Inspire Maths 3 Medium-term Plan

Unit 1: Numbers to 10 000

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Counting** Pupils will be able to: • count in ones, tens, hundreds and thousands, and read and write their corresponding numbers and number words • recognise concrete representations of numbers to 10 000 • recognise that 10 hundreds = 1 thousand • translate numbers from (i) models to words and figures (ii) figures to words (iii) words to figures • recognise and interpret sentences associated with tens and ones	• Comparing • Classifying • Sequencing • Identifying relationships	• Pupil Textbook 3A, pp 6 to 10 • Practice Book 3A, pp 5 to 8 • Teacher's Guide 3A, pp 6 to 10
1	**(2) Place value** Pupils will be able to: • represent numbers as thousands, hundreds, tens and ones in a place value chart • use a place value chart to show concrete representations of thousands, hundreds, tens and ones given a number to 10 000 • read and write numerals in a place value chart given a set of concrete representations and vice versa • state the place and value of each digit in a number • write a 4-digit number in terms of thousands, hundreds, tens and ones • write a 4-digit number as the sum of the values of each digit in the number	• Comparing • Classifying • Sequencing • Identifying relationships	• Pupil Textbook 3A, pp 11 to 15 • Practice Book 3A, pp 9 to 12 • Teacher's Guide 3A, pp 11 to 15
1–2	**(3) Comparing, order and pattern** Pupils will be able to: • use the 'comparing thousands, hundreds, tens and ones' strategy to compare numbers to 10 000 • compare numbers to find 'greater/smaller than' and the 'greatest/smallest' • identify the number which is 1/10/100/1000 more/less than a number • compare numbers and arrange them in ascending or descending order • compare numbers by place value to look for a pattern to complete the number series	• Comparing • Identifying relationships	• Pupil Textbook 3A, pp 16 to 23 • Practice Book 3A, pp 13 to 18 • Teacher's Guide 3A, pp 16 to 23

1–2	*Let's Explore!* This task enables pupils to make use of place and value to make different 4-digit numbers and to identify the smallest and greatest number in each set of numbers they have made. *Maths Journal* Pupils will be able to: • express their understanding of the process of comparing and ordering numbers • express their understanding of place and value by listing the similarities and differences between pairs of numbers		
2	*Put On Your Thinking Caps!* Pupils will be able to apply number and place value concepts to find the missing digits in a number.	• Comparing • Logical reasoning	• Pupil Textbook 3A, p 24 • Practice Book 3A, pp 19 to 22 • Teacher's Guide 3A, p 24

Unit 2: Addition of Numbers within 10 000

Week	Learning Objectives	Thinking Skills	Resources
2	**(1) The meaning of sum** Pupils will be able to: • relate the word 'sum' to the addition operation • add within 1000 with or without regrouping	• Identifying relationships	• Pupil Textbook 3A, p 25 • Practice Book 3A, pp 23 to 24 • Teacher's Guide 3A, p 37
2	**(2) Simple addition within 10 000** Pupils will be able to: • add within 10 000 without regrouping • add using concrete representations and place value charts • begin column addition by adding the ones, tens, hundreds and thousands in order • add without using concrete representations and without place value charts	• Identifying relationships	• Pupil Textbook 3A, pp 26 to 27 • Practice Book 3A, pp 25 to 28 • Teacher's Guide 3A, pp 38 to 39
3	**(3) Addition with regrouping in hundreds** Pupils will be able to: • add two 4-digit numbers with regrouping in hundreds using concrete representations • show regrouping of hundreds to thousands and hundreds • carry out column addition by adding the hundreds first, then the thousands with regrouping in the hundreds place • add without place value charts *Let's Explore!* This task enables pupils to find out when regrouping in the hundreds place will occur.	• Applying place value relationships • Identifying relationships	• Pupil Textbook 3A, pp 28 to 31 • Practice Book 3A, pp 29 to 30 • Teacher's Guide 3A, pp 40 to 43

3	**(4) Addition with regrouping in ones, tens and hundreds** Pupils will be able to: • add two 4-digit numbers with regrouping in ones, tens and hundreds using concrete representations • show regrouping of ones to tens and ones; tens to hundreds and tens; hundreds to thousands and hundreds • carry out column addition with regrouping in the ones, tens and hundreds places • solve addition word problems with regrouping by using concrete representations *Maths Journal* Pupils will be able to: • identify two common mistakes made in the addition of two numbers and to explain the mistakes • express their understanding of regrouping by writing down the steps in the procedure for adding two numbers	• Applying place value relationships • Translating words to symbols • Analysing	• Pupil Textbook 3A, pp 32 to 35 • Practice Book 3A, pp 31 to 34 • Teacher's Guide 3A, pp 44 to 47
4	*Put On Your Thinking Caps!* These questions reinforce and consolidate the process of regrouping hundreds.	• Comparing • Analysing parts and whole	• Pupil Textbook 3A, p 36 • Practice Book 3A, pp 35 to 38 • Teacher's Guide 3A, p 48
	Review 1		• Practice Book 3A, pp 39 to 42
Summative assessment opportunity			
Assessment Book 3, Test 1, pp 1 to 6			

