Black – Main content to be taught
Italic – Daily fluency objectives
Purple – Challenge objectives
Learning objectives are not listed in a specific order and may be taught more than once to support learning progression.

HCAT Maths Year on a Page
Year 4 - 2025/2026

Autumn Term 1

Week 1 01/09/25 3-day week Week 2 08/09/25 Week 3 15/09/25	Number & Place Value	To count in multiples of 6, 7 and 9 To count in multiples of 25 and 1000 To count backwards through zero including negative numbers. To recognise the place value of each digit in a 4-digit number. To find 1000 more or less than a given number. To compare and order numbers beyond 1000. To identify, represent and estimate numbers using different representations. To round any number to the nearest 10, 100 or 1000. To read Roman numerals to 100. To solve number and practical problems with increasingly large positive numbers. To count up and down in hundredths. *To fluently count in 3s, 4s, and 8s.*
Week 4 22/09/25	Addition	To add with up to 4-digits using a formal written method with one exchange (calculation policy). To estimate and use inverse to check answers to calculations. To estimate and use inverse to solve missing number calculations. To solve two step addition problems in context deciding which operation to use first and why. *To fluently add increasingly larger numbers mentally.*
Week 5 29/10/25	Subtraction	To subtract with up to 4-digits using a formal written method (calculation policy). To estimate and use inverse to check answers to calculations. To estimate and use inverse to solve missing number calculations. To solve two step subtraction problems in context deciding which operation to use first and why. *To fluently subtract increasingly larger numbers mentally.*
Week 6 06/10/25 Week 7 13/10/25	Multiplication and Division	To recall and use multiplication and division facts for 6s. To recall and use multiplication and division facts for 7s. To recall and use multiplication and division facts for 9s. To recognise and use factor pairs and commutativity in mental calculations. To multiply together 3 numbers. To multiply by 10 and 100. To divide by 10 and 100. To divide numbers by grouping and sharing with remainders. To solve problems involving multiplying and dividing including the distributive law. *To use place value to divide mentally including dividing by 1.* *To use known and derived facts to multiply by zero and one* *To fluently recall multiplication facts for multiplication tables up to 12x12..*
Week 8 20/10/24 3-day week	Statistics	To interpret discrete and continuous data including bar charts, pictograms and tables. To solve comparison, sum and difference problems using information presented in bar charts, pictograms and tables. To present discrete and continuous data including bar charts, pictograms and tables.

October Half Term

Autumn Term 2

Week 1 03/11/25	Measures: Money	To estimate and calculate values of coins and find equivalent combinations. To compare amounts of money in pounds and pence. To use multiplication to convert from larger to smaller units (pounds and pence). To solve problems linking to the four operations and money. To build on understanding of place value and decimal notation to record metric measures including money. *To fluently count forwards in 25s, 50s, 100s and 1000s.*
Week 2 10/11/25	Measures: Time	To read and write time using analogue and digital 12-hour and 24-hour clocks. To convert between analogue and digital times. To solve problems involving years, months, weeks and days. To solve problems involving converting from hours to minutes, minutes to seconds. *To fluently count in 6s, 7s and 9s.*
Week 3 17/11/25	**Autumn Assessment Week**	
Week 4 24/11/25 Week 5 01/12/25	Fractions (including decimals)	To recognise and show, using diagrams, families of common equivalent fractions. To recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10. To add and subtract fractions with the same denominator beyond one whole. To solve problems with increasingly harder fractions to calculate quantities and fractions. To recognise and write decimal equivalents of any number of tenths or hundredths. To recognise and write decimal equivalents to one quarter, one half and three quarters. To find the effect of dividing a one- or two-digit number by 10 and 100 (identifying the value of the digits in the answer as ones, tenths and hundredths). To solve simple measure and money problems involving fractions and decimals to 2 decimal places. *To fluently count forwards and backwards in 10s, 100s and 1000s.* *To count up and down in hundredths.*
Week 6 08/12/25 Week 7 15/12/25	Geometry: Properties of shape	To compare and classify geometric shapes. To compare and classify geometric shapes, including quadrilaterals (parallelogram, rhombus, trapezium) based on their properties and sizes. To compare and classify geometric shapes, including triangles (isosceles, equilateral, scalene) based on their properties and sizes. To identify lines of symmetry in 2D shapes presented in different orientations. To complete a simple symmetric figure with respect to a specific line of symmetry. To draw symmetric patterns using a variety of media. To apply my knowledge of shape properties to solve questions with more than one possible answer.

