Year3

Oakdene Primary School

Termly Guide for Mathematics

	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions, Decimals, Ratio and Percentages	Measures	Geometry	Statistics
Y3 Autumn	**Read and write numbers up to 1000 in numerals and in words.** **Example:** Three hundred and ninety-four = 394 Seven hundred and six = 706	Recall or quickly find multiples of 5 bonds to 100. **Example:** 25 + 75 = 100 100 – 35 = 65	Recall doubles of numbers 1 to 20, derive the related halves and apply reasoning skills to choose numbers that will give the longest halving chains. **Example:** Halve even numbers / add 1 to odd numbers to make the longest halving chain, starting < 40. (10→5→6→3→4→2→1)	**Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators**, e.g. $^1/_2$, $^1/_3$s and $^1/_4$s of multiples of 2, 3 and 4, using visual representations. **Example:** $^3/_4$ of 12 is 9 $^1/_3$ of 21 = 7	**Tell and write the time to the nearest 5 minutes from an analogue or digital clock, including using Roman numerals from I to XII.** **Example:** 8:40 = twenty minutes to nine 13:05 = five minutes past on in the afternoon	**Draw and make 3D shapes using modelling materials.**	
	Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s). **Example:** 300 + 60 + 7 = □ 700 + □ + 4 = 754	Use number bonds and number patterns to add and subtract 1-digit numbers from 2-digit numbers. **Example:** 7 + 5, 37 + 5, 87 + 5 15 – 7, 45 – 7, 75 – 7	Double 2-digit numbers to 50 and halve 2-digit numbers up to 100. **Example:** Double 24 = 48 56 ÷ 2 = 27	Understand fractions as parts of a whole and compare unit fractions.	**Know the number of days in each month, year and leap year** and use this to try different approaches and find ways of overcoming difficulties. **Example:** Referring to a calendar: How many Thursdays in January?	**Recognise 3D shapes in different orientations and describe them.** **Example:** Cube: 6 faces, 12 edges, 8 vertices Cone: 2 faces, 1 edge, 0 vertices	

Year3

Oakdene Primary School

Termly Guide for Mathematics

		Add several numbers, spotting doubles and bonds. **Example:** 11 + 6 + 9 9 + 7 + 7	**Recall and use multiplication and division facts for the 2, 3, 4, 5 and 10 multiplication tables.** **Example:** □ × 3 = 36 50 ÷ 5 = □	Understand that a fraction is an equal part of a whole and that a unit fraction is one part and a non-unit fraction is several parts.	Solve number and practical problems using place value to **add and subtract amounts of money.** **Example:** £5·00 + £3·16 78p – 40p		
		Add and subtract multiples and near multiples of 10 by counting on and back or by **using number facts and place value.** **Example:** 26 + 61 93 – 30	Understand that division is the inverse of multiplication. **Example:** 6 × 3 = 18; 18 ÷ 3 = 6 7 × 4 = 28; 28 ÷ 4 = 7	Look for patterns, make predictions and begin to see the relationship between finding fractions of amounts and division. **Example:** Which numbers can be split into thirds/quarters/both: 12, 13, 18, 21, 18, 23, 24, 28, 31, 36, 48, 56	Measure and compare lengths; (m/cm/mm) and capacity (ml/L). **Example:** 15 cm < 30 cm 1 L > 500 ml		
		Work systematically, using logical reasoning and deduction, to find number pairs that total a 2-digit number. **Example:** Find all pairs that make 55, 66, 77, 88 or 99	Understand that a remainder is the amount left over after a division and begin to understand the patterns of remainders. **Example:** 76 ÷ 10 = 7, r6 Explore which numbers, 3 to 30, give remainder 1 when divided by 3.				

		Spot patterns to add any pair of 2-digit numbers, choosing an appropriate strategy, for example using bonds. **Example:** 74 + 58 53 + 58	Use commutativity to find multiplication facts using known facts. **Example:** Use 3 × 7 to work out 7 × 3 Use 4 × 9 to work out 9 × 4				
		Spot patterns to subtract any pair of 2-digit numbers, choosing an appropriate strategy, for example using bonds. **Example:** 85 – 21 85 – 78					
		Use knowledge of bonds to add to the next multiple of 10 and then on to 100. **Example:** 57 + □ = 100: 7 + 3 = 10 57 + 3 = 60; 60 + 40 = 100 so 57 + 43 = 100					
		Begin to derive pairs of numbers that total 100. **Example:** 57 + 43					