Unit 3: Subtraction of Numbers within 10 000

Week	Learning Objectives	Thinking Skills	Resources
4	**(1) The meaning of difference** Pupils will be able to: • interpret the difference between two numbers when subtracting the smaller number from the greater number • subtract two numbers within 10 000 with regrouping in the ones column • translate verbal statements and models to subtraction number sentences	• Identifying relationships • Translating words and models to symbols	• Pupil Textbook 3A, pp 37 to 39 • Practice Book 3A, pp 43 to 46 • Teacher's Guide 3A, pp 63 to 65
4	**(2) Simple subtraction within 10 000** Pupils will be able to: • subtract two 4-digit numbers without regrouping • use concrete representations to subtract without regrouping • use column subtraction by subtracting the digits in the ones place first, followed by the tens, then the hundreds and finally the thousands	• Comparing • Identifying relationships	• Pupil Textbook 3A, pp 40 to 41 • Practice Book 3A, pp 47 to 48 • Teacher's Guide 3A, pp 66 to 67
4	**(3) Subtraction with regrouping in hundreds and thousands** Pupils will be able to: • subtract two 4-digit numbers with regrouping in hundreds and thousands • use concrete representations to subtract numbers with regrouping • show regrouping of thousands to thousands and hundreds • carry out column subtraction by first subtracting the ones, followed by the tens; then regroup the thousands and hundreds to subtract the hundreds and finally the thousands	• Comparing • Identifying place value relationships	• Pupil Textbook 3A, pp 42 to 44 • Practice Book 3A, pp 49 to 50 • Teacher's Guide 3A, pp 68 to 70
5	**(4) Subtraction with regrouping in ones, tens, hundreds and thousands** Pupils will be able to: • subtract two 4-digit numbers with regrouping in ones, tens, hundreds and thousands • use concrete representations to subtract numbers with regrouping • show regrouping of tens to tens and ones; hundreds to hundreds and tens; thousands to thousands and hundreds • carry out column subtraction by first subtracting the ones, followed by the tens, then the hundreds and finally the thousands	• Comparing • Identifying place value relationships	• Pupil Textbook 3A, pp 45 to 49 • Practice Book 3A, pp 51 to 56 • Teacher's Guide 3A, pp 71 to 75

5	**(5) Subtraction with numbers that have zeros** Pupils will be able to: • subtract a 4-digit number from another 4-digit number that has zeros in the hundreds, tens and ones • translate verbal statements and models to subtraction number sentences • use concrete representations to show regrouping from thousands to hundreds, tens and ones • carry out column subtraction starting with the ones, tens, hundreds and thousands by regrouping • solve subtraction word problems involving numbers with zeros by drawing models	• Comparing • Identifying place value relationships • Translating words and models to symbols	• Pupil Textbook 3A, pp 50 to 54 • Practice Book 3A, pp 57 to 58 • Teacher's Guide 3A, pp 76 to 80
5	*Put On Your Thinking Caps!* These questions will reinforce and consolidate pupils' understanding of regrouping in the procedure for subtraction.	Comparing Heuristic for problem solving: • Guess and check	• Pupil Textbook 3A, p 55 • Practice Book 3A, pp 59 to 62 • Teacher's Guide 3A, p 81

Unit 4: Solving Word Problems 1: Addition and Subtraction

Week	Learning Objectives	Thinking Skills	Resources
6	**Word problems** Pupils will be able to: • apply addition concepts (‘part-whole’, ‘adding on’ and ‘comparing’) and subtraction concepts (‘part-whole’, ‘taking away’ and ‘comparing’) to solve two-step word problems • solve two-step word problems by using models that represent the problem situation • make up two-step word problems using given words and numbers in addition and subtraction *Let’s Explore!* Pupils will be able to use addition and subtraction concepts (sum and difference) to investigate and discover a pattern from a series of calculations.	• Analysing and interpreting • Applying addition and subtraction concepts	• Pupil Textbook 3A, pp 56 to 60 • Practice Book 3A, pp 63 to 74 • Teacher’s Guide 3A, pp 94 to 98
6	*Put On Your Thinking Caps!* Pupils will be able to draw diagrams or use ‘guess and check’ to solve a challenging problem.	• Making inferences Heuristic for problem solving: • Draw a diagram	• Pupil Textbook 3A, p 61 • Practice Book 3A, pp 75 to 78 • Teacher’s Guide 3A, p 99
	Review 2 Revision 1		• Practice Book 3A, pp 79 to 88
Summative assessment opportunities			
Assessment Book 3, Test 2, pp 7 to 12 For extension, Assessment Book 3, Challenging Problems 1, pp 13 to 14 Assessment Book 3, Check-up 1, pp 15 to 24			

Unit 5: Multiplying by 6, 7, 8 and 9

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Multiplying by 6: skip-counting** Pupils will be able to: • recall multiplication concepts in groups of 6 and multiplying by 6 • use the 'skip-count in sixes' strategy to find the six times table facts • write multiplication sentences involving 6, given different problem situations • commit the six times table facts to memory	• Associating • Relating • Identifying relationships • Recalling • Applying multiplication facts	• Pupil Textbook 3A, pp 62 to 64 • Practice Book 3B, pp 5 to 6 • Teacher's Guide 3A, pp 118 to 120
1	**(2) Multiplying by 7: skip-counting** Pupils will be able to: • recall multiplication concepts in groups of 7 and multiplying by 7 • use the 'skip-count in sevens' strategy to find the seven times table facts • write multiplication sentences involving 7, given different problem situations • commit the seven times table facts to memory	• Associating • Relating • Identifying relationships	• Pupil Textbook 3A, pp 65 to 66 • Practice Book 3B, pp 7 to 8 • Teacher's Guide 3A, pp 121 to 122
1	**(3) Multiplying by 8: skip-counting** Pupils will be able to: • recall multiplication concepts in groups of 8 and multiplying by 8 • use the 'skip-count in eights' strategy to find the eight times table facts • write multiplication sentences involving 8, given different problem situations • commit the eight times table facts to memory	• Associating • Relating • Identifying relationships	• Pupil Textbook 3A, pp 67 to 68 • Practice Book 3B, pp 9 to 10 • Teacher's Guide 3A, pp 123 to 124
1	**(4) Multiplying by 9** Pupils will be able to: • recall multiplication concepts in groups of 9 and multiplying by 9 • use the 'finger counting' method to find the nine times table facts • write multiplication sentences involving 9, given different problem situations • commit the nine times table facts to memory	• Associating • Relating • Identifying relationships	• Pupil Textbook 3A, pp 69 to 71 • Practice Book 3B, pp 11 to 12 • Teacher's Guide 3A, pp 125 to 127

