

# Primary Maths Series, New Edition

## Scheme of Work — Year 6

The New Edition of the **Maths — No Problem!** Primary Maths Series is fully aligned to the 2014 English national curriculum for maths and subsequent non-statutory guidance. This Scheme of Work outlines the content and topic order within Year 6 and indicates the level of depth needed to teach maths for mastery. It can also help you and your school to plan and monitor progress.

### A tried and tested structure

Unlike many free schemes of work, the **Maths — No Problem!** syllabus is based on the model developed in Singapore, which has been tested and refined over the last 30 years.

- Founded on the learning theories of Piaget, Dienes, Bruner, Skemp and Vygotsky.
- Reviewed by an expert team of consultants, including Dr Julie Alderton from Cambridge University and Dr Wong Khoo Yoong, former Head of Mathematics and Mathematics Education at the National Institute of Education, Singapore.
- Fully aligned with the 2014 English national curriculum for maths and the latest ready-to-progress guidance.

### How to use our scheme of work

Our scheme of work demonstrates the spiral approach used in our programme, which builds pupils' depth of understanding and mathematical fluency without the need for rote learning. Learning is presented in small-step, logical sequences organised into individual lessons with a title indicating the focus of learning for that lesson. The sequence of lessons is carefully organised with clear lines of progression.

#### This scheme of work provides:

- An overview of the national curriculum topics covered during the school year by term.
- A full lesson breakdown for each national curriculum topic and the learning objective for each lesson.

The topics are colour coded to reflect the national curriculum content domain strands. This also allows you to see when the different topics are introduced and revisited.

Please note that the time allocated to each topic is only provided as a guide and is not meant to be prescriptive. The concepts are broken down into a number of lessons, which offer small-step progression for the most struggling of learners. As such, teachers can use their professional judgement to combine two consecutive lessons into one session as appropriate for their learners. Though teachers can merge lessons within a chapter, we do not recommend skipping or combining chapters.

## What other support is available

The scheme of work provides a researched structure, which is ideal for teachers who are confident teaching maths for mastery and have received **Maths — No Problem!** professional development.

Schools that don't always have the time to create their own lesson content should consider using our Primary Maths Series textbooks and workbooks. The series provides carefully varied exercises, which are designed to deepen pupils' understanding, and is complemented by online Teacher Guides, which provides a step-by-step guide to each lesson, including assessment and differentiation support.

For a free demo of our Primary Maths Series go to

[www.mathsnoproblem.com/demo](http://www.mathsnoproblem.com/demo)

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# Primary Maths Series — Year 6 at a glance

|         | Autumn Term   | Spring Term  | Summer Term  |
|---------|---|--|--|
| Week 1  | <b>Number and Place Value: Numbers to 10 Million</b><br>Lesson breakdown  | <b>Measurement: Measurements</b><br>Lesson breakdown                       | <b>Geometry – Position and Direction: Position and Movement</b> Lesson breakdown |
| Week 2  | <b>Calculations: Four Operations on Whole Numbers</b><br>Lesson breakdown | <b>Word Problems</b><br>Lesson breakdown                                   | <b>Statistics: Graphs and Averages</b><br>Lesson breakdown                       |
| Week 3  |   |  | <b>Mid-year (A) Tests and Remediation</b>  |
| Week 4  |   | <b>Fractions, Decimals and Percentages: Percentage</b><br>Lesson breakdown |  |
| Week 5  |   | <b>Fractions, Decimals and Percentages: Fractions</b><br>Lesson breakdown  | <b>Ratio and Proportion: Ratio</b><br>Lesson breakdown                           |
| Week 6  | <b>Algebra: Algebra</b><br>Lesson breakdown                               |  |  |
| Week 7  |   |  | <b>Measurement: Area and Perimeter</b><br>Lesson breakdown                       |
| Week 8  | <b>Geometry – Properties of Shapes: Geometry</b><br>Lesson breakdown      |  |  |
| Week 9  |   | <b>Fractions, Decimals and Percentages: Decimals</b><br>Lesson breakdown   | <b>Measurement: Area and Perimeter</b><br>Lesson breakdown                       |
| Week 10 | <b>Measurement: Area and Perimeter</b><br>Lesson breakdown                |  |  |
| Week 11 |   |  | <b>Measurement: Area and Perimeter</b><br>Lesson breakdown                       |
| Week 12 | <b>Geometry – Properties of Shapes: Geometry</b><br>Lesson breakdown      | <b>Revisit Topics</b>  |  |

