

Pen-y-ghent Planning Overview 2022-23

	Mathematics Curriculum – Year 4 Autumn			
Unit:	Number: Place Value	Number: Addition and Subtraction	Measurement – Length and perimeter	Number: Multiplication and division
Term:	Autumn 1: 4 Weeks	Autumn 1: 3 Weeks	Autumn 2: 2 Weeks	Autumn 2: 3 Weeks
What We Will Learn	Pupils will build on their knowledge of prior learning. They will learn how numbers can be partitioned more than one way. They will practice how to round to the nearest 1,000 and the number that sits in between. Pupils will look for patterns in multiples	Pupils will build on prior learning of adding and subtracting hundreds, tens and ones. They are introduced to adding and subtracting thousands. They will use concrete representations (Base 10, place value counters etc...) They will then move onto abstract and mental methods. Pupils will be able to add/subtract up to two 4-digit numbers.	Pupils will recognise that 100cm is equivalent to 1 metre. They will use this knowledge to convert other multiples of 100cm into meters and vice versa. Pupils will calculate the perimeter of rectilinear shapes by counting squares on a grid, they will be taught that rectilinear shapes are shapes where all the sides meet at right angles.	Pupils will use mathematical language of 'ten lots of' as is vital to use in this step. Pupils will build on multiplying and dividing known table facts to become fluent in the six times table. For example applying their knowledge of the 3 times table by understanding that each multiple of 6 is double the equivalent of 3. They will use a range of concrete and pictorial methods.
What We Will Do	Count in multiples of 25 and 1000. Find 1000 more or less than a given number. Count backwards through zero to include negative numbers. Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones) Order and compare numbers beyond 1000. Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	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.	Convert between different units of measure e.g. kilometre to metre. Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m.	Recall and use multiplication and division facts for multiplication tables up to 12 x 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 commutatively 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.
Skills Learned	Pupils will build on prior learning through the correct use of mathematical language positive and negative and will be able to say negative four rather than minus four.	Pupils will further develop their multiplication skills by being able to transfer their knowledge about column method to help them problem solve.	Pupils will be able to use their prior knowledge and their understanding of addition and subtraction with four digit numbers to find two lengths that add up to a whole number of kilometres.	Pupils will build on prior knowledge of equal groups in using concrete and pictorial methods to solve multiplication and division problems.

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Mathematics Curriculum – Year 4 Spring					
Unit:	Number – Multiplication and division	Measurement: Area	Number: Fractions	Number: Decimals	Consolidation
Term:	Spring 1: 3 Weeks	Spring 1:1 Week	Spring 2: 4 Weeks	Spring 2: 3 Weeks	Spring 2: 1 Week
What We Will Learn	Pupils will build on their knowledge of the 1, 2 and 10 times-tables, children explore the 11 and 12 times-tables through partitioning. They will use Base 10 equipment to build representations of the times-tables and use them to explore the inverse of multiplication and division statements. They will highlight the importance of commutatively as pupils at this point will know the majority of facts from other times-tables.	Pupils are introduced to area for the first time. They will learn that area is the amount space is taken up by a 2D shape or surface. They will investigate different shapes that can be made with sets of sticky notes. They should be encouraged to see that the same number of sticky notes can make different shapes but they cover the same amount of surface. We call this the area of a shape.	Pupils will recap their understanding of unit and non-unit fractions from Year 2. They explain the similarities and differences between unit and non-unit fractions. Pupils are introduced to fractions with denominators other than 2, 3 and 4, which they used in Year 2. Pupils will be taught to understand what the numerator and denominator represent.	Pupils will use the hundred square and Base 10, to recognise the relationship between 1 10 and 0.1 Pupils write tenths as decimals and as fractions. They write any number of tenths as a decimal and represent those using concrete and pictorial representations.	
What We Will Do	Recall and use multiplication and division facts for multiplication tables up to 12 x 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 commutatively 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.	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Convert between different units of measure [for example, kilometre to metre] Find the area of rectilinear shapes by counting squares.	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 one hundred and dividing tenths by ten. 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 hundredths. Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ Find 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 decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places.	
Skills Learned	Pupils will build on their understanding of formal multiplication from Year 3 to move to the formal short multiplication method.	Pupils will use their prior knowledge explore the most efficient method of counting squares and link this to their understanding of squares and rectangles.	Pupils will transfer their skills of portioning over to identify that fractions can be split into wholes and parts, using manipulates and diagrams.	Pupils will use concrete representations to make numbers with tenths and hundredths on a place value grid and be able to transfer their knowledge of place value over to be able to write the number they have made as a decimal.	