Christmas End of Term

Spring Term 1

Week 1 05/01/26	Place Value	To identify and represent numbers using different representations including measures. To make links between estimating and rounding when using measuring tools. To problem solve using Roman numerals up to 100 (know that over time the numeral system changed to include to concept of zero and place value). To solve number and practical problems with negative numbers. *To fluently recall multiplication facts for multiplication tables up to 12x12.*
Week 2 12/01/26 Week 3 19/01/26	Addition & Subtraction	To add and subtract up to 4-digits using a formal written method with more than one exchange (see calculation policy) To solve two-step problems in context deciding which operation to use first and why. To solve addition and subtraction problems extending the context to include decimals. To estimate and use inverse to check answers to calculations. To estimate and use inverse to solve missing number calculations. To use prior knowledge of learnt strategies to choose the most efficient methods when answering addition and subtraction problems (e.g.104-97=) *To fluently recall multiplication facts for multiplication tables up to 12x12.*
Week 4 26/01/26 Week 5 02/02/26	Multiplication and Division	To use mental methods to build on partitioning skills to multiply larger numbers (calculation policy) To write statements about the quality of expressions (e.g. 39x7=30x7+9x7 distributive law) To apply the formal written method for multiplication of 2-digit x 1-digit using multiplication calculations (shown in brackets) to support understanding – see calculation policy video) To apply the formal written method for multiplication of 3-digit x 1-digit using multiplication calculations (shown in brackets) to support understanding – see calculation policy video) To use simple multiples when dividing 2-digit by 1-digit (see calculation policy) To use an efficient written method when dividing a 2-digit number by 1-digit number (see calculation policy) *To multiply and divide by 10 and 100.* *To fluently recall multiplication facts for multiplication tables up to 12x12.*
Week 6 09/02/26	Measurement: Perimeter	To measure and calculate the perimeter of a rectilinear figure (including squares) in cm/m. To find the area of rectilinear shapes by counting squares. To use multiplication to convert from larger to smaller units when finding the perimeter of a rectilinear figure. To know perimeter can be expressed algebraically as 2(a+b) where a and b are the dimensions in the same unit. *To fluently recall multiplication facts for multiplication tables up to 12x12.*

February Half Term

HCAT Maths Year on a Page
Year 4 - 2025/2026

Spring Term 2

Week 1 23/02/26	Fractions	To round decimals with one decimal place to the nearest whole number. To compare numbers with the same number of decimal places up to two decimal places. To solve measure problems involving fractions and decimals to 2dp. To use factors and multiples to recognise equivalent fractions and simplify where appropriate. To add and subtract two or more fractions with the same denominator beyond one whole. To understand the relationship between non unit fractions and multiplication and division of quantities. *To fluently recall multiplication facts for multiplication tables up to 12x12.*
Week 2 02/03/26	Geometry	To identify acute and obtuse angles. To compare and order angles up to 2 right angles by size. To compare lengths and angles to decide if a polygon is regular or irregular. To identify different angles within a range of triangles (isosceles, equilateral, scalene, right-angled triangle) *To fluently recall multiplication facts for multiplication tables up to 12x12.*
Week 3 09/03/26	Measure: Length/Height Mass/Weight	To convert between different units of measure (Km/m) To convert between different units of measure (Kg/g) To solve problems by converting measures (Km/m) and finding the difference to find an answer. To solve problems by converting measures (Kg/g) and finding the difference to find an answer. *To fluently recall multiplication facts for multiplication tables up to 12x12.*
Week 4 16/03/26	Geometry: Position and direction	To describe positions on a 2d grid as co-ordinates in the first quadrant. To describe movements between positions as translations of a given unit to the left/right and up/down. To plot specified points and draw sides to complete a given polygon. To draw a pair of axis in one quadrant with equal scales and integer labels. To read, write and use pairs of co-ordinates e.g. (2,5) including plotting using ICT tools. *To fluently recall multiplication facts for multiplication tables up to 12x12.*
Week 5 23/03/26	Statistics	To interpret discrete and continuous data using a time graph. To solve comparison, sum and difference problems using information presented on a time graph. To present discrete and continuous data using a time graph. To use a greater range of scales in their representations. To relate the graphical representation of data to recording change over time. *To fluently recall multiplication facts for multiplication tables up to 12x12.*