2	**(5) Short cut method for multiplying by 6, 7, 8 and 9** Pupils will be able to: • use the 'connecting fact' strategy starting from 5 × 6 to find more difficult facts of 6 • use the 'connecting fact' strategy starting from 5 × 7 to find more difficult facts of 7 • use the 'connecting fact' strategy starting from 5 × 8 to find more difficult facts of 8 • use the 'connecting fact' strategy starting from 5 × 9 to find more difficult facts of 9 *Let's Explore!* Pupils will be able to: • discover the pattern of multiples of 5: (a) whenever an even number is multiplied by 5, it has 0 as its ones digit (b) whenever an odd number is multiplied by 5, it has 5 as its ones digit	• Associating • Relating • Identifying relationships	• Pupil Textbook 3A, pp 72 to 73 • Practice Book 3B, pp 13 to 16 • Teacher's Guide 3A, pp 128 to 129
2	**(6) Division: finding the number of items in each group** Pupils will be able to: • recall division concepts in finding the number of items in each group • find division facts by recalling multiplication facts • relate division and multiplication facts • write division facts from given multiplication facts • write multiplication facts from given division facts • write division sentences involving 6, 7, 8 or 9, given different problem situations	• Associating • Relating • Identifying relationships	• Pupil Textbook 3A, pp 74 to 75 • Practice Book 3B, pp 17 to 18 • Teacher's Guide 3A, pp 130 to 131
2	**(7) Division: making equal groups** Pupils will be able to: • recall division concepts in finding the number of groups • find division facts by recalling multiplication facts • relate division and multiplication facts • write division facts from given multiplication facts • write multiplication facts from given division facts • write division sentences involving 6, 7, 8 or 9, given different problem situations	• Associating • Relating • Identifying relationships	• Pupil Textbook 3A, pp 76 to 77 • Practice Book 3B, pp 19 to 20 • Teacher's Guide 3A, pp 132 to 133
2	*Put On Your Thinking Caps!* Pupils will be able to apply multiplication and division facts to find the numbers.	• Associating • Relating • Identifying relationships	• Pupil Textbook 3A, p 78 • Practice Book 3B, pp 21 to 22 • Teacher's Guide 3A, p 134

Unit 6: Multiplication

Week	Learning Objectives	Thinking Skills	Resources
3	**(1) Multiplication without regrouping** Pupils will be able to: • use concrete representations in a place value chart to show multiplication of a 2-digit or 3-digit number by 2, 3, 4 or 5 without regrouping • multiply a 2-digit or 3-digit number by 2, 3, 4 or 5 without regrouping in horizontal or vertical format • know that the 'product' is the result of multiplying two numbers • carry out the multiplication procedure by multiplying numbers from right to left	• Classifying • Identifying relationships • Relating	• Pupil Textbook 3A, pp 79 to 82 • Practice Book 3B, pp 23 to 26 • Teacher's Guide 3A, pp 147 to 150
3	**(2) Multiplication with regrouping in ones, tens and hundreds** Pupils will be able to: • use concrete representations in a place value chart to show multiplication of a 2-digit or 3-digit number by 2, 3, 4 or 5 with regrouping in ones, tens and hundreds • multiply a 2-digit or 3-digit number by a 1-digit number with regrouping in ones, tens and hundreds in horizontal or vertical format • carry out the multiplication procedure by multiplying numbers from right to left with regrouping in ones, tens and hundreds	• Classifying • Identifying relationships • Relating • Sequencing	• Pupil Textbook 3A, pp 83 to 87 • Practice Book 3B, pp 27 to 30 • Teacher's Guide 3A, pp 151 to 155
3	**(3) Multiplication with regrouping in ones, tens, hundreds and thousands** Pupils will be able to: • use concrete representations in a place value chart to show multiplication of a 2-digit or 3-digit number by 2, 3, 4 or 5 with regrouping in ones, tens, hundreds and thousands • multiply a 2-digit or 3-digit number by a 1-digit number with regrouping in ones, tens, hundreds and thousands in horizontal or vertical format • carry out the multiplication procedure by multiplying numbers from right to left with regrouping in ones, tens, hundreds and thousands *Let's Explore!* Pupils will be able to apply the 'guess and check' and deduction strategies to find the greatest and the smallest product by multiplying a 1-digit number and a 3-digit number with regrouping.	• Classifying • Identifying relationships • Relating • Sequencing • Deduction Heuristic for problem solving: • Guess and check	• Pupil Textbook 3A, pp 88 to 91 • Practice Book 3B, pp 31 to 36 • Teacher's Guide 3A, pp 156 to 159

4	*Put On Your Thinking Caps!* Pupils will be able to apply the 'using pattern' strategy and the multiplication concept to find the sum of a set of consecutive numbers.	• Applying the pattern strategy and seeing connections between numbers	• Pupil Textbook 3A, p 92 • Practice Book 3B, pp 37 to 38 • Teacher's Guide 3A, p 160
	Review 3		• Practice Book 3B, pp 39 to 42

Unit 7: Division

Week	Learning Objectives	Thinking Skills	Resources
4	**(1) Quotient and remainder** Pupils will be able to: • divide a 1-digit or a 2-digit number by a 1-digit number without remainder • divide a 1-digit or a 2-digit number by a 1-digit number with remainder • apply the multiplication facts strategy to find the quotient in division with remainder • use the long division format to divide and find the quotient and remainder • associate 'quotient' and 'remainder' with division	• Identifying relationships • Recalling and relating multiplication and division facts	• Pupil Textbook 3A, pp 93 to 96 • Practice Book 3B, pp 43 to 44 • Teacher's Guide 3A, pp 175 to 178
4	**(2) Odd and even numbers** Pupils will be able to: • use pattern with concrete representations to identify and name 'odd and even' numbers • use division by 2 to determine whether a number is even or odd • use the fact that all odd numbers end with 1, 3, 5, 7 or 9 while all even numbers end with 2, 4, 6, 8 or 0	• Classifying • Identifying relationships • Relating number facts	• Pupil Textbook 3A, pp 97 to 98 • Practice Book 3B, pp 45 to 46 • Teacher's Guide 3A, pp 179 to 180
4	**(3) Division without remainder and regrouping** Pupils will be able to: • show, with concrete representations in a place value chart, a number divided by another number with no regrouping or remainder • divide a 2-digit number by a 1-digit number with no regrouping or remainder • carry out the procedures in division starting with tens and followed by ones	• Classifying • Identifying relationships • Recalling and relating multiplication and division facts	• Pupil Textbook 3A, pp 99 to 100 • Practice Book 3B, pp 47 to 48 • Teacher's Guide 3A, pp 181 to 182
4	**(4) Division with regrouping in tens and ones** Pupils will be able to: • use concrete representations to show regrouping from tens to ones in division • show division of a 2-digit number by a 1-digit number with regrouping from tens to ones, with or without remainder • carry out the procedures in division starting from tens with regrouping, followed by ones • solve simple division word problems involving division of a 2-digit number by a 1-digit number with regrouping from tens to ones	• Classifying • Identifying relationships • Recalling and relating multiplication and division facts	• Pupil Textbook 3A, pp 101 to 103 • Practice Book 3B, pp 49 to 50 • Teacher's Guide 3A, pp 183 to 185

