Inspire Maths 5 Medium-term Plan

Unit 1: Whole Numbers (1)

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Numbers to 10 million** Pupils will be able to: • count on in ten thousands to 1 hundred thousand • count on in hundred thousands to 1 million • state that 10 ten thousands = 1 hundred thousand and that 10 hundred thousands = 1 million • translate place value models of numbers up to 10 million to numerals and words • read and write 6- and 7-digit numbers up to 10 million in numerals and words • use a calculator to type in 6- and 7-digit numbers	• Comparing • Identifying relationships	• Pupil Textbook 5A, pp 2 to 11 • Practice Book 5A, pp 1 to 6 • Teacher's Guide 5A, pp 6 to 15
1	**(2) Place and value** Pupils will be able to: • identify the value and place of each digit in a 6- and 7-digit number • represent a number as the sum of the values of each digit in the number	• Comparing • Identifying relationships	• Pupil Textbook 5A, pp 12 to 15 • Practice Book 5A, pp 7 to 10 • Teacher's Guide 5A, pp 16 to 19
1	**(3) Comparing numbers within 10 million** Pupils will be able to: • state which number is greater or smaller using the strategy of comparing the values of their digits from the left • arrange a set of numbers in order • identify the pattern in a number sequence	• Comparing • Sequencing • Identifying patterns and relationships	• Pupil Textbook 5A, pp 16 to 19 • Practice Book 5A, pp 11 to 14 • Teacher's Guide 5A, pp 20 to 23

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2	**(4) Rounding to the nearest thousand and estimating** Pupils will be able to: • round numbers to the nearest thousand • recognise and use the symbol '≈' • mark the approximate position of a number on a given number line • use rounding to estimate answers in addition, subtraction, multiplication and division *Maths Journal* These questions require pupils to: • explain why a 6-digit number is greater than a 5-digit number • explain the errors made in rounding numbers to the nearest hundred and thousand.	• Comparing • Identifying patterns and relationships • Analysing • Evaluating	• Pupil Textbook 5A, pp 20 to 26 • Practice Book 5A, pp 15 to 20 • Teacher's Guide 5A, pp 24 to 30
2	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* These questions require pupils to list the possible whole numbers that round to 30.	• Comparing • Identifying patterns and relationships Heuristics for problem solving: • Guess and check • Look for a pattern	• Pupil Textbook 5A, pp 27 to 28 • Practice Book 5A, pp 21 to 22 • Teacher's Guide 5A, pp 31 to 32

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Unit 2: Whole Numbers (2)

Week	Learning Objectives	Thinking Skills	Resources
3	**(1) Using a calculator** Pupils will be able to use a calculator to: • type in whole numbers • add whole numbers • subtract whole numbers • multiply whole numbers • divide whole numbers	• Sequencing	• Pupil Textbook 5A, pp 29 to 32 • Practice Book 5A, pp 23 to 24 • Teacher's Guide 5A, pp 49 to 52
3	**(2) Multiplying by tens, hundreds or thousands** Pupils will be able to: • multiply a number by 10, 100 or 1000 by: (i) moving each digit 1, 2 or 3 places to the left respectively in the place value chart (ii) adding 1, 2 or 3 zeros respectively at the end of the number • multiply numbers up to 4 digits by tens, hundreds or thousands • use rounding and approximation to estimate answers in multiplication	• Comparing • Identifying patterns and relationship	• Pupil Textbook 5A, pp 33 to 41 • Practice Book 5A, pp 25 to 30 • Teacher's Guide 5A, pp 53 to 61
3–4	**(3) Dividing by tens, hundreds or thousands** Pupils will be able to: • divide a number by 10, 100 or 1000 by: (i) moving each digit 1, 2 or 3 places to the right respectively in the place value chart (ii) dropping 1, 2 or 3 zeros respectively from the end of the number • divide numbers up to 6 digits by tens, hundreds or thousands • use rounding and approximation to estimate answers in division *Let's Explore!* This activity allows pupils to explore division of any whole number by 10, 100 or 1000 without using a calculator.	• Comparing • Identifying patterns and relationships	• Pupil Textbook 5A, pp 42 to 49 • Practice Book 5A, pp 31 to 34 • Teacher's Guide 5A, pp 62 to 69

