

At Woodhouse Primary School we encourage our pupils to be confident, resilient mathematicians with a love of learning and no fear of ‘grappling’ with difficult concepts and those expressed in an unfamiliar way. In our school, children are scaffolded, extended and supported through rapid teacher intervention, use of equipment and choice of strategies e.g. jottings/mental/resources. As such teaching is both enabling and extending.

Term :	Lesson Design : Curriculum objectives	Any adjustments/comments
Autumn 1	<p><u>Number: Place Value</u></p> <ul style="list-style-type: none"> • order and compare numbers beyond 1000 • find 1000 more or less than a given number • count in multiples of 6, 7, 9, 25 and 1000 • 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) • 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. • round any number to the nearest 10, 100 or 1000 • identify, represent and estimate numbers using different representations <p><u>Number – Addition and Subtraction</u></p> <ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. <p><u>Number – Multiplication and Division</u></p> <ul style="list-style-type: none"> • recall multiplication and division facts for multiplication tables up to 12 × 12 	
Autumn 2	<p><u>Number : Place Value</u></p> <ul style="list-style-type: none"> • round any number to the nearest 10, 100 or 1000 • count in multiples of 6, 7, 9, 25 and 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. <p><u>Number : Addition and Subtraction</u></p>	

- estimate and use inverse operations to check answers to a calculation

Number : Multiplication and Division

- 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
- 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.
- recognise and use factor pairs and commutativity in mental calculations
- **Written method for division – not on the national curriculum?**

Number: Fractions(including decimals)

- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
- 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
- recognise and show, using diagrams, families of common equivalent fractions
- 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
- round decimals with one decimal place to the nearest whole number

Measurement: Money

- estimate, compare and calculate different measures, including money in pounds and pence

Measurement: Time

- read, write and convert time between analogue and digital 12- and 24-hour clocks

Geometry – Properties of Shapes

- identify lines of symmetry in 2-D shapes presented in different orientations
- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

Geometry: Position and Direction

- describe positions on a 2-D grid as coordinates in the first quadrant

	<ul style="list-style-type: none"> plot specified points and draw sides to complete a given polygon <p><u>Statistics</u></p> <ul style="list-style-type: none"> 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. 	
<p>Spring 1</p>	<p><u>Number: Place Value</u></p> <ul style="list-style-type: none"> order and compare numbers beyond 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) count in multiples of 6, 7, 9, 25 and 1000 solve number and practical problems that involve all of the above and with increasingly large positive numbers <p><u>Number :Addition and Subtraction</u></p> <ul style="list-style-type: none"> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why <p><u>Number :Multiplication and Division</u></p> <ul style="list-style-type: none"> recognise and use factor pairs and commutativity in mental calculations 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 multiply two-digit and three-digit numbers by a one-digit number using formal written layout <p><u>Number – fractions (including decimals)</u></p> <ul style="list-style-type: none"> recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ recognise and write decimal equivalents of any number of tenths or hundredths recognise and show, using diagrams, families of common equivalent fractions 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 round decimals with one decimal place to the nearest whole number 	

	<p><u>Measurement</u></p> <ul style="list-style-type: none"> estimate, compare and calculate different measures, including money in pounds and pence 	
<p>Spring 2</p>	<p><u>Number: Place value</u></p> <ul style="list-style-type: none"> round any number to the nearest 10, 100 or 1000 count in multiples of 6, 7, 9, 25 and 1000 identify, represent and estimate numbers using different representations 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. COVERED IN SUMMER 2 <p><u>Number: Multiplication and Division</u></p> <ul style="list-style-type: none"> recall multiplication and division facts for multiplication tables up to 12 × 12 <p><u>Number: Fractions (including decimals)</u></p> <ul style="list-style-type: none"> recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ recognise and write decimal equivalents of any number of tenths or hundredths recognise and show, using diagrams, families of common equivalent fractions 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 round decimals with one decimal place to the nearest whole number <p><u>Measurement: Time</u></p> <ul style="list-style-type: none"> solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. read, write and convert time between analogue and digital 12- and 24-hour clocks <p><u>Measurement: Length and Height</u></p> <ul style="list-style-type: none"> Convert between different units of measure [for example, kilometre to metre; hour to minute] <p><u>Measurement: Money</u></p> <ul style="list-style-type: none"> estimate, compare and calculate different measures, including money in pounds and pence <p><u>Geometry: Properties of Shapes</u></p> <ul style="list-style-type: none"> 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 	