5	**(5) Division with regrouping in hundreds, tens and ones** Pupils will be able to: • use concrete representations in a place value chart to show regrouping from hundreds to tens, then from tens to ones in division • divide a 3-digit number by a 1-digit number with regrouping from hundreds to tens, then from tens to ones with or without remainder • carry out the procedures in division starting from tens with regrouping and followed by ones • solve simple word problems involving division of a 3-digit number by a 1-digit number with regrouping from hundreds to tens, then from tens to ones with or without remainder *Let's Explore!* Pupils will be able to: • discover a pattern in a magic square • explore whether or not adding, subtracting, multiplying or dividing a number will produce the same pattern	• Associating • Identifying relationships • Recalling and relating multiplication and division facts Heuristic for problem solving: • Looking for patterns	• Pupil Textbook 3A, pp 104 to 109 • Practice Book 3B, pp 51 to 54 • Teacher's Guide 3A, pp 186 to 191
5	*Put On Your Thinking Caps!* Pupils will be able to use deduction to find unknown values to solve problems in long division. *Maths Journal* Pupils will be able to reflect on the division procedures to check if the given methods are correct.	• Associating • Identifying relationships • Relating multiplication and division facts	• Pupil Textbook 3A, p 110 • Practice Book 3B, pp 55 to 58 • Teacher's Guide 3A, p 192
Summative assessment opportunity			
Assessment Book 3, Test 3, pp 25 to 30			

Unit 8: Solving Word Problems 2: Multiplication and Division

Week	Learning Objectives	Thinking Skills	Resources
5	**(1) Multiplication: one-step word problems** Pupils will be able to: • solve one-step word problems on multiplication using model drawing • interpret the terms 'how many times as many as' and 'how many times another number' and draw a model to represent a problem situation • use the 'group and item' concept and model to solve word problems	• Recalling and applying multiplication facts Heuristic for problem solving: • Drawing a model to represent a problem situation	• Pupil Textbook 3A, pp 111 to 112 • Practice Book 3B, pp 59 to 60 • Teacher's Guide 3A, pp 205 to 206
5–6	**(2) Multiplication: two-step word problems** Pupils will be able to: • solve two-step word problems on multiplication using model drawing • interpret and apply multiplication, addition and subtraction concepts to model drawing and problem solving • write two-step word problems: (a) using given words and numbers (b) by interpreting a given model	• Recalling and applying multiplication facts • Applying addition and subtraction concepts to problem solving	• Pupil Textbook 3A, pp 113 to 116 • Practice Book 3B, pp 61 to 66 • Teacher's Guide 3A, pp 207 to 210
6	**(3) Division: one-step word problems** Pupils will be able to: • solve one-step word problems on division using model drawing • interpret and apply division concepts to model drawing to represent a problem situation • use the unitary method to solve division problems	• Recalling and applying division concepts Heuristic for problem solving: • Drawing a model to represent a problem situation	• Pupil Textbook 3A, pp 117 to 119 • Practice Book 3B, pp 67 to 70 • Teacher's Guide 3A, pp 211 to 213
6	**(4) Division: two-step word problems** Pupils will be able to: • solve two-step word problems using other operational concepts with division concepts • draw models to represent the two steps in solving the word problems • write two-step word problems: (a) using given words and numbers (b) by interpreting a given model	• Recalling and applying division concepts with multiplication • Applying addition and subtraction concepts to problem solving	• Pupil Textbook 3A, pp 120 to 123 • Practice Book 3B, pp 71 to 75 • Teacher's Guide 3A, pp 214 to 217

6	*Put On Your Thinking Caps!* Pupils will be able to: • use model drawing to solve challenging word problems • draw a diagram or apply 'guess and check' to solve challenging word problems	Heuristic for problem solving: • Guess and check	• Pupil Textbook 3A, p 123 • Practice Book 3B, pp 76 to 78 • Teacher's Guide 3A, p 217

Unit 9: Mental Calculations

Week	Learning Objectives	Thinking Skills	Resources
7	**(1) Mental addition** Pupils will be able to: • add a 2-digit number to another 2-digit number mentally using the 'add tens followed by add ones' strategy (for tens without regrouping) • add a 2-digit number to another 2-digit number mentally using the 'add tens and subtract a number' strategy (for tens with regrouping)	• Comparing numbers • Applying number bonds	• Pupil Textbook 3A, pp 124 to 126 • Practice Book 3B, pp 79 to 80 • Teacher's Guide 3A, pp 232 to 234
7	**(2) Mental subtraction** Pupils will be able to: • subtract a 2-digit number from another 2-digit number using the 'subtract tens followed by subtract ones' strategy (for minuend with ones greater than the ones of the subtrahend) • subtract a 2-digit number from another 2-digit number using the 'subtract tens and add a number' strategy (for minuend with ones smaller than the ones of the subtrahend)	• Comparing numbers • Applying number bonds	• Pupil Textbook 3A, pp 127 to 128 • Practice Book 3B, pp 81 to 84 • Teacher's Guide 3A, pp 235 to 236
7	**(3) More mental addition** Pupils will be able to: • add a 2-digit number close to 100 to another 2-digit number using the 'add 100 and subtract a number' strategy • add two 2-digit numbers that are both close to 100, using the 'add 200 and subtract two numbers' strategy	• Comparing numbers • Applying number bonds	• Pupil Textbook 3A, pp 129 to 131 • Practice Book 3B, pp 85 to 86 • Teacher's Guide 3A, pp 237 to 239
7	**(4) Mental multiplication** Pupils will be able to: • use the commutative property as a pattern to find a multiplication fact • break up a large number with tens to a single digit number and tens to find the multiplication	• Applying number bonds	• Pupil Textbook 3A, pp 132 to 133 • Practice Book 3B, pp 87 to 88 • Teacher's Guide 3A, pp 240 to 241