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4	**(4) Order of operations** Pupils will be able to: • state the order of operations in a number sentence with two or three operations and use a calculator to compute it • state the order of operations in a number sentence which has brackets and two or three operations, and use a calculator to compute it *Let's Explore!* • Pupils should compare the order of computation and answers of a scientific calculator with a non-scientific calculator. • This task enables pupils to verify that in a number sentence with multiplication followed by division, the order of operations is not relevant.	• Classifying	• Pupil Textbook 5A, pp 50 to 56 • Practice Book 5A, pp 35 to 40 • Teacher's Guide 5A, pp 70 to 76
4	**(5) Word problems (1)** Pupils will be able to solve multi-step word problems.	• Applying concepts and processes	• Pupil Textbook 5A, pp 57 to 61 • Practice Book 5A, pp 41 to 44 • Teacher's Guide 5A, pp 77 to 81
4	**(6) Word problems (2)** Pupils will be able to use a number of heuristics such as 'model drawing', 'make a systematic list', 'guess and check', 'unitary method', and 'before and after strategy' to solve multi-step word problems. *Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* Pupils will be able to apply their understanding of multiplication as repeated addition to solve this problem.	• Applying concepts and processes • Identifying relationships Heuristics for problem solving: • Look for a pattern • Restate the problem	• Pupil Textbook 5A, pp 62 to 69 • Practice Book 5A, pp 45 to 52 • Teacher's Guide 5A, pp 82 to 89
	Review 1		• Practice Book 5A, pp 53 to 64
Summative assessment opportunity			
Assessment Book 5, Test 1, pp 1 to 6			

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Unit 3: Fractions (1)

Week	Learning Objectives	Thinking Skills	Resources
5	**(1) Like and unlike fractions** Pupils will be able to: • identify two or more like fractions and two or more unlike fractions • differentiate a like fraction from an unlike fraction	• Comparing	• Pupil Textbook 5A, p 70 • Teacher's Guide 5A, p 116
5	**(2) Adding unlike fractions** Pupils will be able to: • list the multiples of the denominators of two unlike fractions and find the lowest common multiple from the lists • add two unlike fractions using the above strategy • draw a model to show equivalent fractions in the addition of unlike fractions	Heuristics for problem solving: • Make a systematic list • Guess and check	• Pupil Textbook 5A, pp 71 to 73 • Practice Book 5A, pp 65 to 68 • Teacher's Guide 5A, pp 117 to 118
5	*Maths Journal* This *Maths Journal* enables pupils to reflect on the model method of adding fractions and recognise the common mistakes made in drawing models.	• Analysing parts and whole	• Pupil Textbook 5A, p 73 • Teacher's Guide 5A, p 119
5	**(3) Subtracting unlike fractions** Pupils will be able to: • list the multiples of the denominators of two unlike fractions and find the lowest common multiple from the lists • subtract two unlike fractions without regrouping • draw a model to show equivalent fractions in the subtraction of unlike fractions	Heuristics for problem solving: • Make a systematic list • Guess and check	• Pupil Textbook 5A, pp 74 to 76 • Practice Book 5A, pp 69 to 72 • Teacher's Guide 5A, pp 120 to 122
6	**(4) Fractions and division** Pupils will be able to: • associate fractions with division • use 'conversion of improper fraction to mixed number' to express division as a mixed number • use the long division method to express an improper fraction as a mixed number	• Relating part-whole concept to fractions • Identifying patterns and relationships	• Pupil Textbook 5A, pp 77 to 81 • Practice Book 5A, pp 73 to 76 • Teacher's Guide 5A, pp 123 to 127

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6	**(5) Converting fractions to decimals** Pupils will be able to: • convert proper fractions, improper fractions and mixed numbers by changing the denominators to 10, 100 or 1000 • convert proper fractions, improper fractions and mixed numbers using long division • convert proper fractions, improper fractions and mixed numbers using a calculator	• Comparing	• Pupil Textbook 5A, pp 82 to 86 • Practice Book 5A, pp 77 to 80 • Teacher's Guide 5A, pp 128 to 132
7	**(6) Adding mixed numbers** Pupils will be able to: • add two mixed numbers with or without regrouping • add two mixed numbers using a calculator	• Relating part-whole, adding on and comparing concepts to fractions	• Pupil Textbook 5A, pp 87 to 90 • Practice Book 5A, pp 81 to 82 • Teacher's Guide 5A, pp 133 to 136
7	**(7) Subtracting mixed numbers** Pupils will be able to: • subtract a mixed number from another mixed number with or without regrouping • subtract a mixed number from another mixed number using a calculator	• Relating part-whole, taking away and comparing concepts to fractions	• Pupil Textbook 5A, pp 91 to 95 • Practice Book 5A, pp 83 to 84 • Teacher's Guide 5A, pp 137 to 141
7	**(8) Word problems** Pupils will be able to: • solve word problems by relating to concepts in addition and subtraction • solve word problems using models	• Relating concepts in addition and subtraction • Comparing	• Pupil Textbook 5A, pp 96 to 99 • Practice Book 5A, pp 85 to 92 • Teacher's Guide 5A, pp 142 to 145
7	*Maths Journal* This journal enables pupils to reflect on the concept of adding fractions and recognise the common mistakes that they might make. *Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* Pupils will be able to draw a comparison model and use the before-after concept to find the solution to the problem posed.	• Analysing parts and whole Heuristics for problem solving: • Draw a model • Use before-after concept	• Pupil Textbook 5A, pp 100 to 101 • Practice Book 5A, pp 93 to 94 • Teacher's Guide 5A, pp 146 to 147