	<ul style="list-style-type: none"> compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes COVERED IN SUMMER 1 <p><u>Geometry: Position and Direction</u></p> <ul style="list-style-type: none"> describe positions on a 2-D grid as coordinates in the first quadrant plot specified points and draw sides to complete a given polygon <p><u>Statistics</u></p> <ul style="list-style-type: none"> 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 <p><u>Measurement</u></p> <ul style="list-style-type: none"> read, write and convert time between analogue and digital 12- and 24-hour clocks <p><u>Geometry: Properties of Shapes</u></p> <ul style="list-style-type: none"> identify lines of symmetry in 2-D shapes presented in different orientations compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes <p><u>Geometry :Position and Direction</u></p> <ul style="list-style-type: none"> describe positions on a 2-D grid as coordinates in the first quadrant plot specified points and draw sides to complete a given polygon <p><u>Statistics</u></p> <ul style="list-style-type: none"> 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. 	
<p>Summer 1</p>	<p><u>Number: Place Value</u></p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 order and compare numbers beyond 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers COVERED IN SUMMER 2 recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) <p><u>Number :Addition and Subtraction</u></p> <ul style="list-style-type: none"> estimate and use inverse operations to check answers to a calculation 	

	<ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. <p><u>Number : Multiplication and Division</u></p> <ul style="list-style-type: none"> • 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 • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • recognise and use factor pairs and commutativity in mental calculations COVERED IN SUMMER 2 <p><u>Number – fractions (including decimals)</u></p> <ul style="list-style-type: none"> • recognise and show, using diagrams, families of common equivalent fractions • 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 • round decimals with one decimal place to the nearest whole number • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • 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 <p><u>Measurement: Length and Perimeter</u></p> <ul style="list-style-type: none"> • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres COVERED IN SUMMER 1 • find the area of rectilinear shapes by counting squares <p><u>Geometry: Properties of Shapes</u></p> <ul style="list-style-type: none"> • identify acute and obtuse angles and compare and order angles up to two right angles by size • complete a simple symmetric figure with respect to a specific line of symmetry <p><u>Geometry: Position and Direction</u></p> <ul style="list-style-type: none"> • describe movements between positions as translations of a given unit to the left/right and up/down 	
<p>Summer 2</p>	<p><u>Geometry: Properties of Shapes</u></p> <ul style="list-style-type: none"> • identify acute and obtuse angles and compare and order angles up to two right angles by size • complete a simple symmetric figure with respect to a specific line of symmetry <p><u>Number : Multiplication and Division</u></p>	

- multiply two-digit and three-digit numbers by a one-digit number using formal written layout

Number – fractions (including decimals)

- add and subtract fractions with the same denominator
- compare numbers with the same number of decimal places to two decimal places
- solve simple money and measure problems involving fractions and decimals to two decimal places

We aim that all pupils:

- Become **fluent in the fundamentals** of mathematics so that they develop the **conceptual** as well as **procedural** understanding that underpins a concept and the ability to recall and apply knowledge rapidly and accurately.
- Can **reason mathematically** by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- Can **solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including unfamiliar contexts and real-life scenarios.
- Can use the **language of mathematics** accurately discussing their learning with confidence and precision.

In mathematics lessons you will see:

- Teachers and children having fun and demonstrating positive ‘can do’ attitudes.
- High expectations of learning where ALL children are challenged and ‘grappling’ with concepts; they will demonstrate resilience and independence.
- Insistence on mathematical terminology being used accurately and confidently to explain learning and understanding
- Children confidently using resources from around the classroom to support their learning.
- Well-designed lessons to build upon previous learning to help learners to remember in the long term. **e.g.** repetition of stem sentences for ‘sticky knowledge’; small steps; layered learning to enable and extend
- Timely and rapid interventions to address misconceptions.
- Effective questioning where teachers adapt learning within the lesson to support the progress of all learners.
- Application of skills to non-standard situations including the use of non-examples to challenge thinking.

Helpful Resources:**Maths Generic : Curriculum 2019**

- ❖ **Bespoke Woodhouse Progression Documents** : Number Fluency; Shape Dictionary; Measurement Charts
- ❖ **White Rose Maths Documents** : Small Steps ; Maths Glossary; Maths Questions
- ❖ **Mastery**: Staff Training; WR Mastery Documents; Quigley Mastery Examples
- ❖ **Quigley Milestones**: B A D examples