7	**(5) Mental division** Pupils will be able to: • find division facts by first recalling related multiplication facts • break up a large number with tens to a single digit number and tens to find the division *Let's Explore!* Pupils will be able to relate and connect numbers and operators to make multiplication and division sentences.		• Pupil Textbook 3A, pp 134 to 136 • Practice Book 3B, pp 89 to 92 • Teacher's Guide 3A, pp 242 to 244
	Review 4 Revision 2		• Practice Book 3B, pp 93 to 104

Summative assessment opportunities

Assessment Book 3, Test 4, pp 31 to 36
For extension, Assessment Book 3, Challenging Problems 2, pp 37 to 38
Assessment Book 3, Check-up 2, pp 39 to 48

Unit 10: Money

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Addition** Pupils will be able to: • add two amounts of money without regrouping by: (i) adding pounds first (ii) adding pence first • add two amounts of money without regrouping by first adding the pounds, then the pence • add two amounts of money where the pence add up to 1 pound • add two amounts of money using the following strategies: (i) decomposition (ii) compensation in which one amount is made into a whole number of pounds • add two amounts of money by converting each amount to pence • add two amounts of money using the standard method	• Identifying relationships	• Pupil Textbook 3B, pp 6 to 13 • Practice Book 3C, pp 7 to 12 • Teacher's Guide 3B, pp 4 to 11
1	**(2) Subtraction** Pupils will be able to: • subtract two amounts of money without regrouping using the strategy of: (i) subtracting the pounds first (ii) subtracting the pence first • subtract two amounts of money without regrouping by first subtracting the pounds, then the pence • subtract two amounts of money using the strategy of compensation, in which the amount subtracted is rounded up to the nearest pound • subtract two amounts of money by converting each amount to pence • subtract two amounts of money using the standard method *Maths Journal* This journal enables pupils to identify two common mistakes made in the subtraction of money and to explain the mistakes.	• Comparing • Identifying relationships	• Pupil Textbook 3B, pp 14 to 21 • Practice Book 3C, pp 13 to 18 • Teacher's Guide 3B, pp 12 to 19
2	**(3) Word problems** Pupils will be able to: • solve word problems involving addition and subtraction of money with up to two steps • construct questions based on given information and situations	• Identifying relationships • Translating statements and models to number sentences • Translating pictorial representations to verbal questions	• Pupil Textbook 3B, pp 22 to 25 • Practice Book 3C, pp 19 to 24 • Teacher's Guide 3B, pp 20 to 23

2	*Put On Your Thinking Caps!* Pupils will be able to use the strategy of drawing a model to solve the problem.	• Comparing • Identifying relationships	• Pupil Textbook 3B, p 26 • Practice Book 3C, pp 25 to 28 • Teacher's Guide 3B, p 24

Unit 11: Length, Mass and Volume

Week	Learning Objectives	Thinking Skills	Resources
2	**(1) Metres and centimetres** Pupils will be able to: • recall the units of measurement as metres and centimetres for measuring lengths and distances • use metres and centimetres as units of measurement to estimate and measure given lengths and distances • use the formula relating metres and centimetres, 1 m = 100 cm, for conversion of units • convert metres to centimetres and centimetres to metres, and metres and centimetres into centimetres only • solve simple word problems involving conversion of centimetres and metres	• Associating • Comparing • Identifying relationships	• Pupil Textbook 3B, pp 27 to 29 • Practice Book 3C, pp 29 to 30 • Teacher's Guide 3B, pp 39 to 41
3	**(2) Kilometres and metres** Pupils will be able to: • have a sense of how far or long 1 km is • use kilometres and metres as units of measurement for long distances • estimate and measure long distances using kilometres and metres • use the formula relating kilometres and metres, 1 km = 1000 m, for conversion of units • convert kilometres to metres, metres to kilometres, and metres to kilometres and metres • solve simple word problems involving conversions of kilometres and metres	• Associating • Comparing • Classifying • Identifying relationships	• Pupil Textbook 3B, pp 30 to 32 • Practice Book 3C, pp 31 to 34 • Teacher's Guide 3B, pp 42 to 44
3	**(3) Kilograms and grams** Pupils will be able to: • read scales in kilograms and grams • find the masses of objects in kg and g • estimate and find out actual masses of objects by using different scales • use the formula relating kilograms and grams, 1 kg = 1000 g, for conversion of units • convert kilograms to grams, grams to kilograms, and grams to kilograms and grams • solve simple word problems involving conversions of kilograms and grams	• Comparing • Classifying • Identifying relationships • Relating different units of measurement of mass	• Pupil Textbook 3B, pp 33 to 37 • Practice Book 3C, pp 35 to 38 • Teacher's Guide 3B, pp 45 to 49

3–4	**(4) Litres and millilitres** Pupils will be able to: • have a sense of how much 1 litre is • use a measuring cylinder to find the volume of liquid in a container • estimate and find out the actual volume of liquid in litres and millilitres • find the total amount of liquid in several containers and find the capacity of a container • use the formula relating litres and millilitres, 1l = 1000 ml, for conversion of units.	• Comparing • Classifying • Identifying relationships	• Pupil Textbook 3B, pp 38 to 43 • Practice Book 3C, pp 39 to 42 • Teacher's Guide 3B, pp 50 to 55
4	*Put On Your Thinking Caps!* Pupils will be able to solve problems: • involving the use of model drawing • using deduction by comparing masses and objects	• Comparing • Classifying • Identifying relationships • Making logical deductions	• Pupil Textbook 3B, p 44 • Teacher's Guide 3B, p 56