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Unit 4: Fractions (2)

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Product of proper fractions** Pupils will be able to: • conceptualise the meaning of multiplying two proper fractions with concrete representation • use the cancellation (simplification) method to compute the product of two proper fractions • explore and compare the product of two whole numbers and the product of two proper fractions *Let's Explore!* Pupils are expected to identify that the product of two whole numbers is always greater than each of the two whole numbers, whereas the product of two proper fractions is always less than each of the proper fractions.	• Comparing • Identifying patterns	• Pupil Textbook 5A, pp 102 to 104 • Practice Book 5A, pp 95 to 96 • Teacher's Guide 5A, pp 168 to 170
1	**(2) Word problems (1)** Pupils will be able to solve up to 2-step word problems involving fractions using: • model drawing and the unitary method • the product of two fractions	• Applying multiplying concept to fractions	• Pupil Textbook 5A, pp 105 to 109 • Practice Book 5A, pp 97 to 102 • Teacher's Guide 5A, pp 171 to 175
1–2	**(3) Product of an improper fraction and a proper or improper fraction** Pupils will be able to: • conceptualise the meaning of multiplying an improper fraction by another proper or improper fraction with concrete representation • use the cancellation (simplification) method to compute the product of two fractions • use a calculator to compute the above	• Comparing	• Pupil Textbook 5A, pp 110 to 111 • Practice Book 5A, pp 103 to 104 • Teacher's Guide 5A, pp 176 to 177
2	**(4) Product of a mixed number and a whole number** Pupils will be able to: • conceptualise the meaning of multiplying a mixed number by a whole number • use regrouping process to compute the product of a mixed number and a whole number • use a calculator to compute a mixed number with a whole number	• Comparing	• Pupil Textbook 5A, pp 112 to 115 • Practice Book 5A, pp 105 to 106 • Teacher's Guide 5A, pp 178 to 181
2	**(5) Word problems (2)**	• Applying concepts of the four operations including multiplication	• Pupil Textbook 5A, pp 116 to 118 • Practice Book 5A, pp 107 to 108

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	Pupils will be able to solve up to 2-step word problems by applying the concept of multiplication and product of a whole number and a mixed number.		• Teacher's Guide 5A, pp 182 to 184
2–3	**(6) Dividing a fraction by a whole number** Pupils will be able to: • understand the meaning of dividing a fraction by a whole number • use three different methods to divide a fraction by a whole number	• Comparing • Analysing parts and whole	• Pupil Textbook 5A, pp 119 to 123 • Practice Book 5A, pp 109 to 112 • Teacher's Guide 5A, pp 185 to 189
3	**(7) Word problems (3)** Pupils will be able to solve up to 2-step word problems with the use of multiplication and division in fractions. *Maths Journal* Pupils will be able to reflect on their understanding of division of a fraction by a whole number and the product of proper fractions through identification of mistakes made. *Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes.	• Comparing • Applying the concepts of four operations • Analysing parts and whole	• Pupil textbook 5A, pp 124 to 131 • Practice Book 5A, pp 113 to 116 • Teacher's Guide 5A, pp 190 to 197
3	*Put On Your Thinking Caps!* Pupils will be able to make use of the strategies of looking for patterns and drawing models to solve challenging problems related to fractions.	• Identifying patterns and relationships • Visualisation Heuristics for problem solving: • Look for a pattern • Draw a model	• Pupil textbook 5A, p 132 • Practice Book 5A, pp 117 to 118 • Teacher's Guide 5A, p 198
	Review 2		• Practice Book 5A, pp 119 to 132
Summative assessment opportunity			
Assessment Book 5, Test 2, pp 7 to 12 For extension, Assessment Book 5, Challenging Problems 1, pp 13 to 14 Assessment Book 5, Check-up 1, pp 15 to 26			

