas

AUTUMN TERM		
WEEK: 3	**Wk Beg: 14 Sept**	**DOMAIN: Number – Number and Place Value**

YEAR 5	YEAR 6
• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 *Count forwards and backwards in multiples of 10, 100, 1000, 10,000, 100,000 as appropriate* *Recognise that powers of 10 are all multiples of 10* *Count from 0* *Count from any number* *Notice what digits change / stay the same when counting in different powers of 10* *Explore on a number line.* • Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit *Represent number in different ways: numerals, words, pictorial and concrete representations* *Including positioning on a number line – read scales/number lines in units of 1, 2, 4, 5 and 10 equal parts.* *Partitioning of number including perfect partitioning and partitioning in different ways.* *Comparing number in words and using symbols; <, > and =* *Order more than 2 numbers*	• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit *Represent number in different ways: numerals, words, pictorial and concrete representations* *Including positioning on a number line – read scales/number lines in units of 1, 2, 4, 5 and 10 equal parts.* *Partitioning of number including perfect partitioning and partitioning in different ways.* *Comparing number in words and using symbols; <, > and =* *Ordering number* *Understand relationship between powers of 10 from one hundredth to ten million recognising the value of columns on a place chart are ten times bigger to the right and ten times smaller to the left*
Solve number problems and practical problems that involve all of these ideas	Solve number and practical problems that involve these ideas

AUTUMN TERM		
WEEK: 4	**Wk Beg: 21 Sept**	**DOMAIN: Fractions**

YEAR 5	YEAR 6
• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents *Consolidate and secure understanding tenths and hundredths from Y3 and Y4.* *Move on to introduce thousandths.* *Look at thousandths as a denominator understanding that the whole is split into one thousand equal parts.* *Use different representations of thousandths to show that it doesn't matter what the whole is, if it is split into one thousand equal parts, it is split into thousandths.* *Ensure children recognise that when hundredths are divided by ten (split into ten equal parts), we have thousandths.* *Ensure children recognise that when tenths are divided by hundred (split into hundred equal parts), we have thousandths.* *Look at thousandths as a decimal using the place value chart understanding that hundredths are 10 times bigger than thousandths (1 place to the left), tenths are a hundred times bigger than thousandths (2 places to the left) and the whole ones are a thousand times bigger than thousandths (3 places to the left).* *Practise counting forwards and backwards in thousandths; denominators and decimals including bridging the whole and along a number line.* *Position on a number line.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P26-28* • Read, write, order and compare numbers with up to three decimal places *Represent number in different ways: numerals, words, pictorial and concrete representations* *Including positioning on a number line.* *Partitioning of number including perfect partitioning and partitioning in different ways.* *Comparing number in words and using symbols; <, > and =* *Compare numbers with the same number of decimal places initially before looking at numbers with different number of decimal places.* *Order more than 2 numbers.* *Order numbers with the same number of decimal places initially before looking at numbers with different number of decimal places.*	• Identify the value of each digit in numbers given to three decimal places *Place value of decimal numbers* *Represent decimal numbers in different ways: numerals, words, pictorial and concrete representations* *Including positioning on a number line.* *Comparing number in words and using symbols; <, > and =* *Ordering number with the same and different number of decimal places* *Partitioning of number including perfect partitioning and partitioning in different ways.* *E.g. 21,576.27 is twenty-one thousands, five hundred and seventy-six point two seven OR twenty-one thousands, five hundred and seventy-six and two tenths, seven hundredths OR twenty-one thousands, five hundred and seventy-six and twenty-seven hundredths*
Solve problems involving number up to 3 decimal places	Solve number and practical problems that involve these ideas

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

YEAR 5	YEAR 6
• Round any number up to 1 000 000 to the nearest 10, 100, 1000 *Secure and consolidate rounding numbers, with up to 4 digits, to the nearest 10, 100 and 1000 from Y4.* *Ensure children understand the concept of rounding as approximation and not as a rule to be learnt.* *Ensure children know 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* *Move on to round larger numbers, up to 1,000,000, to the nearest 10, 100 and 1000 now.* *Remember that when rounding to the nearest 10, 100 or 1000, your answers will be a multiple of 10, 100 or 1000.* *Encourage chn to identify the nearest multiple of 10, 100 and 1000 before and after on a number line and mid-way markers, as appropriate to support.* • Round any number up to 1 000 000 to the nearest 100,000 *Rounding to 100,000 is new learning.* *Use knowledge of identifying nearest multiple of 100,000.* *Understand that when rounding to the nearest 100,000, we have to look at the digit in the ten-thousands 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 100,000* *Recognise that when rounding to the nearest 100,000, your answer will be a multiple of 100,000 etc* *Encourage children to use number lines to support rounding. E.g. round 347,000 to the nearest 100,000 … draw number line mark on 300,000 and 40,000, mark on mid-way marker of 350,000, position 347,000 approximately. Which multiple of 100,000 is it nearer to? Which side of the halfway marker is it nearer to? Etc* • Round any number up to 1 000 000 to the nearest 10,000 *Rounding to 10,000 is new learning.* *Use knowledge of identifying nearest multiple of 10,000.* *Understand that when rounding to the nearest 10,000, we have to look at the digit in the thousands 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 10,000* *Recognise that when rounding to the nearest 10,000, your answer will be a multiple of 10,000 etc* *Encourage children to use number lines to support rounding. E.g. round 34,000 to the nearest 10,000 … draw number line mark on 30,000 and 40,000, mark on mid-way marker of 35,000, position 34,000 approximately. Which multiple of 10,000 is it nearer to? Which side of the halfway marker is it nearer to? Etc*	• Round any whole number • Round any ~~whole~~ number *Boss the Blue – round whole numbers to the nearest 100,000, 10,000, 1000, 100 and 10* *Secure and consolidate rounding numbers, to the nearest 10, 100, 1000, 10,000 and 100,000 from Y5* *Secure and consolidate rounding numbers with 1dp to the nearest whole number and rounding numbers with 2 decimal places to the nearest whole and to 1 decimal place from Y5* • Round any whole number to a required degree of accuracy *Move on to round answers to a specified degree of accuracy* *E.g. to the nearest 10, 20, 50 but not to a specified number of significant figures e.g. 3dp.* *Encourage children to always consider the nearest multiples before and after of those they are rounding to.*
Solve number problems and practical problems that involve all of these ideas	Solve number and practical problems that involve these ideas

AUTUMN TERM		
WEEK: 6	**Wk Beg: 5 Oct**	**DOMAIN: Number – Mental Strategies**

YEAR 5	YEAR 6
• Add and subtract numbers mentally with increasingly large numbers *Focus on strategies for Counting Forwards and Backwards & Partitioning: Counting On or Back* *Refer to From Exploration to Excellence: Mental Addition & Subtraction P12 & P32* • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 *Link back to Autumn Wk 4 where we considered the place value of decimal numbers.* *Consolidate and secure multiplying and dividing whole numbers by 10, 100 and 1000 from Y4. By 1000 was done in the context of measures in Y4.* *Know that this is making the number 10/100/1000 times the size and a tenth, hundredth and thousandth the size.* *Introduce multiplying and dividing numbers that include a decimal.* *Recognise that this is the same as when working with whole numbers. When we multiply / divide by 10/100/1000, EACH DIGIT moves 1/2/3 spaces to the left/right.* *Use place value charts to model and support.* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P68-72*	➲ **2 DAYS – KS2 2024 PAST PAPERS** ▪ **Paper 1 and Paper 2 on Day 1 & then Paper 3 on Day 2** ▪ **Do not spend lesson time marking or going through answers** **Teacher mark and analyse to inform teaching including Retrieval Practice, Spaced Learning and interventions** • Perform mental calculations, including with mixed operations and large numbers *Focus on strategies for Counting Forwards and Backwards & Partitioning: Counting On or Back* *Refer to From Exploration to Excellence: Mental Addition & Subtraction P13 & P33* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P97-100* • Multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places (FRACTIONS POS) *Secure and consolidate learning from Y5 multiplying and dividing WHOLE numbers by 10, 100 and 1000.* *Introduce multiplying / dividing numbers including decimal parts by 10, 100 and 1000.* *Ensure chn understand the connection between the place value holders using place value grids to model and support.* *Know that when a number is multiplied by 10/100/1000, EACH digit moves 1 place to the left* *Know that when a number is divided by 10/100/1000, EACH digit moves 1 place to the left* *Know that the decimal point does not move but the digits move around the decimal point* *Recognise the number of spaces each digit moves to the number of place holders of the multiplier.* *E.g. 10 has 1 place holder … when we multiply/divide by 10 each digit moves 1 place to the left/right* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P68-72*
Solve addition and subtraction problems in contexts, deciding which operations and methods to use and why. Solve problems involving multiplication and division	Solve problems involving addition, subtraction, multiplication and division

AUTUMN TERM		
WEEK: 7	**Wk Beg: 12 Oct**	**DOMAIN: Measurement**

YEAR 5	YEAR 6
• Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) *In Y4, children focused on simple conversion of different measures using multiplication and division by 1000.* *Move on to include other units of measure, e.g. km, m, cm and m conversions rather than just km and m* *Children use their knowledge of place value and multiplication and division to convert between standard units.* *Make links to multiplying by 10/100/1000 from last week.* *Include converting larger to smaller units and smaller to larger.* *Use double number lines to model and support.* *Include using common decimals and fractions such as* $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}$ *and any number of tenths.* *Write as fractions, decimals and quantity. E.g.* $\frac{1}{10}kg = 0.1kg = 100g$ *Use stacked number lines to model and support.* *Compare different representations of measure. E.g. .* $\frac{3}{4}kg > 650g$ *Boss the Blue – working with simple conversions but including* $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}$	• read, write and convert between standard units, converting measurements of length, mass and volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places *Secure and consolidate conversion of measures from Y5; converting common units of measures including common decimals and fractions such as* $\frac{1}{2}, \frac{1}{4}, \frac{3}{4}$ *and any number of tenths.* *Recognise which units of measure are used for measuring length, mass and capacity.* *Understand the difference between volume and capacity as both may have been used interchangeably until now.* *Capacity is the total amount a container can hold. Volume is the actual amount in the container.* *Understand how different units are related to each other and use multiplying/dividing by 10/100/1000 to convert between the different units.* *Link back to learning last week.* *Consider sensible units to make estimates of length, mass and capacity.* *Compare different units of measure recognising that the units must be the same, in order to make a comparison.* *E.g. 100ml compared to 0.1l or 3070g compared to 3.7kg* *Make comparisons including those presented as fractions, decimals and quantity. E.g.* $\frac{1}{10}kg = 0.1kg = 100g$ *Use stacked number lines to model and support.* *Solve problems using different units of measure and answer in a given unit.* *E.g. A block of butter weighs 150g. A recipe needs 4 blocks of butter. How much butter is used? Give your answer in kg.*
Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

AUTUMN TERM		
WEEK: 8	**Wk Beg: 19 Oct**	**DOMAIN: Number – Addition and Subtraction**