Unit 12: Solving Word Problems: Length, Mass and Volume

Week	Learning Objectives	Thinking Skills	Resources
4	**(1) One-step word problems** Pupils will be able to: • solve one-step word problems on length, mass and volume using model drawing • use the following operation concepts to solve one-step word problems: 'part-whole', 'adding on', 'taking away', 'comparing', 'group and item', 'multiplying and sharing'	• Recalling and applying concepts of the four operations • Using models to represent problem situations	• Pupil Textbook 3B, pp 45 to 48 • Practice Book 3C, pp 43 to 46 • Teacher's Guide 3B, pp 67 to 70
4	**(2) Two-step word problems** Pupils will be able to: • solve two-step word problems on length, mass and volume using model drawing • interpret and apply any two operation concepts from the previous section to solve two-step word problems • write two-step word problems: (a) using given words and numbers (b) by interpreting a given model	• Recalling and applying concepts of the four operations • Using models to represent problem situations	• Pupil Textbook 3B, pp 49 to 55 • Practice Book 3C, pp 47 to 52 • Teacher's Guide 3B, pp 71 to 77
4	*Put On Your Thinking Caps!* Pupils will be able to: • solve problems on length using model drawing • apply the deduction method to solve problems on volume	• Recalling and applying concepts of the four operations • Using models to represent problem situations.	• Pupil Textbook 3B, p 55 • Practice Book 3C, pp 53 to 54 • Teacher's Guide 3B, p 77
	Review 5		• Practice Book 3C, pp 55 to 62
Summative assessment opportunities			
Assessment Book 3, Test 5, pp 49 to 56			

Unit 13: Bar Graphs

Week	Learning Objectives	Thinking Skills	Resources
5	**(1) Making bar graphs with scales** Pupils will be able to: • make bar graphs with scales of 2, 3, 4, 5 or 10 • make bar graphs with scales from a given picture graph • make bar graphs with scales from a set of data collected • collect and record the number of items in each category and use the data to draw a bar graph • use appropriate scales for drawing bar graphs • read and interpret information from bar graphs	• Comparing • Classifying • Identifying relationships	• Pupil Textbook 3B, pp 56 to 61 • Practice Book 3C, pp 63 to 69 • Teacher's Guide 3B, pp 92 to 97
5	**(2) Reading and interpreting bar graphs** Pupils will be able to: • read and interpret bar graphs related to given scales • make comparisons, find sums and differences between different bars in a bar graph and solve problems • solve problems using bar graphs involving two or more variables *Let's Explore!* Pupils will be able to: • read and interpret the bar graph • write questions with given vocabulary to make comparisons, and find sums and differences between two or more variables	• Comparing • Classifying • Identifying relationships	• Pupil Textbook 3B, pp 62 to 66 • Practice Book 3C, pp 71 to 74 • Teacher's Guide 3B, pp 98 to 102
5	*Put On Your Thinking Caps!* Pupils will be able to: • read and interpret each bar graph they are shown • make comparisons and inferences, then deduce the correct bar graph that represents all the given information	• Comparing • Identifying relationships • Making inferences • Deduction	• Pupil Textbook 3B, p 67 • Practice Book 3C, pp 75 to 76 • Teacher's Guide 3B, p 103

Unit 14: Fractions

Week	Learning Objectives	Thinking Skills	Resources
6	**(1) Numerator and denominator** Pupils will be able to: • use the terms 'numerator' and 'denominator' to describe the parts of fractions • write a fraction given the numerator and the denominator • solve word problems relating to numerators and denominators	• Identifying numerators and denominators of fractions	• Pupil Textbook 3B, p 68 • Practice Book 3C, pp 77 to 78 • Teacher's Guide 3B, p 116
6	**(2) Understanding equivalent fractions** Pupils will be able to: • divide a fraction strip into equal parts to show a fraction • divide the divided fraction parts into further equal parts to show the equivalent fraction • write the equivalent fractions of a given fraction with denominator not greater than 12, with the help of model drawing	• Applying division concept to divide a whole into equal parts • Comparing • Analysing the 'part-whole' model	• Pupil Textbook 3B, pp 69 to 71 • Practice Book 3C, pp 79 to 80 • Teacher's Guide 3B, pp 117 to 119
6	**(3) More equivalent fractions: short cut** Pupils will be able to: • write the equivalent fractions of a given fraction using the multiplying factor technique • write the equivalent fractions of a given fraction using the dividing factor technique • express a fraction in its simplest form using the dividing factor technique	• Recalling • Applying the multiplying factor technique and the dividing factor technique to find equivalent fractions	• Pupil Textbook 3B, pp 72 to 74 • Practice Book 3C, pp 81 to 84 • Teacher's Guide 3B, pp 120 to 122
7	**(4) Comparing fractions** Pupils will be able to: • compare two or three related fractions and identify the greater or smaller fraction using the equivalent fraction method • compare two or three unrelated fractions and identify the greater or smaller fraction using the equivalent fraction method • compare and arrange two or three fractions in ascending or descending order	• Comparing • Recalling • Applying the multiplying factor technique and the dividing factor technique to find equivalent fractions	• Pupil Textbook 3B, pp 75 to 82 • Practice Book 3C, pp 85 to 88 • Teacher's Guide 3B, pp 123 to 130
	Let's Explore! Pupils will be able to: • explore different possibilities of comparing fractions by shading diagrams • reflect on comparing concepts and techniques to determine greater or smaller fractions	• Analysing • Reflecting and comparing Heuristics for problem solving: • Make a list	• Pupil Textbook 3B, p 83 • Teacher's Guide 3B, p 131

	Maths Journal Pupils will be able to: • recall and make a list of steps for determining and arranging fractions in sequential order • reflect on and use comparing fraction concepts and techniques	• Guess and check	
7	**(5) Adding fractions** Pupils will be able to: • find equivalent fractions of a given fraction • visualise two related fractions using diagrams, and draw models to represent two like fractions taken from a whole • convert the denominator of a fraction to one equal to that of a related fraction • add two or more related fractions	• Translating fraction symbols to models in various ways	• Pupil Textbook 3B, pp 84 to 86 • Practice Book 3C, pp 89 to 90 • Teacher's Guide 3B, pp 132 to 134
7–8	**(6) Subtracting fractions** Pupils will be able to: • find equivalent fractions of a given fraction • visualise two related fractions using diagrams and draw models to represent two related fractions taken from a whole • convert the denominator of a fraction to one equal to that of a related fraction • subtract a fraction from another related fraction • subtract two related fractions from a whole	• Translating verbal and fraction statements to models • Relating model representations to fraction statements	• Pupil Textbook 3B, pp 87 to 89 • Practice Book 3C, pp 91 to 92 • Teacher's Guide 3B, pp 135 to 137
8	*Put On Your Thinking Caps!* Pupils will be able to: • draw models to represent $^{3}/_{4}$ and its equivalent fraction, $^{6}/_{8}$ • draw models to show $^{2}/_{9}$ and $^{7}/_{9}$ of a whole and other possible fractions related to $^{7}/_{9}$	• Spatial visualisation • Applying model drawing and equivalent fractions • Investigate and compare Heuristics for problem solving: • Draw a model • Make a list	• Pupil Textbook 3B, p 90 • Practice Book 3C, pp 93 to 94 • Teacher's Guide 3B, p 138
	Review 6 Revision 3		• Practice Book 3B, pp 95 to 111