Easter End of Term

Summer Term 1

Week 1 13/04/26	Measure: Time	To read and write time between analogue and digital 12hour and 24hour clocks. To convert between analogue and digital. To convert to 24-hour clock. To convert from the 24-hour clock. To solve problems involving converting between hour to minutes and minutes to seconds. *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 2 20/04/26	Addition	To add any two 4-digit number using an efficient strategy. To solve 2-step problems in context. To reason with rounding when estimating the answers to addition calculations. To answer 2-step problems to combine decimal numbers and finding the difference. *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 3 27/04/26	Subtraction	To subtract any two 4-digit number using an efficient strategy. To solve 2-step problems in context. To reason with rounding when estimating the answers to subtraction calculations To answer 2-step problems to combine decimal numbers and finding the difference. *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 4 04/05/26 4 day week	Place Value	To solve number and practical problems with negative numbers. To identify, represent and estimate numbers using different representations including a number line. To identify, represent and estimate fractions and decimals on a number line. *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 5 11/05/26	Multiplication and Division	To solve integer scaling problems and harder correspondence problems. To solve multi-step problems in context choosing the appropriate operations. To explore a formal written method for division (bus stop) *To multiply and divide fluently by 10 and 100* *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 6 18/05/26	Measurement; Money	To build on understanding of place value and decimal notation to record metric measures including money. To estimate, compare and calculate different measures including money in pounds and pence. To solve 2-step money problems including sum and difference. *To fluently count forwards in 25s, 50s, 100s and 1000s.*

Spring Bank Half Term

Summer Term 2

Week 1 01/06/26	Combining Concepts	To add different lengths of time (hours and minutes) to calculate total durations and solve problems. To use addition to calculate start or end times when given a duration and one time point. To use knowledge of days, months, years and minutes to solve problems involving calendars and time intervals. *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 2 08/06/26	Summer Assessment Week	
Week 3 15/06/26	Combining Concepts	To solve multi-step problems involving addition and subtraction of fractions using reasoning and explanation to justify answers. To solve problems by converting fractions to decimals and using these to compare, add or subtract quantities. To understand and represent mixed number fractions. To plot fractions and decimals on a number line and use them to compare and order numbers. *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 4 22/06/26		
Week 5 29/06/26	Combining Concepts	To calculate the perimeter of shapes using decimal measurements and round answers to specified degree of accuracy. To solve problems by finding missing co-ordinates on a grid. To plot and join points on a co-ordinate grid to accurately draw quadrilaterals. *To fluently recall multiplication facts for multiplication tables up to 12x12 and related division facts.*
Week 6 06/07/26	Addressing Misconceptions following recent assessments	*Use of trackers and QLA and teacher assessment of pupils within your class to address gaps in learning. Relevant learning objectives need to be taken from this document depending on what your pupils need and used each lesson.* *Use of time to ensure that pupils have the fundamentals for the next academic year.*
Week 7 13/07/26		

Summer Holidays End of Term

HCAT Maths Year on a Page
Year 4 - Curriculum Guide - Place Value

National Curriculum Objectives:

Pupils should be taught to:
count in multiples of 6, 7, 9, 25 and 1,000
•find 1,000 more or less than a given number
•count backwards through 0 to include negative numbers
•recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s)
•order and compare numbers beyond 1,000
•identify, represent and estimate numbers using different representations
•round any number to the nearest 10, 100 or 1,000
•solve number and practical problems that involve all of the above and with increasingly large positive numbers
•read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value

Misconceptions:

Identify the value of a number through location of decimal.
•Rounding by looking at wrong values
•Difference when involving negative numbers than the difference is a size of a gap
•Roman numerals- identify that there are only certain cases where subtractive principle works DCCC= 900 wrong CM=900

Mathematical Language:
Equal , equation, order, greater than, less than, value, digit, partition, hundredths, tenths, thousandths, round

Development steps:

NOTE: these steps are not necessarily listed in order, nor are they the focus for a whole lesson in some cases. They are listed to support elements that need to be explored at some point.