YEAR 5	YEAR 6
• Add whole numbers with more than 4 digits, including using formal written methods *Boss the Blue – Write it for 4-digit calculations secured.* *Secure and consolidate adding numbers with up to 4 digits from Y4 using formal column addition including those which require varying exchanges. 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 – P33 & P 29-31, as appropriate* ***Move on to add whole numbers with up to 6 digits (calculating within 1,000,000) using the formal column notation, including calculations which require varying exchanges.*** *Boss the Blue – whilst using build-it and draw-it is becoming inefficient now with larger numbers, it can be used a scaffold to access the learning, if required.* *Ensure children have a good understanding of the place value of the numbers they are working within. They should be able to read and write the value of each part of the calculation confidently.* *Refer to From Exploration to Excellence: Written Addition – P34-35* • Subtract whole numbers with more than 4 digits, including using formal written methods *Boss the Blue – Write it for 4-digit calculations secured.* *Secure and consolidate subtracting numbers with up to 4 digits from Y4 using formal column addition including those which require varying exchanges. 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 – P40, top P41 & P37-38, as appropriate* ***Move on to subtract whole numbers with up to 6 digits (calculating within 1,000,000) using the formal column notation, including calculations which require varying exchanges.*** *Boss the Blue – whilst using build-it and draw-it is becoming inefficient now with larger numbers, it can be used a scaffold to access the learning, if required.* *Ensure children have a good understanding of the place value of the numbers they are working within. They should be able to read and write the value of each part of the calculation confidently.* *Refer to From Exploration to Excellence: Written Subtraction – bottom P41 & P42, as appropriate* • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy *Link back to rounding learning in Week 5 to support checking answers.* *E.g. 21,526 + 48,298 is approximately 21,500 + 48,300 = 79,800 rounding to the nearest 100 so my answer should be approximately 79,800.* *E.g. 48,298 – 21,526 is approximately 48,000 – 21,000 = 27,000 rounding to the nearest 1000 so my answer should be approximately 27,000.* *Children can round to different numbers as they feel confident but should recognise the nearer, they round to, the more accurate their estimations will be however when working with larger numbers mentally, it is often easier to subtract larger rounded multiples.*	• *Non-statutory Guidance: "Practice addition and subtraction for larger numbers using the formal written methods of columnar addition and subtraction"* *Including whole number and decimal calculations.* *Boss the Blue – Write it for adding and subtracting whole number and decimal calculations, as appropriate to place value understanding* *Refer to From Exploration to Excellence: Written Addition – P40-42* *Refer to From Exploration to Excellence: Written Subtraction – P47-49, as appropriate* • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. *Link back to learning in Week 4 to support.* • Express missing number problems algebraically *Solve missing number problems for addition and subtraction* *Use knowledge of inverse relationships to support.* *e.g. 1520 less than a number is 2645, what is the number? E.g. ☖ – 1520 = 2645 therefore 2645 + 1520 = 4165 so ☖ must be 4165.* *Link to writing missing number problems with algebra. E.g. a – 1520 = 2645 therefore 2645 + 1520 = 4165 so a must be 4165.*
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

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

YEAR 5	YEAR 6
• Multiply numbers <u>up to</u> 4 digits by a one-digit number using a formal written method *Secure short compact notation for two and three-digit by one-digit numbers.* *Boss the Blue – secure 2-digit short compact and use 3-digit expanded* *Ensure children have a secure knowledge of place value to support. If not, continue using expanded short notation or Grid notation until place value understanding is there.* *Use Build-it, Draw-it representations as a model and scaffold, as appropriate.* *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.* *Include some calculations with zero as a place holder.* *Refer to From Exploration to Excellence: Written Multiplication – P18*	• *Non-statutory Guidance: "Practice short multiplication"* *Secure and consolidate short multiplication from Y5; two-, three- and four-digit numbers multiplied by one-digit numbers* *Calculate with whole numbers only* *Refer to From Exploration to Excellence: Written Multiplication – P23* • Multiply numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication *Secure and consolidate long multiplication from Y5; two-, three and four- digit times two-digit numbers* *Boss the Blue – consolidate using Grid method (writing products) and column addition alongside to find final total* *Calculate with whole numbers only* *Whilst it is becoming inefficient with larger numbers, some children may still be using the expanded column to support the place value scaling required for long multiplication.* *Support children in moving from expanded to short long multiplication, as appropriate* *Encourage children to use language of column value to support.* *Include some calculations with zero as a place holder.* *Refer to From Exploration to Excellence: Written Multiplication – P24*
Solve problems involving multiplication	Solve problems involving multiplication

AUTUMN TERM		
WEEK: 10	**Wk Beg: 9 Nov**	**DOMAIN: Number – Multiplication**

YEAR 5	YEAR 6
• Multiply numbers up to 4 digits by a one-digit number using a formal written method ***Introduce four-digit times one digit multiplication.*** *Boss the Blue – secure 2-digit short compact and use 3-digit/4-digit expanded* *Begin with expanded short notation to model the process is just the same as what we already know but not with an additional place value column.* *Model with short compact notation.* *Children should have a solid enough understanding of 2- and 3- digit written multiplication to move straight to short compact for 4-digit by one.* *Use expanded short notation and Grid (Build-it – Draw it) though as a scaffold to support if not secure.* *Encourage children to use language of column value to support.* *Include some calculations with zero as a place holder.* *Refer to From Exploration to Excellence: Written Multiplication – top P19*	• Multiply one-digit numbers with up to two decimal places by whole numbers *E.g. 1.6 x 4. Encourage chn to consider if they can calculate this mentally before using a written method.* *E.g. Partition 1.6 to 1 and 0.6 so then can do 1 x 4 and 0.6 x 4. Use known facts of 6 x 4 to support. Then recombine.* *If using a written method, model with place value counters in the grid method to support as appropriate.* *Refer to From Exploration to Excellence: Written Multiplication – P25* • *Non-statutory Guidance: "Pupils multiply numbers with up to two decimal places by one-digit and two-digit whole numbers"* *E.g. 15.2 x 13. Encourage chn to consider if they can calculate this mentally before using a written method.* *E.g. could possibly do 15.2 x 10 plus 15.2 x3. So then 15.2 x 10 = 152 plus 15 x 3 = 45 so 152 + 45 = 197 plus 0.2 x 3 = 0.6 totalling 197.6.* *Jottings must be modelled to support this for those who could access with a mental strategy. Could use part-whole model to support jottings.* *When using a written method, model initially with Build-it – Draw-it to show how it is the same concept as with whole numbers but just different place holders.* *Move to Write-it as appropriate.* *Refer to From Exploration to Excellence: Written Multiplication – P25-26*
Solve problems involving multiplication	Solve problems involving multiplication

AUTUMN TERM			
WEEK: 11	**Wk Beg: 16 Nov**	**DOMAIN: Y5: Number - Number and Place Value**	**Y6: Number: four operations**

YEAR 5	YEAR 6
• **1 DAY – PUMA ASSESSMENT** • Round decimals with two decimal places to the nearest whole number *Consolidate and secure learning from Y4 where children had to round decimals with 1dp to the nearest whole number.* *Using knowledge of identifying nearest whole number before and after.* *Understand that even when rounding numbers to the nearest 1, we still 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 34.72 to the nearest whole number … draw number line mark on 34 and 35, mark on mid-way marker of 34.5, position 34.72 approximately. Which whole number is it nearer to? Which side of the halfway marker is it nearer to?* • Round decimals with two decimal places to one decimal place *Understand that one decimal place is the tenths so we have to round to the nearest tenth* *Using knowledge of identifying nearest tenth before and after.* *Make links to decimal notation money, if required.* *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 tenth, we look at the hundredths etc* *Understand that when rounding numbers to the nearest tenth, we have to look at the digit in the hundredths 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 tenth, your answer will be a number with tenths.* *Encourage children to use number lines to support rounding. E.g. round 3.47 to the nearest whole tenth … draw number line mark on 3.4 and 3.5, mark on mid-way marker of 3.45, position 3.47 approximately. Which multiple of tenth is it nearer to? Which side of the halfway marker is it nearer to?*	• Use their knowledge of the order of operations to carry out calculations involving the four operations *Introduce the priorities of order of operations using a block arrow.* *Brackets first, then indices / powers (explain what these are squares/cubes etc), then multiplication or division (whichever comes first in the linear calculation) then addition or subtraction (whichever comes first in the linear calculation).* *Explain the order of operations and know how to use these* *Work with:* - *calculations with brackets already positioned. E.g. 30 ÷ (6 + 4)* - *number sentences without brackets, children to decide where to put brackets and solve appropriately.* - *calculations where children explore different possible answers depending on where they place brackets* - *calculations where children have to position brackets in order to reach a given answer* - *calculations with empty boxes deciding which order of operations have been used. E.g. 8 + 12 ÷ [_] = 10* - *multi-step problems considering the appropriate order of operations.* *E.g. Tennis balls are stored in packs of 3. June has 12 balls to put away. Tom has 21 balls to put away. How many packs of balls in total?*
Solve problems involving number up to 3 decimal places	Solve number and practical problems that involve all of the above

AUTUMN TERM		
WEEK: 12	**Wk Beg: 23 Nov**	**DOMAIN: Number - Division**

YEAR 5

- **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

- Divide numbers up to 4 digits by a one-digit number using the formal written method of short division

Secure and consolidate short compact notation for two and three-digit by one-digit numbers, including those where exchange is necessary.

Boss the Blue - use Build-it – Draw it alongside as a scaffold to support Write-it, as appropriate

Work with whole number answers at this stage only.

Refer to From Exploration to Excellence: Written Division – P19-20 & P22

YEAR 6

- **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

- *Non-statutory Guidance: "Practice short division"*
- Divide numbers up to 4 digits using the formal written method of short division where appropriate, interpreting remainders according to the context
- Use written division methods in cases where the answer has up to two decimal places
- Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,] $\frac{3}{8}$
- Round answers to specified degrees of accuracy

Secure and consolidate short division from Y5; ***two-, three- and four-digit numbers divide by one-digit numbers***

Calculate with whole numbers only

Refer to From Exploration to Excellence: Written Division – P26 & P23-24, as appropriate with whole numbers only

Include calculations that have remainders as a left over, decimal, fraction or rounded, as appropriate.

Interpret remainders appropriate to the context – as a left over

Recognise when remainders need to be represented as a left over.

E.g. If there is a remainder of 3 to be divided by 8, there will be 3 left over.

Interpret remainders appropriate to the context – fraction remainders.

Recognise when remainders need to be represented as a fraction. Use understanding of relationship between unit fractions and division.

E.g. If there is a remainder of 3 to be divided by 8, this could be written as the fraction $\frac{3}{8}$.

Write fractions in the simplest form, where possible.

Interpret remainders appropriate to the context – decimal remainder

Recognise when remainders need to be represented as a decimal. Use understanding of exchanging into decimals to continue grouping. Consider in the contexts of money and measure.

E.g. If there is a remainder of 3 to be divided by 8, the 3 ones can be exchanged to 30 tenths which can then be put into groups of 8 tenths and so on.

Interpret remainders appropriate to the context – rounding remainders

Recognise when answers need rounding due to remainders. Round to different degrees of accuracy, as appropriate to the context.