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Unit 5: Area of a Triangle

Week	Learning Objectives	Thinking Skills	Resources
3	**(1) Base and height of a triangle** Pupils will be able to identify the base and corresponding height of a triangle.	• Spatial visualisation • Inductive reasoning	• Pupil Textbook 5A, pp 133 to 136 • Practice Book 5A, pp 133 to 134 • Teacher's Guide 5A, pp 221 to 224
4	**(2) Finding the area of a triangle** Pupils will be able to: • state that the area of a triangle is half that of its related rectangle • state the area of a triangle in terms of its base and corresponding height • find the area of a triangle given its base and corresponding height *Maths Journal* This journal enables pupils to express their understanding that triangles with equal (or common) bases and a common height will have equal areas.	• Spatial visualisation • Inductive and deductive reasoning	• Pupil Textbook 5A, pp 137 to 144 • Practice Book 5A, pp 135 to 139 • Teacher's Guide 5A, pp 225 to 232
4	*Let's Explore!* Pupils will be able to calculate the areas of different triangles and conclude that triangles with equal bases and equal heights have the same area. *Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes.	• Spatial visualisation • Deduction	• Pupil Textbook 5A, pp 145 to 146 • Teacher's Guide 5A, pp 233 to 234
4	*Put On Your Thinking Caps!* Pupils will be able to apply their knowledge that triangles with equal bases and a common height have the same area to solve the problem posed.	• Spatial visualisation Heuristic for problem solving: • Look for a pattern	• Pupil Textbook 5A, p 147 • Practice Book 5A, pp 140 to 142 • Teacher's Guide 5A, p 235

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Unit 6: Ratio

Week	Learning Objectives	Thinking Skills	Resources
5	**(1) Finding ratio** Pupils will be able to: • understand the concept of ratio as a way to show the relative sizes of two quantities • understand that a given ratio does not indicate the actual sizes of the quantities involved • draw a comparison model to represent two quantities given the ratio • solve simple word problems involving ratio using model drawing *Let's Explore!* This task is an investigation activity to reinforce the concept of ratio.	• Comparing • Visualisation	• Pupil Textbook 5A, pp 148 to 154 • Practice Book 5A, pp 143 to 146 • Teacher's Guide 5A, pp 246 to 252
5	**(2) Equivalent ratios** Pupils will be able to: • express equivalent ratios given two quantities • write a given ratio x : y in its simplest form • find the missing number(s) in equivalent ratios	• Comparing • Visualisation	• Pupil Textbook 5A, pp 155 to 161 • Practice Book 5A, pp 147 to 148 • Teacher's Guide 5A, pp 253 to 259
5	**(3) Word problems (1)** Pupils will be able to solve up to 2-step word problems involving ratio of two quantities using: • the concept of equivalent ratios • model drawing and the unitary method *Maths Journal* This activity helps pupils to reflect on what they have learnt in writing ratios and using the unitary method to solve ratio word problems.	• Comparing • Visualisation	• Pupil Textbook 5A, pp 162 to 168 • Practice Book 5A, pp 149 to 152 • Teacher's Guide 5A, pp 260 to 266
6	**(4) Comparing three quantities** Pupils will be able to: • use ratio to show the relative sizes of three quantities • express equivalent ratios given three quantities • write a given ratio x : y : z in its simplest form • find the missing number(s) in equivalent ratios	• Comparing • Visualisation	• Pupil Textbook 5A, pp 169 to 172 • Practice Book 5A, pp 153 to 154 • Teacher's Guide 5A, pp 267 to 270

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6	**(5) Word problems (2)** Pupils will be able to solve up to 2-step word problems involving ratio of three quantities using: • the concept of equivalent ratios • model drawing and the unitary method *Maths Journal* This activity helps pupils to reflect on the methods they have learnt to write ratios and simplify the ratios using division. *Let's Explore!* This activity involves getting pupils to make as many ratios as possible using all the given numbers irrespective of whether they can be simplified.	• Comparing • Visualisation	• Pupil Textbook 5A, pp 173 to 177 • Practice Book 5A, pp 155 to 160 • Teacher's Guide 5A, pp 271 to 275
6	*Let's Wrap It Up!* This section summarises the two strategies to write equivalent ratios and the method to simplify them. *Put On Your Thinking Caps!* This problem gets pupils to practise the making a systematic list strategy in conjunction with the ratio concept.	• Comparing • Visualisation Heuristic for problem solving: • Making a systematic list	• Pupil Textbook 5A, pp 177 to 178 • Practice Book 5A, pp 161 to 162 • Teacher's Guide 5A, pp 275 to 276
	Review 3		• Practice Book 5A, pp 163 to 172
	Revision 1		• Practice Book 5A, pp 173 to 186
Summative assessment opportunity			
Assessment Book 5, Test 3, pp 27 to 32 For extension, Assessment Book 5, Challenging Problems 2, pp 33 to 34 Assessment Book 5, Check-up 2, pp 35 to 46			

