Week.	Mathematical aspect	Non-negotiable end points Year 3.	Non-negotiable end points Year 4	Curriculum statements – Year 3.	
1.	Number and place value: Roman Numerals Read, write and order and round two, three and four digit numbers, Negative numbers	Knows the standard form for writing numbers up to 1000. Knows how to write numbers in words.	Knows the symbols for Roman numerals up to C = 100. Knows the rules of Roman numerals i.e. rule of three symbols, rule of order. Knows the role of zero in the concepts of place value.	<ul> <li>To recognise the place value of each digit in a three-digit number (hundreds, tens, ones).</li> <li>To compare and order numbers up to 1000.</li> <li>To identify, represent and estimate numbers using different representations.</li> <li>To read and write numbers up to 1000 in numerals and in words.</li> <li>To solve number problems and practical problems involving these ideas.</li> </ul>	<ul> <li>To recog number (th</li> <li>To identi different re</li> <li>To order</li> <li>To round</li> <li>To count</li> <li>To find 1</li> <li>To read Fover time, concept of</li> </ul>
Links to resources a	nd policy documents:				Circle the
400 + 90 + 2 492 Four hundred and 500 + 40 + 7 547 Five hundred and 200 + 4 204 Two hundred and	d ninety two I forty seven	Roman nume 100 29 33 94 75 26 51 48 68 99	ral match	<ul> <li>Write the numbers in standard form</li> <li>300 + 60 + 3</li> <li>400 + 6</li> <li>900 + 30 + 1</li> <li>Now write the numbers in words.</li> <li>Which of these are not correct?</li> <li>457</li> <li>Four hundred and seventy five</li> <li>600 + 8</li> <li>Six hundred and eighty</li> <li>719</li> <li>Seven hundred and nineteen</li> </ul>	What are the II = [ XI = [ XXIX = [
2.	Number and place value: Sequences Negative and positive numbers	Knows how to count in step sizes and estimate numbers	Knows how to find the difference between negative and positive numbers.	<ul> <li>To count from 0 in multiples of 4, 8, 50 and 100, finding 10 or 100 more or less than a given number.</li> <li>To solve number problems and practical problems involving these ideas.</li> </ul>	<ul> <li>To count</li> <li>To count</li> <li>numbers.</li> </ul>
Links to resources a	nd policy documents:		1	Find the missing numbers in each pattern:	. What number
Positive and	Negative Numbers	Complete the number line	25	24, 32, 40,,,,         20, 24, 28, 32, 40,,	
-9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9		-5 -4	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	150, 200,, 300,,	
What is the difference between and ?			$\begin{array}{c ccc} + & + & + & + & + \\ -4 & & 0 & 1 \end{array}$	Explain the mistake 450, 500, 550, <b>600</b> , <b>700</b> , <b>800</b>	The day tempe At night, the te What was the r



3.	Addition and subtraction of three- digit numbers and 1s, 10s and 100s Solving problems	Knows the compact algorithms for addition and subtraction including regrouping and exchanging.	Knows how to choose the order of calculations in two step problems.	<ul> <li>To add and subtract numbers mentally, including:</li> <li>a three-digit number and ones</li> <li>a three-digit number and tens</li> <li>a three-digit number and hundreds.</li> <li>To estimate the answer to a calculation and use inverse operations to check answers.</li> <li>To solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> </ul>	<ul> <li>To add ar the efficien subtraction</li> <li>To estima answers to</li> <li>To solve a contexts, de and why.</li> <li>To estima including m</li> </ul>
Links to calculation Columnar addit 625 + 48 <u>673</u> 1 Regroup the 10	policy expanded and com tion Columnar subtraction 1/54 - 286 - 468 Columnar subtraction 1/54 - 286 - 468	pact methods. ion Read and analyse the problem. Identify the steps. Calculate efficiently. Check the solution.	Question stems           What is the question asking you to do?           What calculation/s do you need to do?           What methods would be best?           Have you answered the question correctly?           Have you used the correct unit in your answer?	40       50       812       115       736       515       617         164       380       111       953       528         957       517       150       569       772         238       276       342       408       456       581       567         770       388       40       417       167         Choose two numbers that you can:         add together in your head       add using a written method         subtract in your head       subtract using a written method	2. At a followin Hanna