# Primary Maths Series — Year 6 lesson breakdown

## Autumn Term – Textbook 6A

### Number and Place Value: Numbers to 10 Million

Maths — No Problem!  
Book Reference

Chapter 1  
– Numbers to  
10 Million

| Lesson Name   | Lesson Objective   |
|---|--|
| Lesson 1 – Reading and Writing Numbers to 10 Million    | To construct and record numbers to 10 000 000; to recognise the value of digits to 10 000 000.   |
| Lesson 2 – Comparing Numbers to 10 Million              | To compare numbers to 10 000 000 using place value.  |
| Lesson 3 – Comparing and Ordering Numbers to 10 Million | To compare and order numbers to 10 000 000; to create combinations of numbers using a fixed number of digits.                                  |
| Lesson 4 – Rounding Numbers                             | To round numbers to 10 000 000 to the nearest million, hundred thousand and ten thousand.  |
| Lesson 5 – Rounding Numbers                             | To round numbers to the nearest appropriate number up to and including millions; to determine when rounding is appropriate and to which value. |
| Chapter Consolidation                                   | To practise various concepts covered in the chapter.   |

# Primary Maths Series — Year 6 lesson breakdown

## Autumn Term – Textbook 6A

### Calculations: Four Operations on Whole Numbers

| Maths — No Problem!<br>Book Reference              | Lesson Name   | Lesson Objective   |
|--|---|--|
| Chapter 2<br>– Four Operations<br>on Whole Numbers | Lesson 1 – Using Mixed Operations                           | To use multiple operations and create expressions from a picture; to use the order of operations to solve expressions.   |
|  | Lesson 2 – Order of Operations                              | To create and solve expressions using the four operations.   |
|  | Lesson 3 – Multiplying by Tens                              | To multiply numbers by multiples of 10; to use number bonds as a key strategy in multiplication.   |
|  | Lesson 4 – Multiplying a 3-Digit Number by a 3-Digit Number | To multiply 3- and 4-digit numbers by 2-digit numbers without regrouping or renaming; to use both number bonds and the column method as key strategies.                  |
|  | Lesson 5 – Multiplying by a 2-Digit Number                  | To multiply 3- and 4-digit numbers by 2-digit numbers without regrouping or renaming; to use both number bonds and the column method as key strategies.                  |
|  | Lesson 6 – Multiplying a 3-Digit Number by a 2-Digit Number | To multiply 3- and 4-digit numbers by 2-digit numbers with regrouping and renaming; to use number bonds and pattern recognition as key strategies for multiplication.    |
|  | Lesson 7 – Multiplying a 4-Digit Number by a 2-Digit Number | To multiply 3- and 4-digit numbers by 2-digit numbers with regrouping and renaming; to use number bonds and the column method as key strategies.                         |
|  | Lesson 8 – Multiplying by a 2-Digit Number                  | To estimate products of multiplying 3- and 4-digit numbers by a 2-digit numbers; to use knowledge of multiplication to create specific products.                         |
|  | Lesson 9 – Dividing by a 2-Digit Number                     | To divide 3-digit numbers by 2-digit numbers using a variety of strategies; to use number bonds, long division and bar models to facilitate division by 2-digit numbers. |
|  | Lesson 10 – Dividing by a 2-Digit Number                    | To divide 4-digit numbers by 2-digit numbers; to use number bonds and long division as the key strategies.   |
|  | Lesson 11 – Dividing by a 2-Digit Number                    | To divide 4-digit numbers by 2-digit numbers using a variety of methods; to use number bonds, long and short division as key methods.                                    |
|  | Lesson 12 – Dividing by a 2-Digit Number with Remainder     | To divide 3-digit numbers by 2-digit numbers giving rise to remainders; to use number bonds and long and short division as key strategies to solve division problems.    |