Year3

Oakdene Primary School

Termly Guide for Mathematics

	Number and Place Value (NPV)	Addition and Subtraction (AS)	Multiplication and Division (MD)	Fractions, Decimals, Ratio and Percentages (FDRP)	Measures (MEA)	Geometry (GEO)	Statistics (STA)
Y3 Spring	Understand 2- and 3-digit numbers; **find 1, 10 or 100 more or less than a given number** without difficulty.	Find pairs with a total of 100 or a maximum total of £1·00. **Example:** 53 + 47 = 100 81 + 19 = 100	Understand the relationship between doubling and halving. **Example:** Half of 36 is 18. What is double 18?	Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators, e.g. identify $^1/_2$s, $^1/_3$s, $^1/_4$s, $^1/_5$s, $^1/_6$s and $^1/_8$s, and say how many are needed to make a whole.	**Tell and write the time** to the nearest minute **from an analogue clock, including using Roman Numerals from I to XII**, or a digital clock. **Example:** 4:07 = seven minutes past four 11:34 = twenty-six minutes to twelve	**Identify and draw 2D shapes**, and describe their properties. **Example:** Square: 4 equal sides; 4 right angles Triangle: 3 straight sides; 3 angles	
	Round numbers to the nearest 10 and 100, using a number line. **Example:** 425 rounds to 430, 400 662 rounds to 660, 700	**Add numbers mentally**, including 2-digit and 3-digit numbers. **Example:** 351 + 46 368 + 102	**Recall and use multiplication and division facts for the** 2, **3, 4,** 5 and 10 **multiplication tables**. **Example:** □ × 4 = 48 11 × 10 = □	Mark and identify simple fractions on 0 to 1 lines.	Calculate time intervals and **compare durations of events**. **Example:** It was 10 past 6. We played for 15 minutes. What time is it now?	**Identify right angles, recognise that 2 right angles make a half turn, 3 make $^3/_4$ of a turn and 4 complete a turn; identify whether angles are greater than or less than a right angle.**	

Year3

Oakdene Primary School

Termly Guide for Mathematics

	Identify, represent and estimate numbers using different representations including a number line.	Subtract 2-digit numbers from 3-digit numbers, and begin to subtract 3-digit numbers from 3-digit numbers, using counting up and by looking for patterns in the digits. **Example:** 141 – 76 123 – 87	Multiply 2-digit numbers by 4 by doubling twice, and divide 2-digit numbers by 4 by halving twice (whole-number answers). **Example:** 4 × 16: 16 × 2 = 32; 32 × 2 = 64 32 ÷ 4: 32 ÷ 2 = 16; 16 ÷ 2 = 8	**Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators**, for example $^1/_2$s, $^1/_3$s, $^1/_4$s, and $^1/_5$s of amounts (whole number answers only).	**Begin to measure the perimeter of simple 2D shapes.**		
	Multiply and divide by 10 (whole-number answers). **Example:** 850 ÷ 10 □ × 10 = 460	Count up to find change from £5 and £10 (multiples of 5p). **Example:** £5·00 – £2·80 £10 – £4·65	**Solve problems, including missing number problems, involving multiplication and division.** **Example:** 200 ÷ 5 = □ 8 × □ = 240	**Recognise and show, using diagrams, equivalent fractions with small denominators.** **Example:** $^1/_2 = {}^2/_4$ $^4/_5 = {}^8/_{10}$	**Know the number of seconds in a minute.** **Example:** Ask children to estimate when 1 minute has gone by.		
	Count from 0, in steps of 10, 50 and 100, and **find 10 or 100 more or less than a given number**; spot patterns in both systems to **solve problems**. **Example:** Count in 10s from 4 to 1004, in 50s from 4 to 1004 and in 100s from 4 to 1004. Write the numbers that would be in 2 and in all 3 counts.	**Solve** simple word **problems using addition or subtraction.**	Double numbers, and halve even numbers, up to 100 by partitioning. **Example:** 2 × 68 94 ÷ 2 For a sports day, 42 oranges are cut into half. How many halves are there?				

Year3

Oakdene Primary School

Termly Guide for Mathematics

	Begin to **compare and order numbers up to 1000**, using < and > signs. **Example:** 375 < 526 420 > 201	**Begin to add numbers with up to 3 digits, using formal written methods of columnar addition** (1s greater than 10s or 10s greater than 100s). **Example:** 659 + 225 447 + 526 466 + 268	Multiply numbers between 10 and 25 by 3, 4 and 5. **Example:** 3 × 24 21 × 4 5 × 16				
	Work systematically and make generalisations. **Example:** Investigate how many 3-digit numbers there are where the 10s number is a 3. How many will there be in all the three-digit numbers? How do you know?	Investigate patterns when adding numbers, **estimate the answer to a calculation and** begin to **use** a systematic approach, including using **inverse operations, to check answers.** **Example:** Add palindromic number pairs, make predictions and test them. Spot a pattern in the relationship between the 100s and 1s.	Multiply and divide multiples of 10 by 3, 4 and 5 (with no remainders). **Example:** 3 × 40 120 ÷ 4 5 × 20				
			Begin to use the grid method to multiply 2-digit numbers from 10 to 25 by 1-digit numbers.				