4.	Multiplication and Division: Commutativity and associativity Solving problems including correspondence problems.	Knows how to represent problems including <i>four times as</i> <i>long, twice as high etc</i> Knows the commutative and associative laws for multiplication	Knows how to solve integer scaling problems and harder correspondence problems.	<ul> <li>To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.</li> <li>To 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.</li> <li>To solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which <i>n</i> objects are connected to <i>m</i> objects.</li> </ul>	<ul> <li>To recall to 12 × 12.</li> <li>To use pland divide in dividing by</li> <li>To multip digit number</li> <li>To solve pincluding us multiplicati</li> </ul>
Everyone in the either jam or n Two people sa There are four How many people marmalade marmalade marmalade Claire is given 48 p does Claire have a	e Patel family likes toast for their breakfast, with marmalade. If their favourite spread is jam. If more marmalade-lovers than jam-lovers. Sople are in the family altogether? If in the family It is the family attemption packets of sweets. Each altogether?	n packet contains 6 swee	ets. How many sweets	Sam has four times as many toy cars than Amy. If Amy has 16 toy cars, how many does Sam have? One weekend Sam played twice as many games of tennis than Alex did, and together they played 12 games. How many games did Alex play?	At the aquarium an house. The <i>Wild</i> an TV camera crew filn octopus tank and the enclosure. The crew said they heads and 76 legs How many creature and how many are





7.	All four operations: Mental and written methods.	Knows how to multiply/divide two- digit numbers by one- digit numbers using expanded or formal written methods of short multiplication and division.	Knows the efficient written algorithms for addition and subtraction with increasing fluency for large numbers. Knows the formal written method of short multiplication and short division with exact answers.	<ul> <li>To write and calcula and division using the for two-digit numbers progressing to formal</li> <li>To solve problems, i multiplication and divi correspondence probl objects.</li> <li>To solve problems, i number facts, place va subtraction.</li> </ul>	te mathematical st multiplication table times one-digit nu written methods. ncluding missing nu sion, including inte ems in which <i>n</i> obj ncluding missing nu alue, and more com	catements for multiplication es that they know, including imbers, using mental and umber problems, involving eger scaling problems and jects are connected to <i>m</i> umber problems, using nplex addition and	<ul> <li>To add an the efficien subtraction</li> <li>To multip digit numbe</li> <li>To estima answers to a</li> <li>To solve t operations a</li> </ul>
Links to calculation $3 \times 4 \times 2 = 24$ Jane did $3 \times 4$ t James did $4 \times 2$ Associativity $(2 \times 3) \times 4 = 2 \times (3 \times 4)$ $(2 \times 3) \times 4 = 2 \times (3 \times 4)$ $(2 \times 3) \times 4 = 2 \times (3 \times 4)$	policy methods.         hen doubled for x2.         = 8, then 8 x 3.         9       12       15       18       21         12       16       20       24       28         15       20       25       30       35	96 Use this n 90 + 6 <u>16</u> calculate 50 + 36 6(9₃6 72 ÷ 3 84 ÷ 6	model to	How would you do it? 4 x 6 x 3 3 x 10 x 8 2 x 8 x 4 How many ways can you multiply three numbers 120? E.g. 5 x 12 x 2	What is the missing va $4 \times x + x = 240$ $8 \times 2 \times x = 64$ $2 \times 3 \times 5 = 45$ u find to and make	alue? $ \begin{array}{r} 35 \\ \times 8 \\ 40 \\ 240 \\ 280 \\ \hline 38 \\ 240 \\ 40 \\ 280 \\ \hline 38 \\ 240 \\ 280 \\ \hline 38 \\ 240 \\ 280 \\ \hline 38 \\ 240 \\ 280 \\ \hline 38 \\ 280 \\ \hline 38 \\ 40 \\ 240 \\ 280 \\ \hline 38 \\ 280 \\ \hline 38 \\ 40 \\ 40 \\ 40 \\ 40 \\ 40 \\ 40 \\ 40 \\ 40$	Calculate: a) 4 × 3 × 12 b) 200 × 6 c) 2400 ÷ 8