# Primary Maths Series — Year 6 lesson breakdown

## Autumn Term – Textbook 6A

### Calculations: Four Operations on Whole Numbers – Continued

| Maths — No Problem!<br>Book Reference              | Lesson Name  | Lesson Objective   |
|--|--|--|
| Chapter 2<br>– Four Operations<br>on Whole Numbers | Lesson 13 – Dividing by a 2-Digit Number with Remainder  | To divide 4-digit numbers by 2-digit numbers giving rise to a remainder; to represent the remainder as part of a whole amount of money or decimal. |
|  | Lesson 14 – Solving Word Problems Using Bar Models       | To use the bar model heuristic to solve word problems involving multiplication and division.   |
|  | Lesson 15 – Solving Word Problems Using Patterns         | To solve word problems using division as the main strategy; to use pictorial representations to support word problems.                             |
|  | Lesson 16 – Solving Word Problems Using Multiple Methods | To solve word problems involving multiple operations, including multiplication and division.   |
|  | Lesson 17 – Finding Common Multiples                     | To find common multiples in real-life situations; to use common multiples in tandem with knowledge of time.  |
|  | Lesson 18 – Finding Common Multiples                     | To use common multiples to solve problems; to organise mathematical thinking into tables and lists.  |
|  | Lesson 19 – Finding Common Factors                       | To find the largest common factor of 3-digit numbers; to use multiplication and division to find largest common factors.                           |
|  | Lesson 20 – Finding Common Factors                       | To find common factors using concrete materials.   |
|  | Lesson 21 – Finding Prime Numbers                        | To use prime numbers to create other numbers; to explore prime numbers above 100.  |
|  | Lesson 22 – Finding Prime Numbers                        | To explore prime numbers using concrete materials; to identify prime numbers using multiplication or division.                                     |
| Chapter Consolidation                              | To practise various concepts covered in the chapter.     |  |

# Primary Maths Series — Year 6 lesson breakdown

## Autumn Term – Textbook 6A

### Fractions, Decimals and Percentages: Fractions

| Maths — No Problem!<br>Book Reference | Lesson Name  | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 3<br>– Fractions              | Lesson 1 – Simplifying Fractions<br>Using Common Factors         | To use concrete materials to simplify fractions; to recognise equivalence in fractions to $\frac{1}{4}$ .                                     |
|                                       | Lesson 2 – Simplifying Fractions<br>Using Common Factors         | To simplify fractions using division and common factors; to represent fractions using concrete materials and pictorial representations.       |
|                                       | Lesson 3 – Comparing and<br>Ordering Proper Fractions            | To compare fractions and place them in order from smallest to largest.  |
|                                       | Lesson 4 – Comparing and<br>Ordering Improper Fractions          | To compare and order fractions by finding common denominators.  |
|                                       | Lesson 5 – Comparing and<br>Ordering Fractions and Mixed Numbers | To compare and order fractions using common factors.  |
|                                       | Lesson 6 – Adding and Subtracting<br>Unlike Fractions            | Adding and subtracting fractions with different denominators; using pictorial representations to compare fractions and add/subtract.          |
|                                       | Lesson 7 – Adding and Subtracting<br>Unlike Fractions            | To add and subtract fractions with different denominators.  |
|                                       | Lesson 8 – Adding and Subtracting<br>Mixed Numbers               | To add and subtract mixed numbers, including fractions with different denominators; to subtract from the whole and add the remainder back on. |
|                                       | Lesson 9 – Adding and Subtracting<br>Mixed Numbers               | To add and subtract fractions with different denominators; to add and subtract mixed numbers.   |
|                                       | Lesson 10 – Multiplying Pairs of<br>Proper Fractions             | To multiply fractions using pictorial representations and abstract methods.   |

# Primary Maths Series — Year 6 lesson breakdown

## Autumn Term – Textbook 6A

### Fractions, Decimals and Percentages: Fractions – Continued

| Maths — No Problem!<br>Book Reference | Lesson Name                                       | Lesson Objective  |
|---------------------------------------|---|---|
| Chapter 3<br>– Fractions              | Lesson 11 – Multiplying Pairs of Proper Fractions | To determine if the commutative law applies to fractions; to multiply fractions using concrete materials and pictorial representations.                                   |
|                                       | Lesson 12 – Multiplying Pairs of Proper Fractions | To use concrete materials to understand and solve the multiplication of fractions; to simplify equations using pattern blocks.  |
|                                       | Lesson 13 – Dividing a Fraction by a Whole Number | To divide a fraction by a whole number; to use pictorial representation to divide whole numbers into fractions.   |
|                                       | Lesson 14 – Dividing a Fraction by a Whole Number | To divide fractions by whole numbers using concrete materials and pictorial representations; to divide fractions when the numerator and divisor are not easily divisible. |
|                                       | Lesson 15 – Dividing a Fraction by a Whole Number | To divide fractions by a whole number; to use pictorial representations to support division.  |
|                                       | Chapter Consolidation                             | To practise various concepts covered in the chapter.  |



