Year 3/4 – Medium Term Planning

Alongside this document, ensure that the Calculation Policy is being used at all times:

Non-Negotiables:

- All lessons must include opportunities for children to develop **Fluency**, **Reasoning** and **Problem Solving** skills.
- All lessons must offer **Greater Depth** opportunities for higher achievers
- Children must be taught to understand Mathematical structures through the use of models and images
- Children should be guided in their reasoning through the use of **Stem Sentences** and explicit use of accurate mathematical language by the teacher and children.
- The Units below **MUST** be taught in this order – Please discuss with your Maths Leader if you wish to change this for any reason.

Assessments

- Daily recording in Maths books inform instant interventions and adapt lessons to meet the needs of all learners
- Fluency Tests to be taken once every half term
- Children take x table test in June (Yr4)
- Testbase Assessment to be taken at the end of the Summer term
- NFER Assessments taken in Autumn, Spring and Summer term.

Other Points:

- Mental Oral Starters can be used to fulfil part of fluency activities but should also be used for an opportunity to **consolidate and revisit previous learning** from other units.
- Any weeks left at the end of each term should be used for **closing the gap** and giving children the opportunity to **apply** their learnt skills to a real life context for example, a shop, an estate agent, a car salesroom, a factory, planning a holiday etc.

Key Points

- Think about prior Year Group learning – look at previous year group curriculum statements and decide which need revisiting before starting the current year group content.
- Then break down the learning into small steps for the unit of work. White Rose can help with this but remember they are a guide. Also, small steps are not lessons, some might be part of 1 lesson and others multiple lessons on their own.

Problem Solving and Reasoning Questions Support

- I See Reasoning for reasoning questions
- White Rose units stated above for Problem Solving and Reasoning questions
- NRICH use the curriculum maps to current teaching (https://nrich.maths.org/teacher-primary) **Greater Depth Questions Support**
- NCETM Mastery and Greater Depth **Models and Images Support and Ideas**
- NCETM Spine Resources - https://www.ncetm.org.uk/resources/50640 - This can also be used to support **subject knowledge** White Rose Notebooks https://whiterosemaths.com/resources/primary-resources/

Years 3 & 4 - Autumn Term

Week 1	2	3	4	5	6	7	8	9	10	11	12
Place Value				Addition & Subtraction						Division & Multiplication	

Place Value

Read and write numbers up to 1000 in numerals and in words.
Identify, represent and estimate numbers using different representations.

Find 10 or 100 more or less than a given number. **Find 1000 more or less than a given number.**

Recognise the place value of each digit in a 3 digit number.
Recognise the place value of each digit in a 4 digit number.

Order and compare numbers to 1000.
Order and compare numbers beyond 1000.

Count from 0 in multiples of 4, 8, 50 and 100
Count in multiples of 6, 7, 9. 25 and 1000

Solve number problems and practical problems involving these ideas. **Solve number and practical problems that involve all of the above and with increasingly large positive numbers.**

Count backwards through zero to include negative numbers.

Round any number to the nearest 10, 100 or 1000

Round decimals with one decimal place to the nearest whole number.

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.

Possible Stem Sentences:

"In the base 10 system, 10 of one column make 1 of the next column up."
"10 tenths are equal to one."
"100 hundredths are equal to one."
"When rounding always look at the previous place value column."
100 pence are equal to £1
Ten 10ps make up £1

Number: Addition and Subtraction

Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate the answer to a calculation and use inverse operations to check answers. **Estimate and use inverse operations to check answers to a calculation.**

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

Add and subtract amounts of money to give change using both £ and p in practical contexts.
Estimate, compare and calculate different measures, including money in pounds and pence

Measure, compare, add and subtract: lengths (mm, cm, m); mass (kg/g); volume/capacity (l/ml).
Solve simple measure and money problems involving fractions and decimals to two decimal places.

Possible Stem Sentences:

"When adding/subtracting always start at the lowest place value column." "We exchange 1 ten for 10 ones."
"In addition, we can adjust the parts but the whole must stay the same." "We exchange 10 ones for 1 ten."
"In subtraction we can adjust the parts but the difference must stay the same."

Multiplication and Division

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
Recall and use multiplication and division facts for multiplication tables up to 12 x 12.

Write and calculate mathematical statements for multiplication and division using the multiplication tables they know.
Recognise and use factor pairs and commutativity in mental calculations.

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.