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Mathematics Curriculum – Year 4 Summer						
Unit:	Number - Decimals	Measurement: Money	Measurement: Time	Statistics	Geometry: Properties of shape	Geometry: Position and direction
Term:	Summer 1: 3 Weeks	Summer 1: 3 Weeks	Summer 2: 2 Weeks	Summer 2: 3 Weeks		
What We Will Learn	Pupils will build on decimals use place value counters and a place value grid to make numbers with up to two decimal places. They read and write numbers with decimals and understand the value of each digit. They show their understanding of place value by partitioning numbers with decimals in different ways.	Pupils develop their understanding of pounds and pence. This is the first time they are introduced to decimal notation for money. Once they are confident with this, they can move on to convert between different units of money. Pupils will use models, such as the part-whole model, to recognise the total of an amount being partitioned in pounds and pence.	Pupils will recap the number of minutes in an hour and seconds in a minute from Year 3. Pupils will convert between analogue and digital times using a format up to 12 hours. They use a.m. and p.m. to distinguish between times in the morning and afternoon. They will learn that how many minutes past the hour determines the digital time.	Pupils will revisit how to use bar charts, pictograms and tables to interpret and present discrete data. They decide which scale will be the most appropriate when drawing their own bar charts. Pupils will gather and compare data using tally charts and then present the information in a bar chart. They will be introduced to line graphs in the context of time.	Pupils will find and identify lines of symmetry within 2-D shapes and explore symmetry in shapes of different sizes and orientations. To help find lines of symmetry children may use mirrors and tracing paper. They will compare and order angles in ascending and descending order. They will use an angle tester to continue to help them to decide if angles are acute or obtuse.	Pupils are introduced to coordinates for the first time and they describe positions in the first quadrant. They read, write and use pairs of coordinates. Pupils will learn the order in which to read the axes, \blacktriangleleft -axis first, then \blacktriangleright -axis next. They become familiar with notation within brackets.
What We Will Do	Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ Find 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 decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places.	Solve simple measure and money problems involving fractions and decimals to two decimal places. Estimate, compare and calculate different measures, including money in pounds and pence.	Convert between different units of measure e.g. hour to minute. Read, write & convert time between analogue and digital 12 and 14 hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	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.	Identify lines of symmetry in 2D shapes presented in different orientations. They will look at turns and angles and compare, they will be able to identify an obtuse and acute angle by comparing it with a right angle. Complete a simple symmetric figure with respect to a specific line of symmetry	Describe positions on a 2D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/ right and up/ down. Plot specified points and draw sides to complete a given polygon.
Skills Learned	of equivalent fractions to write fractions as hundredths and then write the fractions as halves or quarters.	Pupils will further develop their knowledge and to be able to solve simple problems with money, involving all four operations.	Pupils use this knowledge, along with their knowledge of multiplication and division to convert between different units of time.	Pupils will build from the last step and continue to solve comparison, sum and difference problems using continuous data with a range of scales.	Pupils will use their knowledge and understanding learned through shape be able to identify and order angles in different representations including in shapes and on a grid.	Pupils will further develop their understanding of graphs and will learn how to identify coordinates by plotting given points on a 2-D grid. They will be able to read, write and use pairs of coordinates.