E.g. 29 cakes put into boxes of 8. There is 3 full boxes and a remainder of 5 cakes to be put into boxes. Therefore 4 boxes will be needed in total to ensure all cakes are in a box. There will be 3 empty spaces in the 4^{th} *box.*

Refer to From Exploration to Excellence: Written Division – P24

AUTUMN TERM		
WEEK: 12	**Wk Beg: 23 Nov**	**DOMAIN: Number - Division**

YEAR 5	YEAR 6
	• *Non-statutory Guidance: "Pupils divide numbers with up to two decimal places by one-digit numbers"* ***Divide decimal numbers by a one-digit whole number*** *Model initially with Build-it – Draw-it to show how it is the same concept as with whole numbers but just different place holders* *Encourage children to use language of grouping column values including decimals* *E.g. 3.69 ÷ 3. How many groups of 3 are in 3.69? How many groups of 3 ones are in 3 ones? How many groups of 3 tenths are in 6 tenths? How many groups of 3 hundredths are in 9 hundredths?* *Refer to From Exploration to Excellence: Written Division – P30*
Solve problems involving division	Solve problems involving division

AUTUMN TERM		
WEEK: 13	**Wk Beg: 30 Nov**	**DOMAIN: Number – Division**

YEAR 5	YEAR 6
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 • Divide numbers up to 4 digits by a one-digit number using the formal written method of short division ***Introduce 4 digit by 1-digit short division, including those where exchange is necessary.*** *Boss the Blue - use Build-it – Draw it alongside as a scaffold to support Write-it, as appropriate* *Work with whole number answers at this stage only.* *Some children will be able to transfer their knowledge of short division 2- and 3-digit straight into the additional column if not, return to Build it- Draw it as appropriate.* *Refer to From Exploration to Excellence: Written Division – P23, as appropriate, calculations with whole number answers*	**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 • Divide numbers up to 4 digits by a two-digit number using the formal written method of short or long division ***Use calculations, without remainders, with 2-digit divisors making jottings of multiples of the divisor.*** *Refer to Written Division booklet P27-30* *Short or long division can be used for dividing numbers by a two-digit divisor. Both will be awarded marks for working in KS2 tests. Short division is more efficient.* *Children should be able to transfer their understanding of short division for one-digit divisors in to working with two-digit divisors.* *Recognise that a two-digit divisor (other than 10, 11 and 12) is beyond our known facts and so jottings of multiples of the divisor will support.* *Teach children how to make jottings using repeated addition and partitioning, if required.* *E.g. 1 x 14 = 14. 2 x 14 is 28. 3 x 14 is ? I could use addition to help. If 2 lots is 28. 3 lots is 1 more 14. So, 28 add 10 is 38 add 4 is 42.* *Boss the Blue – using divisors with the ones digits as 1, 2, 3, 4, 5* *Refer to From Exploration to Excellence: Written Division – bottom P28 & P29, calculations without remainders only* *Long division (expanded short division using subtraction of groups) can be used if needed. However, this will need teaching as a new strategy and children will need to be able to explain clearly what they are doing in this strategy, if used. Recognise that this involves a lot more work than short division.* *If using long division, refer to From Exploration to Excellence: Written Division – bottom P31-32* • Divide numbers up to 4 digits by a two-digit number using the formal written method of short or long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • Use written division methods in cases where the answer has up to two decimal places • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,] $\frac{3}{8}$ • Round answers to specified degrees of accuracy ***Use calculations, with remainders, with 2-digit divisors making jottings of multiples of the divisor.*** *Use long or short division from above* *Interpret remainders appropriate to the context. Link to learning from last week.* *Refer to From Exploration to Excellence: Written Division – P26-29, as appropriate*

AUTUMN TERM		
WEEK: 13	**Wk Beg: 30 Nov**	**DOMAIN: Number – Division**

YEAR 5	YEAR 6
	• *Non-statutory Guidance: "Pupils divide numbers with up to two decimal places by **two-digit whole numbers"*** ***Divide decimal numbers by a two-digit whole number*** *Encourage children to use language of grouping column values including decimals* *E.g. 294.42 ÷ 14. How many groups of 14 are in 294.42? How many groups of 14 hundreds/tens/ones/tenths/hundredths are in … ?* *Refer to From Exploration to Excellence: Written Division – P30*
Solve problems involving division	Solve problems involving division

AUTUMN TERM		
WEEK: 14	Wk Beg: 7 Dec	DOMAIN: Geometry – Properties of Shape

YEAR 5

- **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

- Estimate and compare acute, obtuse and reflex angles
- Identify angles at a point

Secure and consolidate learning from Y3&4 – identifying right angles, acute and obtuse angles
Introduce reflex angles recognising that a reflex angle is greater than two right angles (180°)
Identify right angles, acute, obtuse and reflex angles through estimation with comparison to a right angle

- Identify other multiples of 90°

Use knowledge of a right angle being a quarter turn and 90° to determine that a half turn is two right angles (180 °) and a three-quarter turn is three right angles (270 °)
Refer to the hands on a clock rotating around the hour.

- Identify one whole turn (total 360°)

Recognise that a full turn is the same as turning four right angles and so is equal to 360°. Refer to the hands on a clock rotating around the hour.

- Identify angles on a straight line and $\frac{1}{2}$ a turn (total 180°)

Recognise that if both edges were perfectly in line with each other – we would have a straight line but that the angle of turn between the two edges would still be there.
Model with turning the edge of a right angle to show both edges forming a straight line.
Refer to the hands on a clock and 6 o'clock – they are both in a straight line but the angle of turn still exists.
The straight line is equivalent to 2 right angle turns, 180 °

- reason about angles.

Identify right angles, acute, obtuse and reflex angles describing their properties
Identify angles forming a straight line or whole turn.
Compare acute, obtuse and reflex angles and describe in comparison to right angles.
E.g. an angle larger than a right angle is greater than an acute angle as it is larger than a right angle but it is smaller than a reflex angle as it is smaller than two right angles so it must be an obtuse angle as it is bigger than one right angle but smaller than two.

- Know angles are measured in degrees

Recognise that up to now we have been estimating angles in comparison to what we know about right angles.
Know that angles are measured in degrees and degrees are a measure of turn and so we can use this to be more accurate when identifying, comparing or drawing angles.
Introduce notation for angles including curved line in the corner of a shape and the °

- measure angles in degrees (°)

Model how to use a protractor to measure a given angle.

YEAR 6

- **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

- Recognise angles where they are on a straight line and find missing angles

Secure and consolidate learning from Y5 looking at angles that meet at a point on a straight line and recognising that the angles added together equal 180 °
Introduce finding missing angles on a straight-line using knowledge that all angles on the line must total 180 °

- Recognise angles where they meet at a point and find missing angles

Secure and consolidate learning from Y5 looking at angles that meet around a point, recognising the individual angles around the point make a full turn and added together equal 360 °
Introduce finding missing angles around a point using knowledge that all angles on the line must total 360 °

- Recognise angles where they are vertically opposite and find missing angles

Introduce vertically opposite angles
Recognise vertically opposite angles knowing that they are the angles directly opposite each other when a two straight lines intersect (cross over) each other.

Know that when two lines intersect, four angles (a, a, b, b) are formed around the cross point and that the vertically opposite angles are equal.
Recognise that 2 out of the four angles formed create a straight line (a and b)

Use this knowledge to find missing vertically opposite angles using knowledge that opposite angles are equals and all angles on the line must total 180 °
E.g. a + b = 180 °. If a is 43 °, what is b? 180 °-43 ° = 137 °. Therefore, both angles a = 43 ° and both angles b = 137 ° and all angles add together to make 360 °

AUTUMN TERM			
WEEK: 14	**Wk Beg: 7 Dec**	**DOMAIN: Geometry – Properties of Shape**	
YEAR 5			**YEAR 6**
Recognise how measuring the angles helps us compare similar looking angles and be more accurate in our identification. *Measure different angles and record the size using °* *Identify the type of angle measured – e.g. right, acute, obtuse, reflex*			
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: 15	**Wk Beg: 14 Dec**	**DOMAIN: Geometry – Properties of Shape**

YEAR 5	YEAR 6
• Draw given angles *Become accurate in drawing lines with a ruler to the nearest mm and with measuring using a protractor. Use conventional markings for right angles and angles.* *Model how to use a protractor to draw a given angle under the visualiser.* *Ensure children know they must begin with drawing a straight line as the first edge of the angle.* *Use the protractor to measure and mark the angle of turn. Draw second line to the mark made.* *Label the size of the angle drawn.* *Identify the type of angle drawn – e.g. right, acute, obtuse, reflex* • Identify angles on a straight line and $\frac{1}{2}$ a turn (total 180°) *Look at angles that meet at a point on a straight line.* *Begin with two angles recognising that from the straight line there is an angle of turn from the to line a so we can call this angle a and then a second angle of turn from line a to the straight-line forming angle b.* *Recognise that both of the angles added together would still equal 180° as together the two turns create the half turn.* • Identify angles at a point • Identify one whole turn (total 360°) *Look at angles that meet around a point.* *For example, angle a, b and c all meet at the same centre point but create one full turn together.* *Recognise the three individual angles but that when put together they make a full turn and added together would still 360°*	• Compare and classify quadrilaterals based on their properties and sizes • Draw quadrilaterals using given dimensions and angles • find unknown angles in quadrilaterals *Secure and consolidate properties of different quadrilaterals from Y4 & Y5; properties such as right angles, symmetry, equal and parallel sides.* *Introduce angles as a property of shape of quadrilaterals.* *Identify types of angles within a quadrilateral and understand that the angles within a quadrilateral add up to 360°* *Find missing angles within a quadrilateral knowing that the sum of the interior angles is equal to 360°* *Draw quadrilaterals using given dimensions and angles* *Compare and classify different quadrilaterals using knowledge of properties to support.* *Use Venn diagrams and Carroll diagrams to sort and compare.* • Compare and classify triangles based on their properties and sizes • Draw triangles using given dimensions and angles • find unknown angles in triangles *Secure and consolidate properties of triangles from Y4 & Y5:* *- sides, angles and vertices* *- types of triangles using the properties of sides and angles.* *Understand that a quadrilateral can be split into two triangles so using knowledge from above, if the interior angles of a quadrilateral total 360°, the angles within a triangle must add up to 180°* *Find missing angles within a triangle knowing that the sum of the interior angles is equal to 180°* *Draw triangles using given dimensions and angles* *Compare and classify different triangles using knowledge of properties to support.* *Use Venn diagrams and Carroll diagrams to sort and compare*
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: Y5: Number – Multiplication and Division**	**Y6: Number – Multiplication and Division & Fractions**
YEAR 5			**YEAR 6**
• Identify multiples of a number *Understand that a multiple of a number, is any product that is in that times table. E.g. a multiple of 2 is 2, 4, 6, 8 ….* *Identify common multiples of 2 numbers. E.g. common multiples of 5 and 10 are 10, 20, 30 …* • Identify factors of a number *Ensure understanding of what a factor is before investigating factor pairs. Factor x factor = product.* *Recognise the connection between factors and multiples. E.g. 5 is a factor of 10. 10 is a multiple of 5.* • Find all factor pairs of a number *Notice the number of factor pairs of different products and begin to recognise patterns. Use arrays or multiplication facts to find factor pairs.* • Identify common factors of two numbers *Given two numbers, children should identify the factors of each number and then find the common factors between both numbers.* *Identify the lowest and highest common factors between both numbers.* *Know that 1 is always a common factor of any two numbers.* *Use Venn diagrams to sort factors and common factors of two numbers.* • Know and use vocabulary of prime numbers, prime factors and composite (non-prime) numbers *Understand that a prime number only has 2 factors; 1 and itself.* *Understand that a composite number is a number more than 2 factors (non-prime).* *Understand that if a number has a factor that is a prime number, it is called a prime factor.* *Understand that 1 is neither prime nor composite as it only has 1 factor – itself.* • Establish whether a number up to 100 is prime and recall prime numbers up to 19			• Identify common factors, common multiples and prime numbers *Consolidate and secure factors, multiples, primes and composite numbers from Y5.* *In Y5, children began to identify common factors of two numbers. E.g. 6 is a common factor of 12 and 18.* *Use Venn diagrams to sort factors and common factors of two numbers.* *Move on to identify common multiples of two numbers. E.g. 18 is a common multiple of 6 and 3.* *Use Venn diagrams to sort multiples and common multiples of two numbers.* • Use common factors to simplify fractions • Recall and use equivalences between simple fractions *Recognise when fractions can be simplified and when fractions are in the simplest form* *Understand that to simplify a fraction, the numerator and denominator must share a common factor.* *Understand that to simplify a fraction, the numerator and denominator can be divided by a common factor.* *Understand that to simplify a fraction, the scaling down (division by the factor) of the numerator must be the same as that of the denominator.* • Use common multiples to express fractions in the same denomination • Recall and use equivalences between simple fractions *Recognise that an equivalent fraction can be found by identifying a common multiple* *Understand that when finding an equivalent fraction, a denominator of one of the fractions may already be a common denominator of the other.* *Understand that when finding an equivalent fraction, a common multiple of two denominators can be found by multiplying the two denominators together.* *Understand that to find an equivalent fraction, the scaling up (multiplication) of the numerator must be the same as that of the denominator.*
Solve problems involving multiplication and division including using their knowledge of factors and multiples *Begin to recognise how we can use factors of numbers to help solve problems.* *E.g. 6 x 18 could be simplified considering the factors of 18. E.g. The factors of 18 are 1, 18, 2 and 9. So 6 x 18 could be rewritten as 6 x 2 x 9 which then could be 12 x 9 or 54 x 2 using the understanding of commutativity within multiplication*			*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: 2	Wk Beg: 11 Jan	DOMAIN: Fractions