Possible Stem Sentences:

"**Commutativity** means we can change the order but the answer remains the same"
The **dividend** is the whole
The **divisor** is the number we are dividing by
The **quotient** is the answer to the division
"**Commutativity** means the same factors always equal the same product."
"The distributive law means we can group numbers in any way and the product remains the same." "The associative law means the order the numbers are grouped can change but the result remains the same."

Key Points

- Tenths and hundredths are to be taught alongside Place Value so children see them as part of the Base 10 System
- Constant difference methods for addition and subtraction should be taught alongside written methods with an emphasis on the most 'efficient' method.
- Think about prior Year Group learning – look at previous year group curriculum statements and decide which need revisiting before starting the current year group content.
- Then break down the learning into small steps for the unit of work. White Rose (units stated above) can help with this but remember they are a guide. Also, small steps are not lessons, some might be part of 1 lesson and others multiple lessons on their own.

Bold text refers to upper year group.

Years 3 & 4 - Spring Term

Week 1	2	3	4	5	6	7	8	9	10	11
Division & Multiplication					Fractions & Decimals					

Number: Multiplication and Division

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* objectives.

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.

Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.

Multiply two digit and three digit numbers by a one digit number using formal written layout.

Find the area of rectilinear shapes by counting squares (link to multiplication)

Fractions and Decimals

Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.

Compare and order unit fractions, and fractions with the same denominators.

Compare numbers with the same number of decimal places up to two decimal places.

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. **Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including nonunit fractions where the answer is a whole number.**

Count up and down in tenths.

Count up and down in hundredths.

Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10

Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

Find the effect of multiplying and 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.

Recognise and show, using diagrams, equivalent fractions with small denominators. **Recognise and show, using diagrams, families of common equivalent fractions.**

Add and subtract fractions with the same denominator within one whole. **Add and subtract fractions with the same denominator.**

Solve problems that involve all of the above.

Solve simple measure and money problems involving fractions and decimals to two decimal places

Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to ¼, ½, ¾

Round decimals with one decimal place to the nearest whole number.

Possible Stem Sentences:

Throughout - Link the denominator to division. The fraction bar is dividing the whole into ____s, e.g. thirds. *Key Vocabulary:*

The denominator – The whole number of equal parts

The Numerator – The number of parts taken

A fraction is a part of a whole

A fraction is an equal part of a whole

¾ is 3 of 4 equal parts "

As the denominator gets greater, the parts get smaller, so we need more parts to be equivalent." Equivalent means equal (=) to or the same as.

Key Point The bar model should be used to explicitly show fractions of amounts

Bold text refers to upper year group.

Years 3 & 4 - Summer Term

Week 1	2	3	4	5	6	7	8	9	10	11	12
Length, Perimeter & Area		Time			Shape			Volume & Capacity (Yr3) Co-ordinates (Yr4)		Statistics	
Measures - Length Measure, compare, add and subtract: lengths (m/cm/mm). Measure the perimeter of simple 2D shapes. **Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres** Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed and simple equivalents of mixed units. **Convert between different units of measure eg kilometre to metre.**		**Time** Tell and write the time from an analogue clock, including using Roman numerals and 12-hour and 24hour clocks. **Read, write & convert time between analogue and digital 12 and 14 hour clocks.** Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours. **Convert between different units of measure eg hour to minute.** Use vocabulary such as o'clock, a.m./p.m., 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). **Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days** **Top Tip:** Try teaching the hours and minutes separately initially and then combine			**Geometry** Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. **Identify acute and obtuse angles and compare and order angles up to two right angles by size.** Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. **Identify lines of symmetry in 2D shapes presented in different orientations.** **Complete a simple symmetric figure with respect to a specific line of symmetry.** Draw 2-D shapes **Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.** Make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them			**Measures: volume and capacity (Y3)** Measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml). **Co-ordinates (Y4)** **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.**		**Statistics** Interpret and present data using bar charts, pictograms and tables. **Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.** 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. **Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.**	
Possible Stem Sentences: 1,000g = 1kg 1,000ml = 1L "Perimeter is the total distance around the outside." Regular shapes have all sides and angles the same "The area is the total surface space on the inside."		**Possible Stem Sentences:** The hour hand is the shorter hand The minute hand is the longer hand The numbers on a clock go up in 5 minutes The 6 is half way around If the minute hand is before the 6 it is **past** the hour If the minute hand is after the 6 it is **to** the next hour			**Possible Stem Sentences:** "Parallel lines never meet and always stay the same distance apart." "Regular shapes have equal sides and equal angles."			**Possible Stem Sentences:** "X comes before Y."		**Top Tip** One lesson modelling drawing bar charts together before they try independently.	

Bold text refers to upper year group.