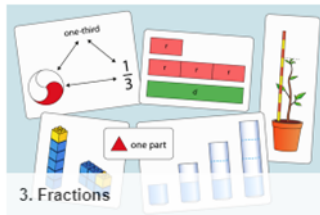
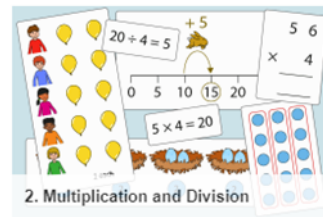
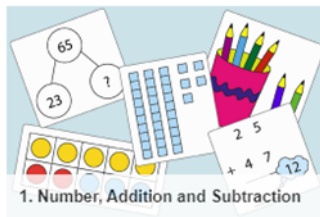




White Rose Scheme of learning and the NCETM PD materials



This document includes our long term plan for the Year which is aligned with the White Rose Scheme of Learning and the NCETM PD materials. At Stapleford we follow teaching for mastery and these materials and tools are used to guide our planning to ensure lessons build gradually and demonstrate coherence. We use progression documents to help us ensure learning follows on from what has come before and aim to develop cross curricular links with other subjects and across math topics (such as incorporating shape into other areas) to deepen learning. We also use Nrich regularly to reinforce learning and promote fluency of number and problem solving and reasoning.

The [NCETM](#) and [DFE Maths guidance Year 3](#) gives guidance as to the progression through areas of study.

Year 3

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
AUTUMN	White Rose Number : Place Value NCETM 1.1 7 (some) Composition and calculation: 100 and bridging 100 1.1 8 (most) Composition and calculation: three digit numbers			White Rose Number : Addition and Subtraction NCETM 1.1 7 (some) Composition and calculation: 100 and bridging 100 1.1 8 (some) Composition and calculation: three digit numbers 1.1 9 Securing mental strategies: calculation up to 999 1.2 0 Algorithms: column addition 1.2 1 Algorithms: column subtraction				White Rose Number : Multiplication and Division NCETM 2.7 Times tables: 2, 4 and 8, and the relationship between them 2.8 Times tables: 3, 6 and 9, and the relationship between them 2.9 Times tables: 7 and patterns within/across times tables				

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
SPRING	White Rose Number : Multiplication and Division			White Rose Measurement: money	White Rose Statistics		White Rose Measurement: length and perimeter		White Rose Number : Fractions NCETM 3.1 Preparing for fractions: the part-whole relationship 3.2 Unit fractions: identifying, representing and comparing	CONSOLIDATION		

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
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<p style="writing-mode: vertical-rl; transform: rotate(180deg);">SUMMER</p>	<p>White Rose Number : Fractions</p> <p>NCETM 3 . 3 Non-unit fractions: identifying, representing and comparing 3 . 4 Adding and subtracting within one whole</p>	<p>White Rose Measurement: Time</p>	<p>White Rose Geometry: properties of shape</p>	<p>White Rose Measurement: Mass and capacity</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">CONSOLIDATION</p>
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Year 3 Maths - Programme of Study Taken from the [National Curriculum](#)

Number - number and place value

Pupils should be taught to:

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)
- compare and order numbers up to 1,000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1,000 in numerals and in words
- solve number problems and practical problems involving these ideas

Notes and guidance (non-statutory)

- Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100
- They use larger numbers to at least 1000, applying partitioning related principles to place value using varied and increasingly complex problems, building on work in year 2 (for example $146 = 100 + 40 + 6$, $146 = 130 + 16$)
- Using a variety of representations, including those related to measure, pupils continue to count in 1s, 10s and 100s so that they become fluent in the order and place value of numbers to 1000.

Number - addition and subtraction

Pupils should be taught to:

- add and subtract numbers mentally, including:
 - a three-digit number and 1s
 - a three-digit number and 10s
 - a three-digit number and 100s
- add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Notes and guidance (non-statutory)

- Pupils practise solving various addition and subtraction questions. For mental calculations with two digit numbers, the answers could exceed 100
- Pupils use their understanding of place value and partitioning, and practice using columnar addition and subtraction with increasingly large numbers up to 3 digits to become fluent.

Number - multiplication and division

Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

Notes and guidance (non-statutory)

- Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables
- Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and multiplication and division facts to derive related facts.
- Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division.
- Pupils solve simple problems in contexts, deciding which of the 4 operations to use and why. These include measuring and scaling contexts, (for example 4 times as high, 8 times as long etc) and correspondence problems in which m objects are connected to n objects (for example, 3 hats and 4 coats, how many different outfits?)

Number - fractions

Pupils should be taught to:

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above

Notes and guidance (non-statutory)

- Pupils connect tenths to place value, decimal measures and to division by 10
- They begin to understand uni and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence. They should go beyond the $[0,1]$ interval, including relating this to measure.
- Pupils understand the relation between unit fractions as operators (fractions of), and division by integers

- They continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity.
- Pupils practise adding and subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency.