YEAR 5

Practise counting forwards and backwards in simple fractions including bridging the whole and along a number line

- Add and subtract fractions with the same denominator
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$]

Consolidate and secure learning from Y4 where children bridged one whole but represented it as an improper fraction (numerator > denominator)
Ensure they understand when we have bridged a whole showing this through visual representations such as bar with $\frac{7}{7}$ shaded and then two more on another bar

Introduce converting improper fractions to a mixed number
Use paper strips (Build it) and visual representations such as bar models (Draw it) to show full whole and part wholes.
E.g. $\frac{5}{7}+\frac{4}{7}=\frac{9}{7}$ represented as one full bar of $\frac{7}{7}$ shaded and one part bar of $\frac{2}{7}$ shaded.
Recognise that the $\frac{7}{7}$ bar is equivalent to a whole so $\frac{7}{7}+\frac{2}{7}$ can be written as $1+\frac{2}{7}$ which is $1\frac{2}{7}$
Locate and position mixed numbers on a number line

- Multiply proper fractions by whole numbers, supported by materials and diagrams

Encourage children to consider the relationship between addition and multiplication recognising repeated addition as multiplication. E.g. $\frac{4}{5}+\frac{4}{5}+\frac{4}{5}$ is the same as $\frac{4}{5}$ x 3.
Ensure children understand the concept of multiplying fractions by whole numbers and not simply learn a rule.
Convert improper fractions to mixed numbers, as appropriate.
Use paper strips (Build-it) and bar models (Draw it) to model and support.

- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

Boss the Blue - Using denominators of fractions and tables that they know.
Link back to learning in Year 4 understanding multiplicative relationships across the numerators and denominators of equivalent fractions.
Use paper strips (Build-it) and bar models (Draw it) to model and support, if required

Make links to multiples and factors last week.
Understand equivalent fractions have the same value and position on a number line.
Include equivalent fractions greater than a whole making links to mixed numbers from last week. E.g. $1\frac{2}{10}=1\frac{1}{5}$

Ensure time is spent looking at equivalence between tenths and hundredths in preparation for percentages in Summer Wk 9.

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.

YEAR 6

➲ 2 DAYS – KS2 2025 PAST PAPERS

- Paper 1 and Paper 2 on Day 1 & then Paper 3 on Day 2
- Do not spend lesson time marking or going through answers

Teacher mark and analyse to inform teaching including Retrieval Practice, Spaced Learning, interventions and identify areas for Revision

- Compare and order fractions, including fractions > 1
- Recall and use equivalences between simple fractions

Compare and order fractions with different denominators using understanding of common denominators.
Link back to learning from last week finding a common denominator.

Convert fractions of different denominators to a common denominator.
Use the conversions to help compare and order.

Convert back to the original fractions and compare / order.

Include comparisons of fractions greater than 1.
Convert mixed numbers to improper fractions of a common denominator of other fractions to compare / order.

- Add and subtract fractions with different denominators using the concept of equivalent fractions

Link back to learning from last week finding a common denominator.

Convert fractions of different denominators to a common denominator.
Use the conversions to help add and subtract.

Understand that the denominators remain the same when adding and subtracting.
E.g. 8 of 10 equal parts subtract 2 of the 10 equal parts = 6 of the 10 equal parts. The 10 equal parts remain the same.

Simplify the answer from the addition and subtraction, where appropriate.
Link back to learning from last week simplifying a fraction.

- Add and subtract mixed numbers using the concept of equivalent fractions

Introduce addition and subtraction of mixed numbers.
Understand that you could convert the mixed numbers to an improper fractions of a common denominator of other fractions to add / subtract.

Recognise that you could work with the whole parts and the fractional parts separately but this needs careful thought when subtracting.

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: 3 | **Wk Beg: 18 Jan** | **DOMAIN: Fractions**

YEAR 5

- Compare and order fractions whose denominators are all multiples of the same number

Link back to learning from Y3 where we compared and ordered unit fractions and fractions with the same denominators.

Introduce comparing and ordering fractions where the denominators are different multiples of the same number. Use paper strips (Build-it) and bar models (Draw it) to model and support, if required.

Link back to learning from Spring Wk 1 on what a multiple is.

Understand that when comparing fractions with different denominators we must find a common denominator – a common multiple with all denominators and convert all fractions to an equivalent fraction that uses the same denominator.

Recognise that sometimes one fraction may already have a denominator that is a common multiple of the others and so all other fractions can be converted to this common multiple as the denominator.

- Add and subtract fractions with denominators that are multiples of the same number

Make connections to what we already know.
E.g. what is $\frac{1}{2}+\frac{1}{4}$? What do we do to the half to help us do this? Convert it to an equivalent fraction of the same denominator. $\frac{2}{4}$

Link back to learning above when we were comparing and ordering fractions whose denominators were all multiples of the same number.

Recognise how when we work with fractions of different denominators, we should always convert the fractions to be in common with each other. This is the same when comparing, ordering or calculating.

Understand that when adding and subtracting fractions with different denominators we must find a common denominator – a common multiple with all denominators.

Use paper strips (Build-it) and bar models (Draw it) to model and support.

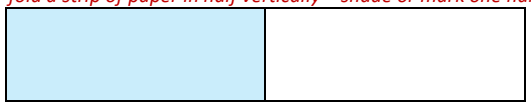
YEAR 6

- Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4}x\frac{1}{2}=\frac{1}{8}$]

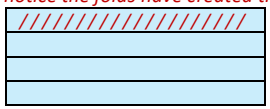
Ensure children understand the concept of multiplying fractions by fractions and not simply learn a rule.
*E.g. $\frac{1}{4}x\frac{1}{2}$ is the same as $\frac{1}{4}$ **of** $\frac{1}{2}$ so we find $\frac{1}{2}$ first and then find $\frac{1}{4}$ of that half by splitting the half into 4 equal parts and recognising the new denominator of eight*

Build it (paper strips):

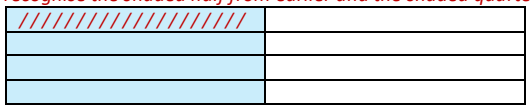
- *fold a strip of paper in half vertically – shade or mark one half*



- *fold the strip of paper in the other direction into quarters (halve and halve again)*
- *notice the folds have created the 4 equal parts – shade in or mark on of the quarters*



- *open folded strip up back to the original whole*
- *notice the new denominator of the whole strip - eighths*
- *recognise the shaded half from earlier and the shaded quarter of the half*



- *notice that this is 1 of the 8 equal parts of the whole*
- *understand that $\frac{1}{4}x\frac{1}{2}$ is the same as $\frac{1}{4}$ of $\frac{1}{2}$ which is equal to $\frac{1}{8}$*

Draw it (drawing bars / paper strips)

Repeat with other examples, including multiplying non-unit fractions
What do you notice?
Enable the children to notice for themselves that when we multiply a fraction by a fraction, you multiply the numerators and multiply the denominators.

Write it -write number sentences providing a proof with drawing a picture

- Divide proper fractions by whole numbers [for example, $\frac{1}{3}\div 2=\frac{1}{6}$]

Y6 only need to divide proper fractions by whole numbers. They do not need to divide a fraction by a fraction.

Ensure children make the connection of how dividing a fraction by a whole number links to multiplying fractions.
e.g. $\frac{1}{3}\div 2$ can be rephrased as $\frac{1}{2}$ of $\frac{1}{3}$ which is the same as $\frac{1}{2}x\frac{1}{3}$ and can be calculated using the strategy above

SPRING TERM		
WEEK: 3	**Wk Beg: 18 Jan**	**DOMAIN: Fractions**

YEAR 5	YEAR 6
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: 4	**Wk Beg: 25 Jan**	**DOMAIN: Y5: Number – Addition and Subtraction & Fractions**	**Y6: Algebra**

YEAR 5	YEAR 6
• Add whole numbers with more than 4 digits, including using formal written methods • *Non-statutory Guidance: "Practise adding decimals, including a mix of whole numbers and decimals"* *Boss the Blue – Write it for adding whole numbers with more than 4-digit calculations secured, as appropriate to place value understanding* ***Introduce adding decimals with the same number of places including those with varying exchanges.*** *Begin with modelling with Build-it, Draw-it using decimal place value counters to show the process of column addition is exactly the same but that we are working with difference place value columns.* *Ensure correct language when adding different column values; e.g. 3 tenths + 6 tenths is 9 tenths.* *Ensure exchanging with decimals is secure.* *Refer to From Exploration to Excellence: Written Addition – P36-37* • Subtract whole numbers with more than 4 digits, including using formal written methods • ***Non-statutory Guidance: "Practise subtracting decimals, including a mix of whole numbers and decimals"*** *Boss the Blue – Write it for subtracting whole numbers with more than 4-digit calculations secured, as appropriate to place value understanding* ***Introduce subtracting decimals with the same number of places including those with varying exchanges.*** *Begin with modelling with Build-it, Draw-it using decimal place value counters to show the process of column subtraction is exactly the same but that we are working with difference place value columns.* *Ensure correct language when subtracting different column values; e.g. 9 tenths - 6 tenths is 3 tenths.* *Ensure exchanging with decimals is secure.* *Refer to From Exploration to Excellence: Written Subtraction – P43-44, as appropriate* • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy *Link back to rounding whole numbers and decimal numbers from Autumn Wks 5 & 11* *E.g. 215.26 + 6147.34 is approximately 215 + 6100 = 6315 rounding to the nearest whole one and nearest whole multiple of hundred.* *E.g. 6147.34 - 215.26 is approximately 6000 - 215 = 5785 rounding to the nearest whole thousand and the nearest whole one.* *Children can round to different numbers as they feel confident but should recognise the nearer they round to, the more accurate their estimations will be however when working with larger numbers mentally, it is often easier to subtract larger rounded multiples.*	• Generate and describe linear number sequences *Linear sequences – increase / decrease by the same amount each time. Recognise what is happening between terms in the sequence and describe.* *Practise following a description to continue / generate the sequence. E.g. If the rule is … then the next number in the sequence must be …* • Find pairs of numbers that satisfy an equation with two unknowns *e.g. a x b = 24. What are all the possibilities for a and b? Link back to factors and multiples from earlier in the term.* *e.g. 2a + b = 20. What might a and b be? How many different ways can you find?* • Enumerate possibilities of combinations of two variables. *e.g. In Mum's purse, there are some 10p and 5p coins. She has at least one of each coin. If Mum has exactly 45p in her purse, what combination of the 10p and 5p coins might she have?*
Solve problems involving number up to three decimal places Solve problems involving a combination of addition and subtraction, including understanding the meaning of the equals sign	*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*