Summative assessment opportunity

Assessment Book 3, Test 6, pp 57 to 64
For extension, Assessment Book 3, Challenging Problems 3, pp 65 to 68
Assessment Book 3, Check-up 3, pp 69 to 80

Unit 15: Time

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Telling the time** Pupils will be able to: • tell the time shown on a clock • read a time (e.g. 7:20 a.m.) as (i) seven twenty (ii) twenty minutes past seven • read a time (e.g. 5:40 p.m.) as (i) five forty (ii) twenty minutes to six • draw the minute hand on a clock face when given the time	• Identifying attributes and components • Translating a model to words	• Pupil Textbook 3B, pp 91 to 94 • Practice Book 3D, pp 7 to 8 • Teacher's Guide 3B, pp 159 to 162
1	**(2) Conversion of hours and minutes** Pupils will be able to: • state that 1 h = 60 mins • convert hours to minutes • convert hours and minutes to minutes • convert minutes to hours and minutes	• Identifying relationships	• Pupil Textbook 3B, pp 95 to 98 • Practice Book 3D, pp 9 to 10 • Teacher's Guide 3B, pp 163 to 166
1	**(3) Addition** Pupils will be able to: • add time with no regrouping by adding the hours first, then the minutes • add time with regrouping by adding the minutes first, then the hours	• Identifying relationships	• Pupil Textbook 3B, pp 99 to 101 • Practice Book 3D, pp 11 to 12 • Teacher's Guide 3B, pp 167 to 169
2	**(4) Subtraction** Pupils will be able to: • subtract time without regrouping by subtracting the hours first, then the minutes • subtract time with regrouping by first regrouping the hours and minutes, next subtracting the minutes, then subtracting the hours	• Identifying relationships	• Pupil Textbook 3B, pp 102 to 104 • Practice Book 3D, pp 13 to 14 • Teacher's Guide 3B, pp 170 to 172
2	**(5) Duration in hours and minutes** Pupils will be able to: • find the duration between two given times in (i) hours (ii) minutes (iii) hours and minutes • find the end time given the start time and the duration • find the start time given the duration and the end time	• Comparing • Identifying relationships	• Pupil Textbook 3B, pp 105 to 110 • Practice Book 3D, pp 15 to 18 • Teacher's Guide 3B, pp 173 to 178
2	**(6) Word problems** Pupils will be able to solve up to two-step word problems on time.	• Translating statements to models and number sentences • Identifying relationships	• Pupil Textbook 3B, pp 111 to 113 • Practice Book 3D, pp 19 to 22 • Teacher's Guide 3B, pp 179 to 181

	Maths Journal This journal enables pupils to express their understanding of: • how to find a duration between two given times • the procedure of subtracting time using the strategy of regrouping • how to draw and read a timeline • how to convert hours to minutes	• Reflecting Heuristics for problem solving: • Draw a diagram • Work backwards	• Pupil Textbook 3B, p 114 • Practice Book 3D, pp 23 to 24 • Teacher's Guide 3B, p 182
2	*Put On Your Thinking Caps!* This problem requires pupils to analyse the situation so that an appropriate strategy can be used to solve it.		• Pupil Textbook 3B, p 114 • Practice Book 3D, pp 25 to 26 • Teacher's Guide 3B, p 182

Unit 16: Angles

Week	Learning Objectives	Thinking Skills	Resources
3	**(1) Understanding angles** Pupils will be able to: • identify what is an angle and what is not an angle • associate an angle with a certain amount of turning between two lines at a point • identify the bigger/biggest or smaller/smallest angle given two or more angles • arrange angles in ascending or descending order	• Visualising and identifying angles	• Pupil Textbook 3B, pp 115 to 118 • Practice Book 3D, pp 27 to 30 • Teacher's Guide 3B, pp 197 to 200
3	**(2) Identifying angles** Pupils will be able to: • identify and mark angles on 2D and 3D shapes • identify and mark angles on geometrical shapes • associate the number of sides with the number of angles in geometrical shapes	• Visualising various types of triangles and rectangles • Comparing	• Pupil Textbook 3B, pp 119 to 121 • Practice Book 3D, pp 31 to 34 • Teacher's Guide 3B, pp 201 to 203
	Let's Explore! Pupils will be able to make various triangles and rectangles on a geoboard and determine the relationship between the number of angles and the number of sides.		• Pupil Textbook 3B, p 122 • Teacher's Guide 3B, p 204
3	**(3) Right angles** Pupils will be able to: • use a folded piece of paper to make a right angle • tell whether a given angle is bigger or smaller than a right angle • make angles using paper strips and compare angles with a right angle • determine whether angles on shapes are right angles using a folded piece of paper with a right angle	• Visualising and comparing	• Pupil Textbook 3B, pp 123 to 125 • Practice Book 3D, pp 35 to 36 • Teacher's Guide 3B, pp 205 to 207

3	*Put On Your Thinking Caps!* Pupils will be able to: • identify the different shapes used to make tangram pieces • make shapes using different pieces taken from a tangram • make different compound shapes from specific numbers of pieces taken from a tangram	• Visualising angles on a plane	• Pupil Textbook 3B, p 126 • Practice Book 3D, pp 37 to 38 • Teacher's Guide 3B, p 208
Summative assessment opportunities			
Assessment Book 3, Test 7, pp 81 to 88			