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Unit 7: Decimals

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Converting decimals to fractions** Pupils will be able to: • convert tenths, hundredths and thousandths to fractions or mixed numbers in their simplest forms	• Identifying relationships	• Pupil Textbook 5B, pp 2 to 3 • Teacher's Guide 5B, pp 4 to 5
1	**(2) Multiplying by tens, hundreds and thousands** Pupils will be able to: • multiply a decimal up to 3 decimal places by 10, 100 and 1000 by: (i) moving each digit 1, 2 or 3 places respectively to the left in the place value chart (ii) shifting the decimal point 1, 2 or 3 places respectively to the right • multiply a decimal up to 3 decimal places by tens, hundreds and thousands	• Induction • Identifying relationships in place value	• Pupil Text book 5B, pp 4 to 14 • Practice Book 5B, pp 1 to 4 • Teacher's Guide 5B, pp 6 to 16
1	**(3) Dividing by tens, hundreds and thousands** Pupils will be able to: • divide a decimal up to 3 decimal places by 10, 100 and 1000 by: (i) moving each digit 1, 2 or 3 places respectively to the right in the place value chart (ii) shifting the decimal point 1, 2 or 3 places respectively to the left • divide a decimal by tens, hundreds and thousands	• Induction • Identifying relationships in place value	• Pupil Text book 5B, pp 15 to 25 • Practice Book 5B, pp 5 to 10 • Teacher's Guide 5B, pp 17 to 27
	Let's Explore! Pupils should look for a pattern in the worked examples and use the pattern to work out the answers to questions.	• Deduction	• Pupil Textbook 5B, p 24 • Teacher's Guide 5B, p 26
2	**(4) Using a calculator** Pupils will be able to use a calculator to: • type in decimals • add and subtract decimals • multiply and divide decimals by a whole number	• Sequencing	• Pupil Textbook 5B, pp 26 to 29 • Practice Book 5B, pp 11 to 12 • Teacher's Guide 5B, pp 28 to 31
2	**(5) Word problems** Pupils will be able to solve multi-step word problems involving decimals, and: • use rounding for answers • estimate or check reasonableness of answers	• Analysing • Applying problem-solving strategies	• Pupil Textbook 5B, pp 30 to 34 • Practice Book 5B, pp 13 to 19 • Teacher's Guide 5B, pp 32 to 36

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2	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* Pupils should use a systematic list to guess and check the correct answers.	• Identifying relationships • Deduction Heuristics for problem solving: • Act it out • Look for a pattern • Make a systematic list • Guess and check	• Pupil Textbook 5B, pp 34 to 36 • Practice Book 5B, pp 20 to 22 • Teacher's Guide 5B, pp 36 to 38

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Unit 8: Measurements

Week	Learning Objectives	Thinking Skills	Resources
3	**(1) Converting a measurement from a larger unit to a smaller unit** Pupils will be able to: • convert measurements of length, mass and volume from a larger unit to a smaller unit: (i) from metres to centimetres (ii) from kilometres to metres (iii) from kilograms to grams (iv) from litres to millilitres	• Identifying relationships	• Pupil Textbook 5B, pp 37 to 41 • Practice Book 5B, pp 23 to 28 • Teacher's Guide 5B, pp 53 to 57
3	**(2) Converting a measurement from a smaller unit to a larger unit** Pupils will be able to: • convert measurements of length, mass and volume from a smaller unit to a larger unit: (i) from centimetres to metres (ii) from metres to kilometres (iii) from grams to kilograms (iv) from millilitres to litres	• Identifying relationships	• Pupil Textbook 5B, pp 42 to 48 • Practice Book 5B, pp 29 to 34 • Teacher's Guide 5B, pp 58 to 64
3	*Maths Journal* Pupils will be able to reflect on their understanding of converting between units of measurement by identifying mistakes in conversion examples, and to state the correct procedures for conversion between smaller and larger units of measurement.	• Identifying relationships	• Pupil Textbook 5B, p 47 • Practice Book 5B, p 35 • Teacher's Guide 5B, p 63
3	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. *Put On Your Thinking Caps!* Pupils will be able to apply their knowledge about conversion, and should make a systematic list to guess and check the correct answers.	• Identifying relationships Heuristic for problem solving: • Make a list • Guess and check	• Pupil Textbook 5B, pp 48 to 49 • Practice Book 5B, pp 36 to 38 • Teacher's Guide 5B, pp 64 to 65
	Review 4		• Practice Book 5B, pp 39 to 48
Summative assessment opportunity			
Assessment Book 5, Test 4, pp 47 to 52			

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Unit 9: Mean (average)

Week	Learning Objectives	Thinking Skills	Resources
4	**(1) Understanding mean (average)** Pupils will be able to: • interpret mean as the total amount divided by the number of items in a group • find the mean number or quantity of a group • find the total amount given the mean and the number of items in a group *Maths Journal* Based on the pictures and number sentences, pupils will be able to write word problems involving mean.	• Deduction	• Pupil Textbook 5B, pp 50 to 55 • Practice Book 5B, pp 49 to 54 • Teacher's Guide 5B, pp 82 to 87
4	**(2) Word problems** Pupils will be able to solve up to 3-step word problems involving mean.	• Analysing parts and wholes	• Pupil Textbook 5B, pp 56 to 62 • Practice Book 5B, pp 55 to 60 • Teacher's Guide 5B, pp 88 to 94
4	*Let's Explore!* Pupils will be able to see that the mean of the same wholes, when broken up into different equal parts, will give the same mean.	• Deduction	• Pupil Textbook 5B, p 60 • Teacher's Guide 5B, p 92
4	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* Pupils should use a systematic list to guess and check the correct answers, or use deduction and work backwards from the numbers given.	• Identifying relationships Heuristics for problem solving: • Make a list • Guess and check	• Pupil Textbook 5B, pp 62 to 63 • Practice Book 5B, pp 61 to 64 • Teacher's Guide 5B, pp 94 to 95