Measurement

Pupils should be taught to:

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example, to calculate the time taken by particular events or tasks]

Notes and guidance (non-statutory)

- Pupils continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1kg and 200g) and simple equivalents of mixed units (for example, 5m=500cm)
- The comparison of measures includes simple scaling by integers (for example, a given quantity or measure is twice as long or 5 times as high) and this connects to multiplication.
- Pupils continue to become fluent in recognising the value of coins, by adding and subtracting amounts, including mixed units, and giving change using manageable amounts. They record £ and p separately. The decimals recording of money is introduced formally in year 4
- Pupils use both analogue and digital 12-hour clocks and record their times. In this way, they become fluent in and prepared for using digital 24-hour clocks in year 4.

Geometry - properties of shapes

Pupils should be taught to:

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines

Notes and guidance (non-statutory)

- Pupil's knowledge of the properties of shapes is extended at this stage to symmetrical and non-symmetrical polygons and polyhedra. Pupils extend their use of the properties of shapes. They should be able to describe the properties of 2-D and 3-D shapes using accurate language, including lengths of lines and acute and obtuse angles greater or less than a right angle.
- Pupils connect decimals and rounding to drawing and measuring straight lines in centimetres, in a variety of contexts

Statistics

Pupils should be taught to:

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

Notes and guidance (non-statutory)

- Pupils understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy.
- They continue to interpret data presented in many contexts.

Year 3 Maths - Cross curricular maths

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Music Counting rhythms</p> <p>French Numbers to 10</p>	<p>DT/English cooking, measuring, weighing</p> <p>Topic - History Prehistoric Britain Timeline</p> <p>Science Pictogram to show nutrition</p>	<p>Topic - History Roman timeline</p> <p>Topic - History/DT Roman Numerals and making clocks</p> <p>PE - Dance Counting the music</p>	<p>Geography Compare height of mountains.</p> <p>Art Roman mosaics with shape and symmetry.</p>	<p>Science recording results in a table or graph</p> <p>Topic - Geography Plot temperature and rainfall on a bar chart and line graph.</p> <p>Measure rainfall in cylinders.</p>	<p>Science Measuring shadows and time.</p> <p>Topic - DT Measure and create a rainforest. Compare height of trees.</p>



Year 3 - Nrich

This is an approximate guide. More activities can be included but those listed below are the minimum.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p>Place Value</p> <p><u>Take Three Numbers</u> *<u>Which Scripts?</u> * <u>Coded Hundred Square (I)</u> * <u>Number Differences</u> * <u>Magic Vs</u> * <u>Number Match</u> *</p> <p style="text-align: center;">Addition and Subtraction</p> <p><u>Consecutive Numbers</u> * <u>Domino Square</u> ** <u>4 Dom</u> *** <u>Buying a Balloon</u> *</p>	<p style="text-align: center;">Addition and Subtraction</p> <p><u>Super Shapes</u> * <u>Got It (I)</u> ** <u>Make 37</u> ** <u>A Mixed-up Clock</u> * <u>Finding Fifteen</u> ** <u>Strike it Out (G)</u> * <u>Three Neighbours</u> ** <u>Dice in a Corner</u> *** <u>Play to 37 (G)</u> * <u>Build it Up</u> *</p> <p style="text-align: center;">Multiplication and Division</p> <p><u>This Pied Piper of Hamelin</u> ** <u>Music to My Ears</u> * <u>Ordering Cards</u> * <u>Which Symbol?</u> * <u>A Square of Numbers (I)</u> *</p>	<p style="text-align: center;">Multiplication and Division</p> <p><u>What's in the Box?</u> * <u>What Do You Need?</u> * <u>How Do You Do It?</u> * <u>Follow the Numbers</u> * <u>Journeys in Numberland</u> *</p> <p style="text-align: center;">Money</p> <p><u>How Much Did it Cost?</u> ** —</p> <p style="text-align: center;">Statistics</p> <p><u>Real Statistics</u> *** <u>It's a Tie</u> ** <u>The Car That Passes</u> * <u>Class 5's Names</u> * <u>The Domesday Project</u> * — <u>If the World Were a Village</u> * <u>Our Sports</u> * <u>Going for Gold</u> * <u>Now and Then</u> **</p>	<p style="text-align: center;">Length and Perimeter</p> <p><u>Car Journey</u> * <u>Olympic Starters</u> *</p> <p style="text-align: center;">Fraction</p> <p><u>Fraction Match</u> * <u>Matching Fractions</u> *</p>	<p style="text-align: center;">Time</p> <p><u>How Many Times?</u> * <u>Clocks</u> * <u>5 on the Clock</u> *** <u>Two Clocks</u> ** <u>The Time Is ...</u> ** <u>Approaching Midnight</u></p>	<p style="text-align: center;">Shape</p> <p><u>A Puzzling Cube</u> * <u>Square Corners</u> * <u>The Third Dimension</u> *** <u>Building Blocks</u> * <u>Board Block</u> <u>Challenge (I)</u> *** <u>Overlapping Again</u> ** <u>Arranging Cubes</u> ** <u>Stick Images</u> * <u>Triple Cubes</u> * <u>Inky Cube</u> *** <u>Move Those Halves</u> ** <u>Seeing Squares (I)</u> * <u>National Flags</u> *</p> <p style="text-align: center;">Mass & Capacity</p> <p><u>Oh! Harry!</u> **</p>