Roman Numerals to 100

•Count in 1000s.
•1000's, 100's, 10's and 1's
•Identifying the value of digits within a number
•Partitioning
•1000 more/less
•Comparing numbers
•Ordering numbers
•Round to nearest 10
•Round to nearest 100
•Round to nearest 1000
•Counting in 25s.
•Negative numbers
•Counting in 6's
•Relative facts linked to counting in 6's eg. Counting in 60's, 600's
•Counting in 7'S
•Relative facts linked to counting in 7's eg. Counting in 70's, 700's
•Counting in 9's
•Relative facts linked to counting in 9's eg. Counting in 90's, 900's

Other links:
Addition and subtraction

•Multiplying and dividing by 10,100, 1000
•Mental strategies for x/ 10, 100, 1000
•Converting between metric units of measures Eg. Km/m/cm/mm, Kg/g, L/ml
•Alignment of place value column methods
•Using rounding to estimate and check whole numbers
•Counting in different units of measures Eg. Counting in 6's, 60p's, 60ml/g etc.
•Ordering a range of measures – ordering scale measurements, ordering money amounts,

Contexts/resources:
Temperature (negative numbers)

Money; cheques, round

Maths stories with a place value theme:-

-One Hundred hungry ants by Elinor J Pinczes

-Place value by David A Adler

White Rose Schemes of Learning

https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

NCTEM

https://www.ncetm.org.uk/public/files/23305622/Mastery_Assessment_Y4_Low_Res.pdf

NRICH

https://nrich.maths.org/content/id/13291/KS2CurriculumLinkedtoNRICH.pdff

HCAT Maths Year on a Page
Year 4 - Curriculum Guide - Addition & Subtraction

National Curriculum Objectives:

Pupils should be taught to:

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Misconceptions:

163 Place value positioning

+1123

Sometimes teachers may say to use a '0' as a place holder, however it is essential the place holder goes to the left otherwise it changes the value of the number.

•Using formal written methods when mental methods are more efficient.

•Subtracting from the left or 'start with the ones'. We should be explaining to children that we begin from the right, as in a decimal we do not start with the ones.

•Switching the order they subtract digits in column subtraction to prevent exchanging.

•Not understanding the carrying concept when the total is greater than 10

Mathematical Language:

Inverse, sum , total, more than, increase, decrease, how many more, how many less, minus, difference, reduce, exchange, change (money), column, place holder, thousands, hundreds, tens, ones, tenths, hundredths, equals, is equal to, combine

Development steps:

NOTE: these steps are not necessarily listed in order, nor are they the focus for a whole lesson in some cases. They are listed to support elements that need to be explored at some point.

Add and subtract 1,s 10's, 100's and 1000's.

•Add two 4 digit numbers with one exchange.
•Add two 4 digit numbers with more than one exchange.
•Subtract two 4 digit numbers with one exchange.
•Subtract two 4 digit numbers with more than one exchange.
•Efficient and effective mental strategies for addition and subtraction.
•Inverse operations, including missing numbers and missing digits
•Addition and subtraction of 2 step problems. Including those which may include x and ÷
•Addition and subtraction of decimals up to 2dp (money)
•Choosing the appropriate and efficient methods or strategy for addition and subtraction and explain reason for choice.
•Round to estimate an answer.

Other links:

Eg. What is the total of 1000 + 400 + 80 + 2 and 7 thousands, 4 hundreds and 3 tens.

•Adding and Subtracting of money and measures.
•Apply knowledge of converting measures (Kg/g, L/ml, Km/m/cm/mm). Eg to add and subtract 1 and ½ kg + 1250g
•Statistics link – how many more/less
•Perimeter and length
•Links to algebra (symbols representing numbers)
•Balancing equations
•Eg. 3470 = 1245 + _____
____ + 450 = 120 + ____
•Geometry – perimeter of shapes
•Angles – subtracting from right angle/180
•Addition and subtraction within calendar
•Addition and subtraction of Roman numerals (up to 100) of I, V, X, L, C

Contexts/resources:

Money
•Menus
•Shopping
•Cooking/baking (measures link)
•Building (perimeter)
•Use of children's interests.
•Booking holidays

Resources

NCTEM tasks and activities

https://www.ncetm.org.uk/resources/46689

NRICH

https://nrich.maths.org/content/id/13291/KS2CurriculumLinkedtoNRICH.pdf

White Rose Materials

https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

HCAT Maths Year on a Page
Year 4 - Curriculum Guide - Multiplication & Division

National Curriculum Objectives:

Pupils should be taught to:
recall multiplication and division facts for multiplication tables up to 12 × 12
•use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
•recognise and use factor pairs and commutativity in mental calculations
•multiply two-digit and three-digit numbers by a one-digit number using formal written layout
•solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Misconceptions:
Understanding that the number gets bigger when multiplying and smaller when dividing

Multiplying and dividing inverses aren't always the opposite operation

(10 x 2 = 5 becomes 10 ÷ 5 = 2) inverse

(10 ÷ ? = 2/10 ÷ 2 = 5) not 10 x 2 = 20

Understand the importance on setting out written multiplications correctly- are children using their place value to line digits up.

Mathematical Language:
Numbers, grouping, sharing, multiply, halve, fractions, equal, groups, divide, lots of, groups of, once, twice, three times, multiples, odd, even, count in twos, fives, tens, on from, back from, How many times? Multiple of, times, multiply, multiply by, repeated addition, array, row, column, equal groups of, Factor

Development steps:

NOTE: these steps are not necessarily listed in order, nor are they the focus for a whole lesson in some cases. They are listed to support elements that need to be explored at some point.
Multiply by 10

-Multiply by 100
-Divide by 10
-Divide by 100
-Multiply by 1 and 0 mentally
-Divide by 1
-Multiply and divide by 6
-6 times table and division facts
-Multiply and divide by 9
-9 times table and division facts
-Multiply and divide by 7
-7 times table and division facts
-Solve problems involving the multiplication of 2d by 1d
-Integer scaling problems

Other links:
Measures- Conversion cm to metres

•Ratio/scaling problems (e.g. through baking and recipes)
•Explain the equals sign and balance equations using inverse: ? x 9 = 54 x 2
•Statistics- Interpreting and evaluating data, calculating amounts from pie charts and pictograms.
•Links to algebra e.g. 23 x ? = 46 is the same as 23 x y = 46
•Time- converting minutes to hours and minutes e.g. 60minutes x 3 = 180 minutes so 180 minutes is the same as 3 hours.

Contexts/resources:
Shopping- multiplying the price of items by how many are needed. Links to money and change.

•Purchasing amounts:
gardening
Building
Food menus (decimals)
•Events planning- Using multiplication and addition to track cost.
•Holiday planning.

White Rose Schemes of Learning

https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

NCETM

https://www.ncetm.org.uk/public/files/23305594/Mastery_Assessment_Y1_Low_Res.pdf

NRICH

https://nrich.maths.org/content/id/13291/EYFSKS1CurriculumLinkedtoNRICH.pdf

HCAT Maths Year on a Page
Year 4 - Curriculum Guide - Fractions, Decimals and Percentages

National Curriculum Objectives:

Pupils should be taught to:
recognise and show, using diagrams, families of common equivalent fractions
•count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10
•solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
•add and subtract fractions with the same denominator
•recognise and write decimal equivalents of any number of tenths or hundreds
•recognise and write decimal equivalents to , ,
•find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
•round decimals with 1 decimal place to the nearest whole number
•compare numbers with the same number of decimal places up to 2 decimal places
•solve simple measure and money problems involving fractions and decimals to 2 decimal places

Misconceptions:
Knowing that ½ is not always larger than ¼ - it depends on the value of the whole.

•Don't assume children will be able to add and subtract fractions without practical equipment- children must use the equipment so they understand why the denominators do not need adding, only the numerators.

•It is often a useful exercise to 'read' a decimal number carefully and 'take it to pieces' so that the children are reminded of the importance of position of digits

Mathematical Language:
Fraction, equal, part, whole, half, quarter, third, fifth, sixth, seventh, eighth, ninth, tenth, hundredth, share, divide, unit fractions, non-unit fractions, equivalent, numerator, denominator , greater than, less than, decimal, decimal point, rounding, decimal place

Development steps:

NOTE: these steps are not necessarily listed in order, nor are they the focus for a whole lesson in some cases. They are listed to support elements that need to be explored at some point.
Exploration of equivalent fractions- Recognise and show, using diagrams, families of common equivalent fractions.
•Look at fractions greater than 1
•Count in fractions
•Explore hundredths and how this is similar to tenths but this time the whole is split into 100. Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Link to decimals (1/100 is equal to 0.01)
•Add two or more fractions
•Subtract 2 fractions
•Calculate fractions of a quantity- Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.
•Count in decimals on a number stick and spot patterns.
•Explore ways of making a whole with decimals.
•Write decimals to order and compare them
•Recognise and write decimal equivalents to 1 /4 , 1/ 2 and 3 /4.
•Understand the effect of dividing a one or two digit number by 10 or 100. Identifying the value of the digits in the answer as ones, tenths and hundredths.
•Round decimal s to the nearest WHOLE number (only using decimals with 1dp)

Other links:
Links to measures (capacity) finding fractions of amounts using fractions with small denominators e.g. finding 2/5 of 100ml.