<table>
<tr><th colspan="4">SPRING TERM</th></tr>
<tr><th>WEEK: 5</th><th>Wk Beg: 1 Feb</th><th>DOMAIN: Y5: Number – Multiplication</th><th>Y6: Number – Multiplication & Division</th></tr>
<tr><th colspan="3">YEAR 5</th><th>YEAR 6</th></tr>
<tr><td colspan="3">• Multiply numbers <u>up to</u> 4 digits by a two-digit number using a formal written method, including long multiplication
Boss the Blue – using Grid method (writing products)
Introduce two-digit times two-digit long multiplication using Grid Method into expanded as appropriate with Build-it, Draw-it, Write-it.
Refer to From Exploration to Excellence: Written Multiplication – bottom P19 & top P20

Encourage children to use language of column value to support.
Include some calculations with zero as a place holder.</td><td>Consolidate all multiplication written strategies from Autumn term Wks 9 & 10, as required – deepen into complex problem solving and test style questions, as appropriate
• Non-statutory Guidance: “Practice short and long multiplication”
Boss the Blue – continue to practise short multiplication. Use grid method to support long multiplication, if required.
• Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
• Multiply one-digit numbers with up to two decimal places by whole numbers
• Non-statutory Guidance: “Pupils multiply numbers with up to two decimal places by one-digit and two-digit whole numbers”

Consolidate all division written strategies from Autumn term Wks 12 & 13, as required – deepen into complex problem solving and test style questions, as appropriate
• Divide numbers up to 4 digits by a two-digit number using the formal written method of short or long division
Boss the blue – continue to practise short division. Use jottings of the multiples to support long division using repeated addition to generate multiples.
• Non-statutory Guidance: “Pupils divide numbers with up to two decimal places by two-digit whole numbers”
• Interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
• Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,] $\frac{3}{8}$
• Use written division methods in cases where the answer has up to two decimal places
• Round to specified degrees of accuracy</td></tr>
<tr><td colspan="3">Solve problems involving multiplication</td><td>Solve problems involving multiplication and division</td></tr>
</table>

SPRING TERM			
WEEK: 6	**Wk Beg: 8 Feb**	**DOMAIN: Y5: Number – Division**	**Y6: Ratio and Proportion**

YEAR 5	YEAR 6
• Divide numbers up to 4 digits by a one-digit number using the formal written method of short division ***Introduce calculations that include remainders.*** *Represent remainders as a left over.* *Boss the Blue – secure Write-it for calculations that do not have remainders* *Refer to From Exploration to Excellence: Written Division – P23* *Begin with modelling with Build-it, Draw-it using place value counters to show the remaining ones counters 'left over'* *Use Build-it, Draw-it, Write-it as appropriate* *Boss the Blue –use Build-it – Draw it alongside as a scaffold to support Write-it with remainders, as appropriate*	▪ Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts *Understanding multiplicative relationships between quantities – know how one value is related to the other. Use the language 'For every …'* *Use double number lines to model the relationship and multiplicative reasoning.* *Can build it with coloured counters along the number line to model the relationship, if required* *E.g. A florist makes a bouquet of flowers where for every 4 roses, they include 3 carnations* *Double number line shows 4 roses on top matched to three carnations below. Scale up the relationships extending the number line using multiplicative reasoning / repeated addition.* *E.g. 8 roses to 6 carnations, 12 roses to 9 carnations* *Complete missing information on number lines* *Use number lines to find unknown quantities.* *E.g. A florist makes a bouquet of flowers where for every 4 roses, they include 3 carnations. A bouquet has 7 more roses than carnations. How many of each flower are in the bouquet? Continue number line from above until there is a difference of 7 between roses and carnations* *Introduce shorthand notation for 'for every. E.g. for every 4 roses, there are 3 carnations can be written as 4:3* *When writing shorthand notation, ensure children can explain what every part of the sentence represents.* *Explore relationships in the opposite way. E.g. for every 4 roses, there are 3 carnations can be written as 4:3* *So, for every 3 carnations, there are 4 roses which can be written as 3:4* *Recognise that the double number can still help with this* *Recognise ratio relationships from images and describe in words and with symbols* *Use double number lines to model relationships and find missing information* • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. *Explore ratio relationships when we know something about a part of the group only* *E.g. There is a bag of sweets. $\frac{1}{4}$ of the sweets are red. The rest of the sweets are green. What is the ratio of red and green sweets.* *Ask children to draw what they know. E.g. Draw a bar to represent the whole bag of sweets.* *We know that $\frac{1}{4}$ are red and the rest are green so the bag has been split into quarters / 4 equal parts. Split the bar into 4 equal parts.* *Shade in part that represents the red sweets Shade in the rest which represents the green sweets* *What do you notice about the ratio relationship? There is 1-part red sweets for every 3 parts green sweets. The ratio is 1:3.* *Watch out for children confusing the fraction knowledge and writing it as 1:4 thinking it is 1 out of 4 parts.* *Remember we are comparing the red and green parts!* *For every one-part red, there are 3 parts green.*

SPRING TERM			
WEEK: 6	**Wk Beg: 8 Feb**	**DOMAIN: Y5: Number – Division**	**Y6: Ratio and Proportion**

YEAR 5	YEAR 6
	Repeat with other examples *Compare the ration relationships to the fraction knowledge of the same representation.* *E.g. 2 vanilla ice-creams in a box with 3 strawberry ice-creams. For every 2 vanilla, there is 3 strawberry. The ratio is 2:3. And vice versa.* *There are 5 ice-creams altogether in the WHOLE box. 2 of them are vanilla which is $\frac{2}{5}$. 3 of them are strawberry which is $\frac{3}{5}$.*
Solve problems involving division	Solve problems involving ratio and proportion

SPRING TERM			
WEEK: 7	**Wk Beg: 22 Feb**	**DOMAIN: Y5: Fractions**	**Y6: Fractions & Ratio and Proportion**

YEAR 5	YEAR 6
• Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred' *Understand that per cent means the number of parts in each hundred. Connect to language of cent meaning hundred and per meaning for each.* *Recognise where percentages are used in everyday life.* *Understand that percentages are another way of representing a proportion – part of the whole just like decimals and fractions.* *Use hundred squares and number lines to represent percentages.* • Write percentages as a fraction with denominator 100 *Make connections to understanding of hundredths. If $\frac{100}{100}$ represents the whole and 100% represents the whole. 100 of the 100 equal parts.* *When given a percentage, children should be able to write as a fraction with denominator 100. E.g. 40% … 40 out of 100 equal parts … $\frac{40}{100}$* *Use hundred squares and number lines to represent percentages and fractions. E.g. 27 squares on a hundred grid shaded … $\frac{27}{100}$ … 27%* *Make connections to representing fractions with tenth as the denominator, as appropriate. E.g. $\frac{3}{10}$ means 3 out of every 10.* *Show this on a hundred square – 3 squares out of every 10 shaded.* *Notice this is the same as 30 out of the hundred squares are shaded. So $\frac{3}{10} = \frac{30}{100} = 30\%$*	• Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. • Use percentages for comparison *Secure and consolidate learning from Y5:* *- understanding what a percentage is,* *- writing percentages as fractions with 100 as a denominator,* *- writing percentages as a decimal,* *- writing decimals numbers as fractions, percentage and decimal equivalents of ½ , $\frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.* • Calculate percentages [for example, of measures, and such as 15% of 360] *Find 50%, 10% and 1% of the whole* *Know that 50% is equivalent to ½, 10% is equivalent to a tenth and 1% is equivalent to a hundredth of the whole* *Make links to dividing by 10 and 100* *Recognise that any other percentage amount could be built through adding, subtracting, multiplying or dividing key percentages.* *E.g. 15% can be found through adding 10% and 5% recognising that 5% is half of the 10% already known* *Consider different ways to calculate percentages* *E.g. 99% of 200 could be found by doing 10% x 9 plus 1% x 9 but there are easier ways such as knowing 99% of 100 is 99 and doubling OR finding 1% of 200 and subtracting it from the 200* • Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts *Calculate the whole from knowing a percentage part* *E.g. 60% of the school are boys. There are 240 boys. How many children are in the school altogether?* *Recognise that if 60% are boys, 40% must be girls to make the whole.* *Know that you can find the whole by multiplying and dividing what we know.* *We know 60% is 240 so 10% must be 240 ÷ 6 which is 40. Therefore the whole school must be 10 x 40 which is 400.Use double number lines and bar models to support*
Solve problems which require knowing percentage equivalents of fractions with a denominator of a multiple of 10.	Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] Solve problems involving the use of percentages for comparison

SPRING TERM			
WEEK: 8	**Wk Beg: 1 Mar**	**DOMAIN: Y5: Number – Multiplication and Division**	**Y6: Statistics**

YEAR 5	YEAR 6
➲ **1 DAY – PUMA ASSESSMENT** • Multiply and divide numbers mentally drawing upon known facts *Ensure children are secure with recall of multiplication and division facts for 1-12x.* *Boss the Blue – secure 11x* *Make links to deriving scaled facts of multiples of 10 and 100 from Y3 and Y4.* *Scale facts by powers of 10, including multiples of 10, 100 and 1000 and decimals.* *E.g. 3 x 0.6 can be derived from 3 x 6* *Using a given fact to deduce 'before and after' facts.* *E.g. if the answer to 347 x 4 is 1388, how can I use this fact to calculate 347 x 3? E.g. 1388 – 347* *Refer to From Exploration to Excellence: Mental Multiplication & Division - P83-86*	• Calculate and interpret the mean as an average *Understand the mean as an average.* *Understand that an average is a single number or value that best represents a set of data.* *Make links to finding the mean of temperatures using data from above* *Explain how the mean is calculated - adding all numbers together and then dividing the sum of the numbers by the number of numbers.* *Boss the Blue – find the mean of simple small sets of numbers* *Use addition and division skills from earlier this term, as appropriate* *Remember to use large numbers when calculating the mean too. E.g. See Q20 Paper 3 KS2 2022*
Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	*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: 9	**Wk Beg: 8 Mar**	**DOMAIN: Geometry – Properties of Shape**

YEAR 5	YEAR 6
➲ 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	**➲ 2 DAYS – KS2 2026 PAST PAPERS** ▪ Paper 1 and Paper 2 on Day 1 & then Paper 3 on Day 2 ▪ Do not spend lesson time marking or going through answers Teacher mark and analyse to inform teaching including Retrieval Practice, Spaced Learning, interventions and identify areas for Revision **➲ 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
• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres *Secure and consolidate learning from Y3 and Y4 ensuring children understand what perimeter is, how to find the perimeter or regular and irregular polygons (including simple composite shapes), and the different ways we could calculate the perimeter of regular (squares) and irregular (oblongs) rectangles.* *Find perimeter of shapes with one unit of measure – cm or m before including perimeters of mixed units where conversion to the same unit may be required.* *Introduce finding the perimeter of more complex composite shapes.* *Recognise the importance of identifying clearly the start point and using jottings to support.* *Consider different ways of calculating the perimeter, e.g. working logistically from a start point around the shape or recognising pairs of known facts mentally and using jottings to show which edges have been added to ensure all edges are counted.* • Use the properties of rectangles to deduce related facts and find missing lengths *Introduce finding the perimeter of more complex composite shapes with missing lengths.* *How can we use our knowledge of what we know about opposite edges to calculate the missing lengths?*	• Recognise that shapes with the same areas can have different perimeters and vice versa • Recognise when it is possible to use formulae for area • Use simple formula *Secure and consolidate learning from Y4 & Y5; what perimeter and area are, how to measure perimeter and area* *Recognise that different shapes can have the same area.* *Recognise that different shapes can have the same area but a different perimeter.* *Recognise that different shapes can have the same perimeter.* *Recognise that different shapes can have the same perimeter but a different area.* *Know that we can calculate area of a rectangle by multiplying the length and width.* *Know that we can represent this with a formula.* *E.g. Area = length x width. Area = l x w* *Recognise that when we calculate the area of a square, we can use square calculations as all sides are the same.* *E.g. 4 x 4 = 4^2* *Explore finding the area of composite shapes by partitioning the shape into different rectangles.* *Calculate the area of the component parts of a composite shape then add together to find the total area.* *Know that sometimes it is easier to calculate the area of the whole shape around a composite shape and subtracting the area of the 'missing part'.*
Use all four operations to solve problems involving measure	Solve problems involving similar shapes where the scale factor is known or can be found *E.g. What would the perimeter of the shape be if it was twice the size?*

SPRING TERM

WEEK: 10 | **Wk Beg: 15 Mar** | **DOMAIN: Geometry – Position and Direction**

YEAR 5

- **MTC Practice Data Submission opens on Insight**
  - Initial Data Submission Date Friday 12th March
  - MTC Practice – Final Data Submission Date – Friday 26th March

- Identify, describe and represent the position of a shape following a translation using the appropriate language, and know that the shape has not changed.