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Unit 10: Percentage

Week	Learning Objectives	Thinking Skills	Resources
5	**(1) Per cent** Pupils will be able to: • understand the concept of percentage as another way of comparing two numbers • express a part of a whole as a percentage • express a fraction with a denominator of 100 or 10 as a percentage • express a decimal as a percentage • express a percentage as a fraction in its simplest form • express a percentage as a decimal *Maths Journal* Pupils should be able to work out answers to questions about percentage, and identify mistakes in percentage examples.	• Identifying relationships	• Pupil Textbook 5B, pp 64 to 70 • Practice Book 5B, pp 65 to 68 • Teacher's Guide 5B, pp 108 to 114
5	**(2) Converting more fractions to percentages** Pupils will be able to express a fraction as a percentage: • by converting the denominator of the fraction to 100 • using the unitary method • using the multiplication method	• Analysing parts and wholes	• Pupil Textbook 5B, pp 71 to 76 • Practice Book 5B, pp 69 to 72 • Teacher's Guide 5B, pp 115 to 120
5–6	**(3) Percentage of a quantity** Pupils will be able to find the value of a percentage part of a whole using: • the unitary method • the multiplication method *Maths Journal* Based on the number sentences, pupils will be able to write a word problem, complete the model given and solve the word problem based on the model.	• Analysing parts and wholes	• Pupil Textbook 5B, pp 77 to 82 • Practice Book 5B, pp 73 to 76 • Teacher's Guide 5B, pp 121 to 126
6	**(4) Word problems** Pupils will be able to solve up to 2-step word problems: • to find the percentage for a part of a whole and the percentage of a quantity • involving discount, service charges and annual interest	• Analysing parts and wholes	• Pupil Textbook 5B, pp 83 to 89 • Practice Book 5B, pp 77 to 79 • Teacher's Guide 5B, pp 127 to 133

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6	*Maths Journal* Pupils should be able to draw models to work out the problem and find out the price before and after discount.		• Pupil Textbook 5B, p 88 • Practice Book 5B, p 80 • Teacher's Guide 5B, p 132
6	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* Pupils should be able to draw a model, then apply the part-whole concept, the multiple concept in multiplication and the unitary method to find the percentages.	• Identifying relationships Heuristics for problem solving: • Draw a model • Act it out	• Pupil Textbook 5B, pp 90 to 91 • Practice Book 5B, pp 81 to 82 • Teacher's Guide 5B, pp 134 to 135
	Review 5		• Practice Book 5B, pp 83 to 90

Summative assessment opportunities

Assessment Book 5, Test 5, pp 53 to 58
For extension, Assessment Book 5, Challenging Problems 3, pp 59 to 60
Assessment Book 5, Check-up 3, pp 61 to 72

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Unit 11: Angles

Week	Learning Objectives	Thinking Skills	Resources
7	**(1) Angles on a straight line** Pupils will be able to: • identify and name angles on a straight line • recognise that the sum of angles on a straight line is 180° • recognise that if the sum of two or more angles is 180°, then they can make angles on a straight line • find unknown angles on a straight line *Maths Journal* Pupils should be able to use the properties of angles on a straight line and right angles to find the answer.	• Comparing • Deduction • Spatial visualisation	• Pupil Textbook 5B, pp 92 to 96 • Practice Book 5B, pp 91 to 94 • Teacher's Guide 5B, pp 154 to 158
7	**(2) Angles at a point** Pupils will be able to: • identify and name angles at a point • recognise that the sum of angles at a point is 360° • recognise that if the sum of three or more angles is 360°, then they can make angles at a point • find unknown angles at a point *Maths Journal* Pupils should be able to use the property of angles on a straight line to find the answer.	• Comparing • Deduction • Spatial visualisation	• Pupil Textbook 5B, pp 97 to 101 • Practice Book 5B, pp 95 to 98 • Teacher's Guide 5B, pp 159 to 163
7	**(3) Vertically opposite angles** Pupils will be able to: • recognise and name vertically opposite angles • recognise that vertically opposite angles are equal • find unknown angles using the property of vertically opposite angles *Maths Journal* Pupils should be able to identify and state three relationships relating the angles to the property of vertically opposite angles.	• Comparing • Deduction • Spatial visualisation	• Pupil Textbook 5B, pp 102 to 110 • Practice Book 5B, pp 99 to 104 • Teacher's Guide 5B, pp 164 to 172