8.	Fractions: Factors, multiples and simplifying Calculating Equivalence, addition and subtraction within 1	Knows unit and non- unit fractions as numbers on the number line and how to represent equivalence.	Knows how to make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities. Knows how to use factors and multiples to recognise equivalent fractions and simplify where appropriate.	<ul> <li>To recognise and use unit fractions with sma</li> <li>To recognise and she small denominators;</li> <li>To add and subtract one whole [for examp</li> <li>To compare and ord denominators;</li> <li>To solve problems the</li> </ul>	e fractions as numl all denominators; ow, using diagrams fractions with the le, + = ]; ler unit fractions, a nat involve all of th	bers: unit fractions and non- s, equivalent fractions with same denominator within nd fractions with the same le above.	<ul> <li>To solve p to calculate including no number.</li> <li>To recogn number of t</li> <li>To recogn</li> </ul>
Write three fraction model. Answer $\frac{3}{8} + \frac{4}{8} = \frac{5}{7} - \frac{2}{7} = \frac{5}{7} = \frac{2}{7} = \frac{1}{7}$	True or false? $\frac{5}{6} + \frac{2}{6} = \frac{7}{12}$ $\frac{13}{20} - \frac{3}{20} = \frac{1}{2}$				Do both of these of these models show $\frac{4}{10}$ ?	Convince me that $\frac{5}{10} = \frac{1}{2}$	Match each fraction of 0.75



9.	Fractions: Decimals and fractions in the context of measurements.	Knows how to connect tenths to place value, decimal measures and to division by 10.	Knows that decimals and fractions are different ways of expressing numbers and proportions. Knows decimal notation and the language associated with it, including in the context of measurements.	• 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;	<ul> <li>To find the by 10 and 1 answer as u</li> <li>To round whole number of the comparent of the</li></ul>
$1 \text{ term}^{1}$	en = ten ones $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$	Image     Words     F       56     56       hundredths       1     1	Traction     Decimals       17	A fraction of each shape is shaded. Match each fraction to the correct place on the number line.	A bag of do Liz and Joh If Liz pays f Max is 1.62n He is 47cm t How tall is hi
10.	Measurement: time 12-hour, 24-hour clocks	Knows the time in 12- hour and 24-hour representations. Knows the number of seconds in a minute and the number of days in each month, year and leap year.	Knows how to read, write and convert time between analogue and digital 12- and 24- hour clocks.	<ul> <li>To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.</li> <li>To estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as am/pm, morning, afternoon, noon and midnight.</li> <li>To know the number of seconds in a minute and the number of days in each month, year and leap year.</li> <li>To compare durations of events, for example to calculate the time taken by particular events or tasks.</li> </ul>	<ul> <li>To read, v</li> <li>digital 12- a</li> <li>To solve p</li> <li>minutes; m</li> <li>day.</li> </ul>
7 o'clock 7:00 pm 19:00 19:00 11:30	t 1 Ten past 2 10:10 pm 22:10	Draw these times on a clock face 26 minutes past one 14 minutes to seven 12 minutes past 9	Put these times on order starting at midnight 5 past two, am 7 minutes to 6, pm Quarter to 9, am Half past 11, pm 25 to 8, pm	What comes next?       Complete the statements:         IIIII       There are	Show Write Put these t from midn 17:45





• To describe a position on a 2D grid as coordinates in the • 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 What are the coordinates where the X should be? • To interpret and present discrete and continuous data using appropriate graphical methods, including bar charts • To solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and simple line graphs A family were driving along the motorway. To pass the time Colour Frequency hey counted the different colours of cars that they saw. Silver 8 Here is a table of results for the first two minutes. Construct a Red Black 12 Pink