Secure and understanding learning from Y4 that a translation moves something from one place to another without changing its appearance and that translations could move up, down, left or right along the x or y axes.
In Y4, children translated individual points.
Introduce translating shapes.
Understand that each vertices of the shape must be translated in the same way.
Describe a translation of a shape.
Perform a translation of a shape.

- Identify, describe and represent the position of a shape following a reflection using the appropriate language, and know that the shape has not changed.

Reflect in lines parallel to the x or y axis.
This is the first time children have learnt about reflection.
Use mirrors to notice shapes remain identical but face in the opposite direction.
Begin with points before whole shapes.
Reflect in the x or y-axis - count how far the point / vertex is away from the axis.
Describe a reflection of a shape.
Perform a reflection of a shape.

YEAR 6

- **MTC Practice Data Submission opens on Insight**
  - Initial Data Submission Date Friday 12th March
  - MTC Practice – Final Data Submission Date – Friday 26th March

- Describe positions on the full coordinate grid (all four quadrants)

Discussing the labelling of the axes – x comes before y in the alphabet so x is first in the co-ordinate,
Recognise we have worked with the first quadrant in Y4 and Y5.
Name all four quadrants knowing that they are name anticlockwise from the first quadrant.
Recognise the difference between the x- and y- axes in each quadrant. E.g. in the first quadrant, x and y are both positive. In the second quadrant, x is negative and y is positive.
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 positions of different points in all four quadrants.

- Draw simple shapes on the coordinate plane.

Link back to learning in Y5 plotting points and drawing shapes in the first quadrant.
Describe and plot the position of different shape vertices, draw lines to connect vertices and produce polygons.
Positions of vertices given as co-ordinates, plot, connect to draw polygon.
Begin with shapes in one quadrant before crossing axes.
Can use shapes on grids or blank planes with co-ordinates given
Draw and label rectangles (including squares), parallelograms and rhombuses, specified by coordinates in the four quadrants, predicting missing coordinates using the properties of shapes.

- Translate simple shapes on the coordinate plane

Link back to learning in Y5 translating shapes in the first quadrant.
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.
Begin with translating points in all four quadrants before whole shapes.
Begin with translating in one direction only before both.
Describe a translation in all four quadrants
Perform a translation in all four quadrants
Make link to negative numbers from last week

- Use simple formulae (Algebra POS)

Algebra could be used to describe translations, e.g. vertex (a,b) may become (a-2, b + 3)

- Reflect simple shapes in the axes.

Link back to learning in Y5 reflecting shapes in the first quadrant
Begin with points before whole shapes.
Reflect in the x or y-axis - count how far the point / vertex is away from the axis.
Describe a reflection of a shape in all four quadrants

SPRING TERM			
WEEK: 10	**Wk Beg: 15 Mar**	**DOMAIN: Geometry – Position and Direction**	
YEAR 5			**YEAR 6**
			Perform a reflection of a shape in all four quadrants
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: 11	Wk Beg: 22 Mar	DOMAIN: Y5: Statistics	Y6: Geometry – Properties of Shape & Statistics

YEAR 5

- **MTC Practice Data Submission open on Insight**
  - Initial Data Submission Date Friday 12th March
  - MTC Practice – Final Data Submission Date – Friday 26th March

- Complete, read and interpret information in tables, including timetables.

Discuss the purpose of different timetables and what information can be gained from them.
Read and interpret a variety of timetables including ones with blank spaces. E.g. a bus doesn't stop at a particular town on a route
Answer questions gaining information from the timetables
Move on to calculate time intervals using information from timetable. Use number lines to calculate time intervals.
E.g. If bus leaves Lincoln at 9.30am and arrives in Skegness at 11.05am. How long was the journey?
Refer to From Exploration to Excellence: Mental Addition & Subtraction P47-49

- Solve comparison, sum and difference problems using information presented in a line graph

Time graphs
Secure and consolidate understanding of line graphs (time) from Y4 ensuring they understand what they are and the purpose of these for representing continuous data and 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.
Read, interpret and answer sum and difference problems using data presented in a time graph.
Use number lines to calculate time intervals.
Refer to From Exploration to Excellence: Mental Addition & Subtraction P47-49

Use all four operations to solve problems involving time

YEAR 6

- **MTC Practice Data Submission open on Insight**
  - Initial Data Submission Date Friday 12th March
  - MTC Practice – Final Data Submission Date – Friday 26th March

- Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
- Use simple formula

Know there are 360° in a circle making links to understanding about the number of degrees in a full turn – 4 right angles / 2 half turns etc

Know that the circumference of a circle is the perimeter of the circle
Know that the diameter of a circle is a line that passes through the centre and meets the circumference at opposite ends.
Know that the radius of a circle is the distance from the centre of the circle to any point on its circumference

Label different parts of circles.

Know that the diameter is twice as long as the radius of the circle.
Use algebra to describe the relationship. E.g. diameter = 2 x radius so d = 2r

Know that the radius is half as long as the diameter of the circle
Use algebra to describe the relationship. E.g. radius = ½ diameter so $r = \frac{d}{2}$

Complete tables showing the relationship between radius and diameter if one measurement is known

- Interpret pie charts

Introduce pie charts and know that a pie chart is a type of graph representing data in a circular form.
Understand that each sector of the circle represents a fraction or proportionate part of the whole.

Make simple interpretations such as what is the biggest / smallest sector presented.
Use knowledge of fractions and percentages to interpret pie charts.
E.g. notice when a sector is equivalent to half of the circle and use this to calculate the quantity represented as a proportion of the whole

Use knowledge of angles and percentages to interpret pie charts.
Know there are 360° in a circle making links to understanding about the number of degrees in a full turn
E.g. notice a pie chart has 10 sectors therefore each sector must be equal to a tenth of 360° so 360° ÷ 10 = 36°

Identify the proportion of missing parts using what we know.
Make links to previous learning.

Use pie charts to solve problems

SUMMER TERM		
WEEK: 1	**Wk Beg: 14 April**	**DOMAIN: Geometry – Properties of Shape**

YEAR 5	YEAR 6
• Distinguish between regular and irregular polygons based on reasoning about angles. *Link back to learning about regular and irregular 2d polygons in Y4.* *Ensure children understand that a polygon is a 2d shape formed with straight sides.* *Understand that a regular polygon is 2d shape formed with straight sides that has all sides an equal length and all interior angles equal.* *Look at a square versus an oblong. Identify a square is a regular rectangle but an oblong is an irregular rectangle. Show marking on edges to demonstrate the sides are equal.* *Know that if we are given the size of one interior angle in a regular polygon, all other angles must be equal. Identify regular and irregular polygons. Explain why or why not the shape is regular/irregular considering the properties of the sides and angles of the polygon.* - • Use the properties of rectangles to deduce related facts and find missing angles *Know that a rectangle has four interior right angles meaning that all angles add together to make 360°* *Show examples of where a rectangle has been split into two parts at one of the corners splitting one of the right angles into two parts.* *If we know one of the angles, at the corner, how does that help us identify the missing angle? 90° – the known angle = the missing angle*	• Compare and classify regular polygons based on their properties and sizes • Draw regular polygons (with more than 5 sides) using given dimensions and angles • find unknown angles in regular polygons *Secure and consolidate properties of regular polygons from Y4 & Y5; all sides are equal and all interior angles are equal* *Draw regular polygons using given dimensions and angles* *Use knowledge that a quadrilateral can be split into two triangles so if the interior angles of a quadrilateral total 360°, the angles within a triangle must add up to 180° to help find the interior angles of a regular polygon with 5 or more sides* *Use a vertex of the polygon to draw straight lines across the shape to form triangles.* *Multiply the number of triangles formed in the polygon by 180° to find the sum of the interior angles in the polygon.* *Find missing angles within a regular polygon knowing to divide the sum of the interior angles by the numbers of sides* *Compare and classify different regular polygons using knowledge of properties to support.* *Use Venn diagrams and Carroll diagrams to sort and compare.*
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SUMMER TERM		
WEEK: 2	**Wk Beg: 19 Apr**	**DOMAIN: Measurement**

YEAR 5	YEAR 6
• Estimate the area of irregular shapes *Secure and consolidate learning from Y4 understanding what area is and finding area by counting squares of regular and irregular shapes* *Show children irregular shapes (e.g. boat, leaf, apple) on a square grid – how could we estimate the area?* *Encourage children to count full squares and then look for parts of squares.* *Explain that we are estimating so we know our answer will not be perfect but we can identify whether we think part squares are perhaps more or less than half a square etc.* *Encourage children to annotate shapes to help keep count of those squares / part squares counted* • Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) *Recognise that when comparing the area of shapes, it is important that the units being compared are the same. E.g. a shape with 12 large squares in the area compared to a shape with 12 small squares inside is not a fair comparison.* *Know that area is measured in square units.* *Know that area can be measured in square centimetres and square metres* *Model and show what a square centimetre / metre would look like.* *Recognise that we cannot always see the square units within the shapes and so need to use information around the shape to help us calculate the number of square units inside.* *Recognise the connection between arrays and the area model for calculating the area of rectangles when we cannot see the square units inside the shape.* *Know that to find the area of a rectangle you multiply the length by the width.* *Calculate the area of compound shapes, recognising the shape as 2 or more rectangles together. Partition the compound shape into smaller rectangles and calculate the area of each part before adding each part together to find the total area.*	• Calculate the area of triangles • Recognise when it is possible to use formulae for area • Use simple formula *Secure and consolidate learning from Y5 calculating the area of irregular shapes; counting full squares and then look for parts of squares.* *Introduce finding the area of right-angle triangles.* *Recognise that a right-angled triangle is half of a rectangle* *Recognise that we can use our knowledge of finding the area of a rectangle to help us find the area of a right-angled triangle - Link to Spring Wk 9* *Model jotting the 'rest of the rectangle' over the top of the right-angled triangle to identify the length and height* *Understand that the right-angled triangle can be in any orientation and not necessarily parallel to the horizon.* *Find the area of the rectangle by multiplying the length/base and height. Half the product to find the area of the triangle.* *Write this as a formula seeing ½ of the length/base x height. Make links to order of operations from Autumn Wk 11 to know that this can be written as ½ (length/base + height) or ½ (l + h)* *Find the area of any triangle* *Recognise that when working with other triangles, we must identify the height of the triangle that is perpendicular to the base (length).* *Understand that the triangle can be in any orientation and not necessarily parallel to the horizon.* *Once an edge has been identified as the base, we can identify the perpendicular height* • Calculate the area of parallelograms • Use simple formula *Secure and consolidate learning from Y5 understanding the properties of a parallelogram: The opposite sides of a parallelogram are equal. The opposite angles of a parallelogram are equal.* *Explore how we could find the area of a parallelogram using paper shapes.* *Recognise that we could divide the shape into a rectangle and a triangle on either end* *Notice that one triangle could move and rotate to fit with the triangle at the other end of the shape so that the shape is now a rectangle* *Use knowledge of how to find the area of a rectangle to find the area of a parallelogram*