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7	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* Pupils should be able to obtain the correct answers through visual inspection and applying the properties of angles.	• Comparing • Spatial visualisation Heuristic for problem solving: • Simplify the problem	• Pupil Textbook 5B, pp 111 to 112 • Practice Book 5B, pp 105 to 108 • Teacher's Guide 5B, pp 173 to 174

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Unit 12: Properties of Triangles and 4-sided Shapes

Week	Learning Objectives	Thinking Skills	Resources
8	**(1) Angles of a triangle** Pupils will be able to: • recognise that the sum of the angles of a triangle is 180° • find the unknown angle of a triangle given the other two angles *Maths Journal* Pupils should be able to understand that for any triangle, if one of the angles is given then the other two angles must add up to the difference between 180° and the given angle.	• Identifying relationships • Spatial visualisation	• Pupil Textbook 5B, pp 113 to 116 • Practice Book 5B, pp 109 to 110 • Teacher's Guide 5B, pp 191 to 194
8–9	**(2) Right-angled, isosceles and equilateral triangles** ***Right-angled triangles*** Pupils will be able to: • define a right-angled triangle • state that in a right-angled triangle, the other two angles add up to 90° • find unknown angle(s) using the properties of a right-angled triangle *Let's Explore!* Pupils should be able to explain that one of the angles in a right-angled triangle must be 90° and that all three angles must add up to 180°.	• Comparing • Identifying relationships • Spatial visualisation • Making deductions	• Pupil Textbook 5B, pp 117 to 119 • Practice Book 5B, pp 111 to 112 • Teacher's Guide 5B, pp 195 to 197
	Isosceles triangles Pupils will be able to: • define an isosceles triangle • state that the angles opposite the equal sides of an isosceles triangle are equal • find unknown angle(s) using the properties of an isosceles triangle		• Pupil Textbook 5B, pp 120 to 123 • Practice Book 5B, pp 113 to 114 • Teacher's Guide 5B, pp 198 to 201
	Equilateral triangles Pupils will be able to: • define an equilateral triangle • state that each angle of an equilateral triangle is 60° • find unknown angle(s) using the properties of an equilateral triangle		• Pupil Textbook 5B, pp 123 to 127 • Practice Book 5B, pp 115 to 118 • Teacher's Guide 5B, pp 201 to 205

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9	*Let's Explore!* Pupils will be able to draw triangles based on the information given and identify which triangles can be made. *Maths Journal* Pupils should be able to express their understanding of the properties of an isosceles triangle and a right-angled triangle.		
9	**(3) Parallelograms, rhombuses and trapeziums** ***Parallelograms*** Pupils will be able to: • define a parallelogram • state that the opposite sides and angles of a parallelogram are equal • state that each pair of angles between two parallel sides of a parallelogram add up to 180° • find unknown angles using the properties of a parallelogram ***Rhombuses*** Pupils will be able to: • define a rhombus • state that opposite angles of a rhombus are equal • state that each pair of angles between the parallel sides of a rhombus add up to 180° • find unknown angles using the properties of a rhombus • state that all four sides of a rhombus are equal	• Comparing • Identifying relationships • Spatial visualisation • Making deductions	• Pupil Textbook 5B, pp 128 to 133 • Practice Book 5B, pp 119 to 120 • Teacher's Guide 5B, pp 206 to 211 • Pupil Textbook 5B, pp 133 to 135 • Practice Book 5B, pp 121 to 122 • Teacher's Guide 5B, pp 211 to 213
9	***Trapeziums*** Pupils will be able to: • define a trapezium • state that each pair of angles between the parallel sides of a trapezium adds up to 180º • find unknown angles using the properties of a trapezium *Maths Journal* Pupils will be able to: • tell the similarities and differences between different 4-sided shapes • understand that a square can also be a rectangle, a rhombus and a parallelogram	• Comparing • Identifying relationships • Spatial visualisation • Making deductions	• Pupil Textbook 5B, pp 135 to 138 • Practice Book 5B, pp 123 to 125 • Teacher's Guide 5B, pp 213 to 216

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9	• understand that a parallelogram can also be a rhombus, a rectangle or a square • understand that a trapezium cannot be a parallelogram, so a parallelogram cannot be a trapezium *Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. *Put On Your Thinking Caps!* Pupils should be able to use the properties of triangles to find the answer.	• Spatial visualisation Heuristic for problem solving: • Restate the problem	• Pupil Textbook 5B, pp 139 to 140 • Practice Book 5B, p 126 • Teacher's Guide 5B, pp 217 to 218
	Review 6		Practice Book 5B, pp 127 to 134
Summative assessment opportunity			
Assessment Book 5, Test 6, pp 73 to 80			