Unit 17: Perpendicular and Parallel Lines

Week	Learning Objectives	Thinking Skills	Resources
4	**(1) Perpendicular lines** Pupils will be able to: • state that perpendicular lines are two straight lines that meet at a right angle. • recognise the symbol which stands for 'is perpendicular to' • identify perpendicular lines drawn on square grid paper with a piece of double-folded paper or a ruler • identify perpendicular lines in everyday objects	• Comparing • Spatial visualisation	• Pupil Textbook 3B, pp 127 to 131 • Practice Book 3D, pp 39 to 42 • Teacher's Guide 3B, pp 219 to 223
4	**(2) Drawing perpendicular lines** Pupils will be able to: • draw perpendicular lines on square grid paper such that (i) the lines lie on the grid lines (ii) the lines do not lie on the grid lines • draw a line perpendicular to a given line on square grid paper *Let's Explore!* This activity enables pupils to explore how perpendicular lines can be drawn on square grid paper.	• Comparing • Spatial visualisation	• Pupil Textbook 3B, pp 132 to 137 • Practice Book 3D, pp 43 to 44 • Teacher's Guide 3B, pp 224 to 229
4–5	**(3) Parallel lines** Pupils will be able to: • state that two parallel lines do not meet and the distance between the two lines is always the same • recognise the symbol which stands for 'is parallel to' • identify parallel lines on a square grid by sight or by determining if they are the same distance apart • name the pairs of parallel lines in a shape drawn on a square grid • identify parallel lines in everyday objects	• Comparing • Spatial visualisation	• Pupil Textbook 3B, pp 138 to 142 • Practice Book 3D, pp 45 to 48 • Teacher's Guide 3B, pp 230 to 234
5	**(4) Drawing parallel lines** Pupils will be able to: • draw parallel lines on square grid paper such that (i) the lines lie on the grid lines (ii) the lines do not lie on the grid lines • draw a line parallel to another line drawn on a square grid	• Comparing • Spatial visualisation	• Pupil Textbook 3B, pp 143 to 147 • Practice Book 3D, pp 49 to 50 • Teacher's Guide 3B, pp 235 to 239

5	*Put On Your Thinking Caps!* Pupils are required to: • identify parallel and perpendicular lines in a diagram in which both such lines are found • draw a diagram containing both parallel and perpendicular lines	• Spatial visualisation	• Pupil Textbook 3B, p 148 • Practice Book 3D, pp 51 to 54 • Teacher's Guide 3B, p 240

Unit 18: Area and Perimeter

Week	Learning Objectives	Thinking Skills	Resources
5	**(1) Area** Pupils will be able to: • understand that the area of a shape is the amount of surface covering it • understand that a square or a half-square is used as a standard unit for representing area • find the area of a shape, made by squares and half-squares, in terms of square units • make different shapes of the same area with the same number of square units *Let's Explore!* Pupils will be able to make different shapes using $^1/_2$ square units.	• Recalling • Applying the concept of area	• Pupil Textbook 3B, pp 149 to 153 • Practice Book 3D, pp 55 to 58 • Teacher's Guide 3B, pp 253 to 257
6	**(2) Square centimetres (cm^2)** Pupils will be able to: • use 1 square centimetre (cm^2) as a standard unit of measurement to find the area of a square or other shapes • find the area of a composite shape in square centimetres (cm^2) • differentiate between a square centimetre and a 1 cm square *Let's Explore!* Pupils will be able to relate the arrangement of square units with the number of squares to make a pattern.	• Recalling • Applying the concept of area • Observing and analysing • Predicting	• Pupil Textbook 3B, pp 154 to 157 • Practice Book 3D, pp 59 to 60 • Teacher's Guide 3B, pp 258 to 261
6	**(3) Square metres (m^2)** Pupils will be able to: • use 1 square metre (m^2) as a standard unit of measure to find area of a big square • visualise the relative sizes of 1 square metre and 1 square centimetre • find the area of rectangles and composite shapes in square metres (m^2) and compare sizes of composite shapes • estimate the area of a shape and compare it with the measurement of its actual area • differentiate between 1 square metre and a 1 m square *Let's Explore!* Pupils will be able to draw or arrange shapes using the same number of 1 m^2 units or using shapes with the same area.	• Recalling • Applying the concept of area • Visualise shapes with the same area	• Pupil Textbook 3B, pp 158 to 162 • Practice Book 3D, pp 61 to 62 • Teacher's Guide 3B, pp 262 to 266

6	**(4) Perimeter and area** Pupils will be able to: • understand the meaning of perimeter • find the perimeter of shapes made from squares and rectangles • calculate and compare the area and perimeter of two shapes by counting the number of square units (cm^2 or m^2) and distance around the shape (cm or m) • understand that two shapes can have: (a) the same area and the same perimeter (b) the same area but different perimeters (c) the same perimeter but different areas.	• Visualising • Matching shapes • Comparing numbers	• Pupil Textbook 3B, pp 163 to 165 • Practice Book 3D, pp 63 to 66 • Teacher's Guide 3B, pp 267 to 269
	Let's Explore! Pupils will be able to recognise that two shapes can have: (a) the same area and the same perimeter (b) the same area but different perimeters (c) the same perimeter but different areas.		• Teacher's Guide 3B, p 269
7	**(5) More perimeter** Pupils will be able to: • find the perimeter of a shape by adding up all its sides • apply multiplication facts to find the sides of rectangles	• Comparing lengths of shapes with more than two sides	• Pupil Textbook 3B, pp 166 to 168 • Practice Book 3D, pp 67 to 70 • Teacher's Guide 3B, pp 270 to 272
7	**(6) Area of a rectangle** Pupils will be able to: • find the area of a rectangle using the multiplication concept: rows × columns • find the area of rectangle using formula: Area = Length × Width • solve problems involving the four operations to find the area and perimeter of a variety of shapes.	• Recalling • Applying the properties of a rectangle to help work out perimeter	• Pupil Textbook 3B, pp 169 to 173 • Practice Book 3D, pp 71 to 76 • Teacher's Guide 3B, pp 273 to 277

7	*Put On Your Thinking Caps!* Pupils will be able to: • collect data and observe patterns made by numbers • visualise different squares or rectangles made on dotty paper	• Compare and determine patterns • Visualise shapes on grids	• Pupil Textbook 3B, p 174 • Practice Book 3D, pp 77 to 80 • Teacher's Guide 3B, p 278
	Review 7 Revision 4		• Practice Book 3B, pp 81 to 104
Summative assessment opportunities			
Assessment Book 3, Test 8, pp 89 to 96 For extension, Assessment Book 3, Challenging Problems 4, pp 97 to 100 Assessment Book 3, Check-up 4, pp 101 to 112			