SUMMER TERM		
WEEK: 2	**Wk Beg: 19 Apr**	**DOMAIN: Measurement**

YEAR 5	YEAR 6
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 similar shapes where the scale factor is known or can be found *E.g. What would the area of the shape be if it was twice the size?*

SUMMER TERM			
WEEK: 3	**Wk Beg: 26 Apr**	**DOMAIN: Y5: Geometry – Properties of Shape**	**Y5: Geometry – Properties of Shape & Measurement**

YEAR 5	YEAR 6
• Identify 3-d shapes, including cubes and other cuboids, from 2-d representations *Secure and consolidate the names and properties of 3D shapes from Y3&4, including faces, edges and vertices.* *Recognise the 2d shapes on the faces of 3d shapes* *Use the properties of 3d shapes to identify them from 2d representations (E.g. 3d shapes drawn on isometric paper).* *Explore drawings of compound 3d shapes where more than 2 or more 3d shapes have been combined to make a new shape.* *Identify which 3d shapes have been used and describe the properties.*	• Recognise and describe 3-d shapes, *Secure and consolidate the names and properties of 3D shapes from Y3-5, including faces, edges and vertices, recognising the 2d shapes on the faces of 3d shapes and using the properties of 3d shapes to identify them from 2d representations (E.g. 3d shapes drawn on isometric paper).* *Recognise that we can use our knowledge of 2d shape faces to make a 3d shape.* *Introduce nets to the children – a pattern of 2d shapes that can be folded to form the 3d shape* *Identify what 2d shape faces will be used in a net for a 3d shape* *Begin with exploring nets for cubes and cuboids* *Consider 2d shapes required* *Consider the position of the shapes and whether they will fold up successfully* *Give pre-drawn nets to explore.* *Children can draw their own nets later this term* *Move on to explore nets for other shapes, considering what shape will be made based on the 2d shapes for the faces.* *e.g. 1 square with four triangles will create a square based pyramid as it has one square face and four triangular faces.*
	• Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3] • Recognise when it is possible to use formulae for volume of shapes *Secure and consolidate learning from Y5: understanding what volume is, counting cubes, knowing that to find the volume of a cube or cuboid, you multiply the length, width and height.* *Know that we can calculate volume of a cube or cuboid by multiplying the length, width and height* *Know that we can represent this with a formula.* *E.g. Volume = length x width x height. Volume = l x w x h* *Recognise commutativity can help make the calculations easier when finding the volume of shapes if we look for known facts* *Recognise that when we calculate the volume of a cube, we can use cubic calculations as all sides are the same.* *E.g. 4 x 4 x 4 = 4^3* *Calculate the volume of compound shapes, recognising the shape as 2 or more cubes/cuboids together. Partition the compound shape into smaller cubes/cuboids and calculate the volume of each part before adding each part together to find the total volume.* *Explore finding the volume of compound shapes by partitioning the shape into different cubes / cuboids.* *Calculate the volume of the component parts of a compound shape then add together to find the total volume.* *Know that sometimes it is easier to calculate the volume of the whole cube/cuboid around a compound shape and subtracting the volume of the 'missing part'.*

SUMMER TERM			
WEEK: 3	**Wk Beg: 26 Apr**	**DOMAIN: Y5: Geometry – Properties of Shape**	**Y5: Geometry – Properties of Shape & Measurement**
YEAR 5			**YEAR 6**
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 similar shapes where the scale factor is known or can be found *E.g. What would the volume of the shape be if it was twice the size?*

SUMMER TERM			
WEEK: 4	**Wk Beg: 4 May**	**DOMAIN: Y5: Measurement**	**Y6: Measurement, Ratio and Proportion & Statistics**

YEAR 5	YEAR 6
• Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints *Know the difference between a metric unit or measure and an imperial unit of measure* *Understand that imperial units of measure was what we used originally in England but we now tend to use metric measures although lots of people still refer to imperial measures.* *Recognise imperials units of length/height (inches, feet, yards, miles), mass/weight (pounds, ounces, stones), and volume/capacity (pints, gallons) all as imperial measures compared to the metric units they already know.* *Understand approximate equivalences of metric and imperial measures. Introduce ≈ as the symbol for approximately equal to.* *Use double number lines to support using repeated addition along the lines.* *Begin to notice multiplicative relationships, where possible. E.g. 1 foot is approximately 30cm so multiply the number of feet by 30 to find the number of cm approximately equivalent* *Given key conversion facts, calculate conversions of other facts.*	• Convert between miles and kilometres *Consolidate and secure learning about imperial and metric measures from Y5.* *Recognise imperials units of length/height (inches, feet, yards, miles), mass/weight (pounds, ounces, stones), and volume/capacity (pints, gallons) all as imperial measures compared to the metric units they already know.* *Focus on relationships between miles and km.* *Understand that 1 mile is longer than 1km.* *Know that 5 miles is approximately equal to 8km.* *Use double number lines to support conversion.* • Solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts *Use scaling of known facts to support conversion.* *E.g. If I know 5 miles ≈ 8 km. How many km is approximately equal to 35 miles?* *Recognise that the miles are 7 times the size of our know fact so we can multiply the known number of km by 7 too.* *8 x 7 = 56. Therefore 35 miles ≈ 56km* • Interpret line graphs *Link back to using line graphs for conversion of time in Y5* *Interpret line graphs using distance as one of the two variables (x or y axis)* *Convert distances from miles to km and vice versa* *Solve comparison, sum and difference problems* *Children could be introduced to compound units (units of measure which includes 2 or more units) for speed, such as miles per hour*
Use all four operations to solve problems involving measure [for example, length, mass, volume] using decimal notation, including scaling.	Solve problems involving the conversion of units of measure Use line graphs to solve problems

<table>
<tr><th colspan="4">SUMMER TERM</th></tr>
<tr><th>WEEK: 5</th><th>Wk Beg: 10 May</th><th>DOMAIN: Y5: Addition</th><th>Y6: Revision and Consolidation & KS2 2026 Assessments</th></tr>
<tr><th colspan="3">YEAR 5</th><th>YEAR 6</th></tr>
<tr><td colspan="3">• Add whole numbers with more than 4 digits, including using formal written methods
• Non-statutory Guidance: “Practise adding decimals, including a mix of whole numbers and decimals”
Boss the Blue – Write it for adding numbers with the same number of decimal places secured, as appropriate to place value understanding
Link back to adding decimals with the same number of places in Spring Wk 4
Introduce adding decimals with a different number of places including those with varying exchanges.
Begin with modelling with Build-it, Draw-it using decimal place value counters, as appropriate.
Ensure correct language when adding different column values; e.g. 3 tenths + 6 tenths is 9 tenths. Ensure exchanging with decimals is secure.
Refer to From Exploration to Excellence: Written Addition – P38

• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
Link back to using rounding to check answers from Autumn Wk 8 and Spring Wk 4</td><td>REVISION & CONSOLIDATION
This should be still direct teaching time based on Gaps identified and question analysis of recent assessments.
This is not a time to simply practice test questions. Teaching must occur to move learning forward.
Plan according to need.
Past questions could be used as the tasks following direct teaching.

➲ 2 DAYS – KS2 2027 PAPERS</td></tr>
<tr><td colspan="3">Solve problems involving number up to three decimal places

Solve problems involving a combination of addition and subtraction, including understanding the meaning of the equals sign</td><td></td></tr>
</table>

SUMMER TERM			
WEEK: 6	**Wk Beg: 17 May**	**DOMAIN: Y5: Number – Subtraction**	**Y6: Number – Addition & Subtraction**

YEAR 5	YEAR 6
➲ 2 DAYS – KS2 2025 PAST PAPERS • **Paper 1 and Paper 2 on Day 1 & then Paper 3 on Day 2** • **Do not spend lesson time marking or going through answers** • **Teacher mark and analyse to inform teaching including Retrieval Practice, Spaced Learning and interventions** • Subtract whole numbers with more than 4 digits, including using formal written methods • ***Non-statutory Guidance: "Practise subtracting decimals, including a mix of whole numbers and decimals"*** *Boss the Blue – Write it for subtracting numbers with the same number of decimal places secured, as appropriate to place value understanding* *Link back to adding decimals with the same number of places in Spring Wk 4* ***Introduce subtracting decimals with a different number of places including those with varying exchanges.*** *Begin with modelling with Build-it, Draw-it using decimal place value counters, as appropriate.* *Ensure correct language when subtracting different column values; e.g. 9 tenths - 6 tenths is 3 tenths. Ensure exchanging with decimals is secure.* *Refer to From Exploration to Excellence: Written Subtraction – P45, as appropriate* • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy *Link back to using rounding to check answers from Autumn Wk 8 and Spring Wk 4*	***Consolidate all addition and subtraction, as required – deepen into complex problem solving as appropriate*** • *Non-statutory Guidance: "Practice addition and subtraction for larger numbers using the formal written methods of columnar addition and subtraction"* • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. • Express missing number problems algebraically
Solve problems involving number up to three decimal places Solve problems involving a combination of addition and subtraction, including understanding the meaning of the equals sign	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

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

YEAR 5	YEAR 6
• Multiply mixed numbers by whole numbers, supported by materials and diagrams *Boss the Blue - working with mixed numbers including the wholes and unit fractions* *Consider if this can be done mentally using knowledge of connections to multiplication language.* *E.g. 1 ½ x 20 is the same as 1 and a half lots **of** 20 so can be as 1 x 20 and ½ **of** 20 which is far easier than converting fractions etc first* *Where this cannot be done mentally, make links to using what we already know and partitioning.* *Recognise that a mixed number can be partitioned into the wholes and the parts.* *E.g. $3\frac{1}{6}$ x 5 … $3\frac{1}{6}$ can be partitioned into 3 and $\frac{1}{6}$ so then can do 3 x 5 plus $\frac{1}{6}$ x 5. We know 5 x 3 is 15 and we also know 5 x $\frac{1}{6}$ is $\frac{5}{6}$ and then we can recombine the parts.* *So, $3\frac{1}{6}$ x 5 = $15\frac{5}{6}$.* *Model with Build it (paper folding), Draw it (bar model) as required.* *Also model using part-whole model as a jotting to support partitioning of the mixed number.* *Ensure children represent any improper fractions as mixed numbers appropriately*	***Consolidate from Spring Wk 3 as required – deepen into complex problem solving as appropriate*** • Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} x \frac{1}{2} = \frac{1}{8}$ • Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$
Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. *e.g. A recipe for 36 requires …. There are only 9 people, how much of each ingredient will I need?* *e.g. This term, I have earned 24 house points so far. Last term, I had 1¼ times as many house points than I do now. Sue got 3 more house points than me last term. How many house points did Sue get?*	*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: 8	**Wk Beg: 7 June**	**DOMAIN: Number - Multiplication**