•Fractions of a journey (miles and km)
•Finding fractions of money amounts and measures – convert measures. Eg ¼ of £1000, ½ L, ¾ of a metre.
•Geometry – fractions of shapes including shapes on squared paper
•Scaling
•Number line ordering positions
•Comparison of fractions and decimals
•Area and perimeter: half a length then an area will ½
•Links to time- Clocks – half past, quarter past, quarter to
•Word problems involving fractions

Contexts/resources:

Fractions of length/measures/journeys.

- Shopping- fraction discounts/increase in price.
- Maths stories that look at fractions

-give me half

https://www.youtube.com/watch?v=hVaxiJB6Fls

- practically finding half of measures eg. 20cm string – cutting half and quarter.
- Teaching decimals through money

White Rose Schemes of Learning

https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

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NRICH

https://nrich.maths.org/content/id/13291/EYFSKS1CurriculumLinkedtoNRICH.pdf

HCAT Maths Year on a Page
Year 4 - Curriculum Guide - Geometry

National Curriculum Objectives:

Pupils should be taught to:
Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
•Identify acute and obtuse angles and compare and order angles up to two right angles by size
•Identify lines of symmetry in 2-D shapes presented in different orientations
•Complete a simple symmetric figure with respect to a specific line of symmetry.

Misconceptions:
Names of the different shapes – vocabulary

•Understanding of what 2D and 3D shapes are

•Irregular and regular shapes

•Giving correct names to types of angles.

•Counting the same side more than once (need to mark off)

•Do all four sided shapes look the same?

•The difference between horizontal and vertical and perpendicular and parallel.

Mathematical Language:
Acute, obtuse, right angle, angles, turn, degrees, horizontal, vertical, parallel, perpendicular, greater than, smaller than, regular, irregular, quadrilateral, triangle, shape properties, orientation, symmetry, symmetric figure

Development steps:

NOTE: these steps are not necessarily listed in order, nor are they the focus for a whole lesson in some cases. They are listed to support elements that need to be explored at some point.

- Identify angles
- - Compare and order angles
- - Triangles
- - Quadrilaterals
- - Lines of symmetry
- - Complete a symmetric figure

Other links:

Multiplying – E.g, counting the amount of sides of 3 triangles.. If there are two squares, how many sides are there altogether? 2 squares = 4 sides x 2

•Adding the sides of all the shapes and length of multiple shapes joined together

•Subtracting – can you take away 4 squares? IF I take away one side, what shape would I have?

•Outdoor learning – finding horizontal and vertical lines

•Measuring – the size of shapes

•Fractions – how many red triangles out of them all? Fractions of shapes.

•Statistics – pictograms using shapes

•Exploring difference between length of shapes/shape measures.

•Symmetry- create symmetrical shapes with given properties, eg an odd number of red squares, multiple of 5 of green squares. Half the number of blue than green. Etc.

•Algebra – using shapes to represent numbers.

Contexts/resources:
-Outdoor/ walk round building trail for parallel and perpendicular lines.

-Nature- symmetry in nature- links to art work.

-Sports- link to angles e.g. angle of goal kick in Rugby.

-Sorting games/top trumps with angles.

-Sorting shapes using different equipment- link to statistics.

-PE/ follow a set of instructions to find treasure - turns

https://www.youtube.com/watch?v=2cg-Uc556-Q&list=PLlaXSL5tFvlBK2vg5MRHWqap0lX1xafo8

White Rose Schemes of Learning

https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

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NRICH

https://nrich.maths.org/content/id/13291/EYFSKS1CurriculumLinkedtoNRICH.pdf

HCAT Maths Year on a Page
Year 4 - Curriculum Guide - Measures

National Curriculum Objectives:

Pupils should be taught to:
Convert between different units of measure [for example, kilometre to metre; hour to minute]

•Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

•Find the area of rectilinear shapes by counting squares

•Estimate, compare and calculate different measures, including money in pounds and pence

Misconceptions:

Understanding that the point of measure is the line and not the space.