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Unit 13: Geometrical Construction

Week	Learning Objectives	Thinking Skills	Resources
1	**(1) Drawing triangles** Pupils will be able to use a ruler, protractor and set-square to: • draw a triangle, given two angles and the side adjacent to the given angles • draw a triangle, given two sides and the included angle	• Sequencing	• Pupil Textbook 5B, pp 141 to 144 • Practice Book 5B, pp 135 to 138 • Teacher's Guide 5B, pp 235 to 238
1–2	**(2) Drawing 4-sided shapes** Pupils will be able to use a ruler, protractor and set-square to: • draw a square, given one side • draw a rectangle, given its length and width • draw a rhombus, given one side and one angle • draw a parallelogram, given two adjacent sides and the included angle • draw a trapezium with the parallel sides indicated, given two adjacent sides, the included angle and the angle which is on the same parallel side	• Sequencing	• Pupil Textbook 5B, pp 145 to 154 • Practice Book 5B, pp 139 to 147 • Teacher's Guide 5B, pp 239 to 248
2	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. *Put On Your Thinking Caps!* Pupils should be able to construct the triangle based on the sketch and instructions to obtain the correct measurement.	• Deduction Heuristic for problem solving: • Draw a diagram	• Pupil Textbook 5B, p 154 • Practice Book 5B, p 148 • Teacher's Guide 5B, p 248

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Unit 14: Volume of Cubes and Cuboids

Week	Learning Objectives	Thinking Skills	Resources
3	**(1) Building solids using unit cubes** Pupils will be able to: • build solids with unit cubes • count the number of unit cubes in a solid made up of unit cubes *Let's Explore!* Pupils will be able to make different solids using 3 or 4 unit cubes.	• Spatial visualisation • Identifying patterns	• Pupil Textbook 5B, pp 155 to 158 • Practice Book 5B, pp 149 to 150 • Teacher's Guide 5B, pp 261 to 264
3	**(2) Drawing cubes and cuboids** Pupils will be able to: • draw a cube and a cuboid on an isometric grid/dotty paper • complete a partially drawn cube and cuboid on an isometric grid/dotty paper	• Spatial visualisation	• Pupil Textbook 5B, pp 159 to 163 • Practice Book 5B, pp 151 to 154 • Teacher's Guide 5B, pp 265 to 269
3–4	**(3) Understanding and measuring volume** Pupils will be able to: • state that the volume of an object is the amount of space it occupies • state which object has a greater/smaller volume • find the volume of a solid in cubic units • state that the volume of a 1 cm/1 m cube is 1 cubic centimetre/1 cubic metre (cm^3/m^3) • find the volume of a solid made up of 1 cm/1 m cubes *Let's Explore!* Pupils will be able to see that cuboids of different dimensions can have the same volume.	• Spatial visualisation	• Pupil Textbook 5B, pp 164 to 171 • Practice Book 5B, pp 155 to 158 • Teacher's Guide 5B, pp 270 to 277

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4	**(4) Volume of a cuboid and of liquid** Pupils will be able to: • state that the volume of a cuboid is Length × Width × Height • find the volume of a cube and cuboid • recognise that 1 litre (1000 ml) is equal to 1000 cm^3 • find the volume of liquid in a rectangular container • solve word problems involving volume of solids/liquids *Let's Explore!* (1) Pupils will be able to list possible widths and heights of a cuboid given its length and volume. (2) Pupils will be able to see that although the walls of all three boxes have the same area, the volume is different due to the different base area made.	• Spatial visualisation	• Pupil Textbook 5B, pp 172 to 183 • Practice Book 5B, pp 159 to 170 • Teacher's Guide 5B, pp 278 to 289
4	*Let's Wrap It Up!* Emphasise the key concepts, skills and processes that have been taught in the unit. Discuss the worked example with pupils to assess whether they have mastered these concepts, skills and processes. *Put On Your Thinking Caps!* (1) Pupils will be able to find the number of unit cubes and volume of the solids based on the number pattern shown. (2) Pupils will be able to use models and patterns to make the different cuboids needed.	• Spatial visualisation Heuristics for problem solving: • Act it out • Look for patterns • Make a list	• Pupil Textbook 5B, pp 184 to 186 • Practice Book 5B, pp 171 to 172 • Teacher's Guide 5B, pp 290 to 292
	Review 7		Practice Book 5B, pp 173 to 180
	Revision 2		Practice Book 5B, pp 181 to 194
Summative assessment opportunity			
Assessment Book 5, Test 7, pp 81 to 89 For extension, Assessment Book 5, Challenging Problems 4, pp 89 to 92 Assessment Book 5, Check-up 4, pp 93 to 106			

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