Year3

Oakdene Primary School

Termly Guide for Mathematics

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\Y3 Summer	**Count from 0 in multiples of 4, 8, 10, 50 and 100; find 10 or 100 more or less than a give number.** **Example:** Cows have four legs. How many legs are there on 12 cows?	Subtract a 2-digit or 3-digit number using place value. **Example:** 363 – 99 350 – 110	**Recall and use multiplication and division facts for the** 2, **3**, **4**, 5, **8** and 10 **multiplication tables.** **Example:** 9 × 4 = □ □ × 8 = 72	**Add and subtract fractions with the same denominator within one whole.** **Example:** $^5/_7 + {}^1/_7 = {}^6/_7$ $^7/_8 - {}^2/_8 = {}^5/_8$	**Add and subtract amounts of money to give change, using both £ and p in practical contexts.** **Example:** £10 – £3·99 £20 – £15·42	**Recognise angles as a property of shape or a description of a turn.**	**Interpret and present data using bar charts, pictograms and tables.** **Example:** Using a pictogram showing favourite games: What does each picture represent? How many children prefer board games? Present the information on a bar chart.
	Compare and order numbers up to 1000, using < and > signs. **Example:** 375 < 526 420 > 201	Find change from £10 and begin to find change from £20. **Example:** £10 – £4·69 £10 – £5·32 £20 – £12·55	**Understand the relationship between multiplication and division.** **Example:** 90 ÷ 3 = □; □ × 3 = 90 160 ÷ 4= □; □ × 4 = 160	**Compare and order unit fractions, and fractions with the same denominators.** **Example:** $^3/_6 < {}^5/_6$ $^3/_6 > {}^1/_5$	**Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (L/ml).** **Example:** 12 cm + 10 cm 100 g < 250 g < 1 kg	**Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.**	Solve 1-step and 2-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables. **Example:** Draw a bar chart showing the weights of toys. How much heavier is the toy elephant than the mouse? Was the tallest toy the heaviest?

Year3

Oakdene Primary School

Termly Guide for Mathematics

	Solve number problems and practical problems involving these ideas. **Example:** 214 – 4 = 210 £2·36 + 20p = £2·56	**Subtract numbers with up to 3 digits** by counting up (difference less than 100); work systematically to find possibilities and begin to explain mathematical patterns. **Example:** Use pairs of consecutive digits to make two palindromic numbers and subtract them (767 – 676); repeat for all possible subtractions and explain patterns.	**Write and calculate mathematical statements for multiplication using multiplication tables, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods**, for example using grid methods to multiply 2-digit numbers by 3, 4, 5, and 8. **Example:** 26 × 3 4 × 16	**Solve problems** with fractions **that involve all of the above.** **Example:** One pizza is divided into 1/6s and another into 1/4s. One child has 3 slices from the first pizza and another has 2 slices from the second pizza. Is this fair, or does one child get more pizza? Which child?	**Measure the perimeter of simple 2D shapes.** **Example:** 9 cm + 1 cm + 2 cm + 2 cm + 5 cm + 2 cm + 2 cm + 1 cm = 24 cm 2 cm + 7 cm + 2 cm + 3 cm + 1 cm + 2 cm + 1 cm + 2 cm = 20 cm		
		Estimate the answer to a calculation and use inverse operations to check answers (use addition to check subtraction). **Example:** £10 – £6·75 = £3·25; £6·75 + £3·25 = £10 £10 – £4·69 = £5·31; £4·69 + £5·31 = £10	Begin to make generalisations and **solve problems, including missing number problems and word problems, involving 2-digit by 1-digit multiplication or division.** **Example:** Children use the digits 2, 5 and 8 to create all the possible combinations of □ × □. They estimate the answers, use the grid method to work them out, note which combination gave the largest and smallest answers, and order all the combinations from smallest to largest product.	**Recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10.** **Example:** $^1/_{10}$ of 240 = 24 30 ÷ 10 = 3	**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.** **Example:** 7:27 am = twenty-seven minutes past seven in the morning How many times do you think you could write your name in a minute?		

Year3

Oakdene Primary School

Termly Guide for Mathematics

		Use number facts to **add and subtract numbers mentally, including a 3-digit number and 1s, a 3-digit number and 10s, and a 3-digit number and 100s**, and explain their methods. **Example:** 532 – 5 356 + 60 785 – 300	**Solve positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.** **Example:** Find the height of a giant 8 times taller than me.		**Tell and write the time from 12-hour and 24-hour clocks.** **Example:** 12:00 = noon 15:00 = 3 pm		
		Choose an appropriate strategy (mental or written) to solve addition of 3-digit numbers. **Example:** 351 + 100 + 204 356 + 278	**Write and calculate mathematical statements for division using the multiplication tables that they know, using mental and progressing to formal written methods**, for example divide by 3, 4, 5, 8 with and without remainders (answers less than 20). **Example:** 26 ÷ 4 21 ÷ 5				

		Add numbers with up to 3 digits using column addition and using reasoning and trial and improvement. **Example:** 426 + 173 127 + 842 Children aim to find pairs of 3-digit numbers that add to 581.	Divide numbers just beyond the range of known table facts by subtracting 10 times the divisor. **Example:** 65 ÷ 5 42 ÷ 3				
		Use reasoning skills to invent appropriate addition questions. **Example:** Write at least 5 pairs of additions where the difference between the first addition (of multiples of 10) and the second addition is 15.					