YEAR 5	YEAR 6
• Multiply numbers **up to 4 digits by a two-digit** number using a formal written method, including long multiplication *Secure and consolidate two-digit times two-digit long multiplication from Spring Wk 5.* *Boss the Blue – using Grid method (writing products) and column addition alongside to find final total* ***Introduce three- and four-digit times two-digit long multiplication.*** *Some children will have a solid enough understanding of 2-digit long multiplication from Spring term that they can move to Write it for 3- and 4-digit with ease.* *However, this relies on a strong understanding of place value to do this and so must not be rushed. Whilst it is becoming inefficient with larger numbers, using the expanded column is a vital stage to support the place value scaling required for long multiplication.* *Children must continue to use the expanded notation if required. They can learn to work more efficiently with short notation in Y6 and will do so quickly if their understanding of place value relationships is solid.* *Encourage children to use language of column value to support.* *Include some calculations with zero as a place holder.* *Refer to From Exploration to Excellence: Written Multiplication – bottom P20 & P21*	***Consolidate all multiplication written strategies, as required – deepen into complex problem solving as appropriate*** • *Non-statutory Guidance: "Practice short and long multiplication"* *Boss the Blue – continue to practise short multiplication. Use grid method to support long multiplication, if required.* • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • Multiply one-digit numbers with up to two decimal places by whole numbers • *Non-statutory Guidance: "Pupils multiply numbers with up to two decimal places by one-digit and two-digit whole numbers"*
Solve problems involving addition subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Solve problems involving multiplication

SUMMER TERM		
WEEK: 9	**Wk Beg: 14 June**	**DOMAIN: Number - Division**

YEAR 5	YEAR 6
• Divide numbers up to 4 digits by a one-digit number using the formal written method of short division *Secure and consolidate short division of 2-, 3- and 4-digit numbers with remainders as a left over from Spring Wk 6.* *Boss the Blue – secure Write-it for calculations that have remainders as a left over* ***Introduce interpreting remainders appropriate to the context of the problem.*** *Represent remainders as a left over, decimal, fraction or rounded, as appropriate.* *Use Build-it, Draw-it, Write-it as appropriate* *Refer to From Exploration to Excellence: Written Division – P23-24*	***Consolidate all division written strategies as required – deepen into complex problem solving as appropriate*** • Divide numbers up to 4 digits by a two-digit number using the formal written method of short or long division *Boss the blue – continue to practise short division. Use jottings of the multiples to support long division using repeated addition to generate multiples.* • *Non-statutory Guidance: "Pupils divide numbers with up to two decimal places by two-digit whole numbers"* • Interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,] $\frac{3}{8}$ • Use written division methods in cases where the answer has up to two decimal places • Round to specified degrees of accuracy
Solve problems involving addition subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	Solve problems involving division

SUMMER TERM			
WEEK: 10	**Wk Beg: 21 June**	**DOMAIN: Y5: Fractions**	**Y6: Statistics**

YEAR 5	YEAR 6
➲ MTC Practice Data Submission opens on Insight ▪ Initial Data Submission Date opens Friday 25th June ▪ MTC Practice – Final Data Submission Date – Friday 9th July • Write percentages as a decimal • Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$] *Make connections to understanding of hundredths. If 1.00 represents the whole and 100% represents the whole.* *When given a percentage, children should be able to write as a decimal considering the number of hundredths.* *Link back to Autumn Wk 4 considering the place value of decimal numbers.* *Begin with percentages less than 10% first to clarify connection to hundredths. E.g. 4% … 4 out of 100 equal parts … 4 hundredths … $\frac{4}{100}$ … 0.04.* *Ensure understanding of exchange within decimals. E.g. 10 hundredths is 1 tenth. $\frac{10}{100} = \frac{1}{10}$ = 0.10 = 0.1* *Use place value charts to support.* • Know percentage and decimal equivalents of ½ , $\frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25. *Consider what the fractions would look like on a hundred square.* *E.g. $\frac{1}{2}$ of the hundred square shaded would mean 50 out of the 100 squares were shaded. So $\frac{1}{2} = \frac{50}{100} = 0.50 = 0.5$.* *Also make link to equivalent fractions from Spring Wk 2.* *Use tables to show equivalence between percentages, decimals and fractions.*	• Construct pie charts *Make links to Spring Wk 11.* *Recap what pie charts represent recognising that the whole pie represents 100%.* *Draw simple pie charts with parts being equal to 50% or 25%* *Recognise the size of each part if the whole is 360 ° finding 50% and 25% of 360* *Use pre-marked circles to draw parts on* *As above but draw own pie charts* *Use protractors to draw parts accurately.* *Link back to learning about drawing angles in Y5,* *Move on to drawing simple pie charts with parts equal to multiples of 10%.* *Begin with pre-marked circle to draw parts on* *Represent data provided in a table as a pie chart* *Use division and multiplication to calculate the size of each part* *E.g. data shows 36 children have voted for their favourite flavours of ice-cream* *Recognise that each child in the pie chart must represent 10° because 360° ÷ 36 children = 10°* *Use this to calculate the size of each section in the pie chart for the ice-cream flavours.* *E.g. If 5 children voted for chocolate ice-cream, the size of the segment in the pie chart needs to be 5 x 10° = 50°* *Repeat with other data*
Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.	*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: 11	**Wk Beg: 28 June**	**DOMAIN: Y5: Number – Multiplication & Division**	**Y6: Number – four operations**

YEAR 5	YEAR 6
➲ MTC Practice Data Submission open on Insight ▪ Initial Data Submission Date opened Friday 25th June ▪ MTC Practice – Final Data Submission Date – Friday 9th July • Recognise and use square numbers and the notation for squared (^{2}) *Understand that a square number is the product found by multiplying a number multiplied by itself* *Identify if a given number is a square number or not. Build it (concrete equipment), Draw it (arrays)* *Recognise that square numbers have an odd number of factors and why.* *Introduce and use the notation for squared.* *Use times tables knowledge to identify all square numbers up to 12 x 12.* • Recognise and use cube numbers, and the notation for cubed (^{3}) *Understand that a cube number is the product found by a number multiplied by itself and itself again.* *Make links to square numbers. E.g. finding a square is a number multiplied by itself so we can use this knowledge when finding a cube. E.g. $4^3 = 4^2 \times 4$ so $4^3 = 16 \times 4$* *Use Build it with cubes to identify a cube number.* *Know the corresponding calculations to find the cube of a number. E.g. $5^3 = 5 \times 5 \times 5$*	***Consolidate all strategies from Autumn Wk 11 as required – deepen into complex problem solving as appropriate*** • Use their knowledge of the order of operations to carry out calculations involving the four operations *Recap learning from Autumn term including knowing:* - *the priorities of order of operations using a block arrow.* - *Brackets first, then indices / powers (explain what these are squares/cubes etc), then multiplication or division (whichever comes first in the linear calculation) then addition or subtraction (whichever comes first in the linear calculation).* - *Explain the order of operations and know how to use these* *Work with:* - *calculations with brackets already positioned. E.g. 30 ÷ (6 + 4)* - *number sentences without brackets, children to decide where to put brackets and solve appropriately.* - *calculations where children explore different possible answers depending on where they place brackets* - *calculations where children have to position brackets in order to reach a given answer* - *calculations with empty boxes deciding which order of operations have been used. E.g. 8 + 12 ÷ [_] = 10* - *multi-step problems considering the appropriate order of operations.* *E.g. Tennis balls are stored in packs of 3. June has 12 balls to put away. Tom has 21 balls to put away. How many packs of balls in total?*
Solve problems involving multiplication and division including using their knowledge of squares and cubes	Solve number and practical problems that involve all of the above

SUMMER TERM			
WEEK: 12	**Wk Beg: 5 July**	**DOMAIN: Y5: Measurement**	**Y6: Geometry – Properties of Shape**

YEAR 5	YEAR 6
➲ MTC Practice Data Submission open on Insight ▪ Initial Data Submission Date opened Friday 25th June ▪ MTC Practice – Final Data Submission Date – Friday 9th July • Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] *Understand that volume is the amount of space a 3d shape takes* *Recognise that shapes can have the same volume but a different mass (weight).* *Model this with the same sized boxes with different contents within.* *Make connections to area from Summer Wk 1 and how it measured the amount of space a 2d shape takes.* *Connect to how we measure area using square units but measure volume with cubic units* *Know that volume can be measured in units such as square centimetres and square metres* *Model and show what a cubic centimetre / metre would look like.* *Link back to cube numbers from last week.* *Recognise that we cannot always see the cubic units within the shapes and so need to use information around the shape to help us calculate the number of cube units inside.* *Know that to find the volume of a cube or cuboid, you multiply the length, width and height.* *Calculate the volume of cubes and cuboids.* *Boss the Blue – use Build-it using cubes to help calculate the volume of different cubes and cuboids* *Calculate the volume of compound shapes, recognising the shape as 2 or more cubes/cuboids together.* *Partition the compound shape into smaller cubes/cuboids and calculate the volume of each part before adding each part together to find the total volume.*	• build simple 3-d shapes, including making nets *Link back to learning in Wk 2 and building 3D shapes in Y3.* *In Y3, children should have made 3d shapes from different materials, such as straws, cubes, playdoh, spaghetti and marshmallows* *Sheets of paper may have been used for curved surfaces* *If this didn't happen – provide opportunities to do so* *Describe the shapes made considering the properties* *Recognise that we can made the 3d shape using our knowledge of the 2d shapes on the faces* *Link back to learning in Wk 2.* *What 2d shapes would be used in the pattern(net) for your shape?* *Draw shapes and nets accurately, using measuring tools and conventional markings and labels for lines and angles.* *Boss the Blue – build 3d shapes using nets provided* *Draw and test the net.* *Draw nets of given dimensions.* *Explore possibilities of arranging the 2d shape faces in different ways to make the 3d shape*
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: 13	**Wk Beg: 12 July**	**DOMAIN: Statistics**

YEAR 5	YEAR 6
• Solve comparison, sum and difference problems using information presented in a line graph *Conversion graphs* *Link back to using line graphs (time) in Spring Wk 11* *Introduce line graphs for conversion.* *Use conversion graphs for imperial to metric measures.* *Read, interpret and answer sum and difference problems using data presented in a line graph.*	• Interpret and construct line graphs • Use line graphs to solve problems *Link back to Summer Wk 3 using line graphs for measure* *Secure and consolidate understanding of line graphs (time) from Y4 & Y5 ensuring they understand what they are and the purpose of these for representing continuous data and 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.* *Draw line graphs using data provided* *Use pre-drawn axes, if required* *Use appropriate scales and labels* *Plot data accurately and then join up the points with dotted lines* *Ask and answer questions – including the data represented in both axes* *What is the story of this line graph?* *Move on to look at graphs with more than one line* *Interpret, ask and answer questions* *Plot and join points of more than one line on the same graph.*
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: Y5: Number – Number and Place Value**	**Y6: Algebra**

YEAR 5	YEAR 6
• read Roman numerals to 1000 (M) and recognise years written in Roman numerals. *Boss the Blue – recognise and use Roman Numerals I to 100* *Know that I represents 1, V represents 5, X represents 10, L represents 50, C represents 100, D represents 500 and M represents 1000.* *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.*	***Consolidate as required – deepen into complex problem solving as appropriate*** • Use simple formulae • Express missing numbers algebraically • Generate and describe linear number sequences • Find pairs of numbers that satisfy an equation with two unknowns • Enumerate possibilities of combinations of two variables.
Solve number problems and practical problems that involve all of these ideas	*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*