•Understand how to use equipment correctly.
•Understanding the difference between the area and the perimeter.

•Confusion in the time system because it is not metric. E.g. when converting minutes to seconds they might multiply by 10.

•They may use the wrong unit of measure, confusing between weight/length measures for example.

•Misunderstanding size for weight/ height for capacity.

•When measuring ensure the ruler is lined up at the correct starting point

Mathematical Language:

Capacity, volume, ml, litres, grams, kilograms, change, pounds, pence , amount, total, quarter past, quarter to, half past, o'clock, am, pm, estimate, nearest hour, nearest minute, seconds, morning, afternoon, midnight, mid-day, month, year, leap year, duration, conversion, rectilinear, area, length, mm, cm, metre, perimeter,

Development steps:

NOTE: these steps are not necessarily listed in order, nor are they the focus for a whole lesson in some cases. They are listed to support elements that need to be explored at some point.

Kilometers- convert between metres and kilometres.

•Perimeter on a grid (counted)

•Perimeter of a rectangle

•Perimeter of rectilinear shapes (including squares in cm and metres)

•What is area- explore this with children and how this is different to perimeter.

•Area counting squares

•Making shapes and finding area by counting squares. (including rectilinear shapes)

•Comparing area of different shapes.

•Pounds and pence

•Ordering amounts of money

•Estimating with money

•Using the 4 operations with money.

Other links:

Place Value – reading numbers on a measuring aid, ordering units, writing the time
• Place Value – recognising thousands, hundreds tens and units in measurements.

•Using < > and = to compare measures

•Counting in measures. minutes, g/kg etc. Discuss crossing boundaries eg. cm to m etc.

•Counting in fractions of measures.

•addition and subtraction of months/days in calendar maths

•Addition/Subtraction of measures Eg. add up the weight of luggage to check it is within baggage allowances/ how many shelves can be made out of a given length of wood?

•Fractions – language of half, quarter, three quarters. Converting fraction measures. Eg. 2 ½ Kg = 2, 500g.

•Statistics – graphs showing measurements.

•Calculating difference between measurements.

•Measuring the length of shape sides.
•Multiplication – clock count round in multiples of 5's.

•Sorting odd and even measurements.
•Multiplying and division of measures. Eg. dividing string into equal lengths/multiplying multiple lengths as plants grow etc.

Contexts/resources:

Building/decorating (area and perimeter)
Measuring distances for long jumps. Links to PE estimating times and timing how long running a distance takes.

Train/bus timetables, how long is it until lunch?

Shopping- money and change

Baking- estimating and weighing ingredients for using metric units of measure.

Rulers, meter sticks, tape measures, a variety of containers, clock, money, calendar, trundle wheel

White Rose Schemes of Learning

https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/

NCTEM

https://www.ncetm.org.uk/public/files/23305594/Mastery_Assessment_Y2_Low_Res.pdf

NRICH

https://nrich.maths.org/content/id/13291/EYFSKS1CurriculumLinkedtoNRICH.pdf

HCAT Maths Year on a Page
Year 4 - Curriculum Guide - Statistics

National Curriculum Objectives:

Pupils should be taught to:
interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Pupils understand and use a greater range of scales in their representations.

Pupils begin to relate the graphical representation of data to recording change over time.

Misconceptions:
How to read a bar chart correctly

•Scales for the bar chart

•Using line graphs to measure time

Mathematical Language:
Mathematical Language:

Discrete data, bar charts, time graphs,comparisons, scales, continuous data

Development steps:

NOTE: these steps are not necessarily listed in order, nor are they the focus for a whole lesson in some cases. They are listed to support elements that need to be explored at some point.

Revisit how to use bar charts, pictograms and tables to interpret data

Decided which scales will be most appropriate when drawing own bar charts.

Solve comparison, sum and different problems

Use line graphs in the context of time

Understand that continuous data can be measured (time, temperature, height)

Continue to use continuous data to solve problems and answer questions

Other links:

Contexts/resources:

Maths Hub https://whiterosemaths.com/resources/schemes-of-learning/primary-sols/ NCETM