# Primary Maths Series — Year 6 lesson breakdown

## Autumn Term – Textbook 6A

### Fractions, Decimals and Percentages: Decimals

| Maths — No Problem!<br>Book Reference | Lesson Name  | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 4<br>– Decimals               | Lesson 1 – Reading and Writing Decimals              | To read and write decimals to thousandths; to use concrete materials to represent decimals.   |
|                                       | Lesson 2 – Dividing Whole Numbers by Multiples of 10 | To divide whole numbers by larger whole numbers; to use Base 10 materials to represent tenths, hundredths and thousandths.            |
|                                       | Lesson 3 – Dividing Whole Numbers                    | To divide whole numbers that give rise to decimals; to calculate decimal fraction equivalents using long division.                    |
|                                       | Lesson 4 – Writing Fractions as Decimals             | To convert fractions into decimals using bar models and long division.  |
|                                       | Lesson 5 – Writing Fractions as Decimals             | To write fractions as decimals; to use long division as the key strategy for turning fractions into decimals.                         |
|                                       | Lesson 6 – Multiplying Decimals without Renaming     | To multiply decimals by whole numbers using partitioning or the worded method to help find the solution.                              |
|                                       | Lesson 7 – Multiplying Decimals with Renaming        | To multiply whole numbers that include a decimal by other whole numbers; to use partitioning and the worded method as key strategies. |
|                                       | Lesson 8 – Multiplying Decimals with Regrouping      | To multiply decimals by whole numbers, including regrouping and renaming.   |
|                                       | Lesson 9 – Multiplying Decimals with Renaming        | To multiply decimals by whole numbers using a variety of methods; to use the heuristic 'making a list' to help solve a problem.       |
|                                       | Lesson 10 – Dividing Decimals without Renaming       | To divide decimals using number bonds and number discs as the key strategies.   |

# Primary Maths Series — Year 6 lesson breakdown

## Autumn Term – Textbook 6A

### Fractions, Decimals and Percentages: Decimals – Continued

| Maths — No Problem!<br>Book Reference | Lesson Name   | Lesson Objective  |
|---------------------------------------|---|---|
|                                       | Lesson 11 – Dividing Decimals with Renaming                 | To divide decimals using bar models, number bonds and long division as key strategies, including regrouping and renaming. |
|                                       | Lesson 12 – Multiplying a Decimal by a 2-Digit Whole Number | To multiply decimals by a 2-digit whole number using number discs and the column method.                                  |
|                                       | Lesson 13 – Dividing a Decimal by a 2-Digit Whole Number    | To divide decimals by 2-digit numbers using number bonds and the worded method.   |
|                                       | Lesson 14 – Dividing a Decimal by a 2-Digit Whole Number    | To divide decimals by 2-digit whole numbers using number bonds and the worded method.                                     |
|                                       | Chapter Consolidation                                       | To practise various concepts covered in the chapter.  |

# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6A

### Measurement: Measurements

| Maths — No Problem!<br>Book Reference | Lesson Name  | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 5<br>– Measurements           | Lesson 1 – Converting Units of Length :<br>Millimetres and Centimetres | To convert common measurements into centimetres and millimetres.  |
|                                       | Lesson 2 – Converting Units of Length :<br>Metres and Centimetres      | To convert units of measure into different units; to use knowledge of decimals and fractions to help convert units. |
|                                       | Lesson 3 – Converting Units of Length :<br>Kilometres and Metres       | To convert metres into kilometres as units of measure.  |
|                                       | Lesson 4 – Converting Units of Length:<br>Miles and Kilometres.        | To convert distances between miles and kilometres.  |
|                                       | Lesson 5 – Converting Units of Mass                                    | To convert units of mass from grams to kilograms using decimals and fractions.                                      |
|                                       | Lesson 6 – Converting Units of Volume                                  | To convert units of volume from millilitres to litres.  |
|                                       | Lesson 7 – Converting Units of Time                                    | To convert units of time from minutes to hours; to represent time using 24-hour notation.                           |
|                                       | Chapter Consolidation  | To practise various concepts covered in the chapter.  |

# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6A

### Word Problems

| Maths — No Problem!<br>Book Reference | Lesson Name                        | Lesson Objective   |
|---------------------------------------|------------------------------------|--|
| Chapter 6<br>– Word Problems          | Lesson 1 – Solving Word Problems   | To use bar models to solve word problems involving the four operations.          |
|                                       | Lesson 2 – Solving Word Problems   | To use the bar model heuristic to solve word problems involving money.           |
|                                       | Lesson 3 – Solving Word Problems   | To use the bar model heuristic to solve complex word problems involving ratio.   |
|                                       | Lesson 4 – Solving Word Problems   | To use the bar model heuristic to solve complex word problems involving time.    |
|                                       | Lesson 5 – Solving Word Problems   | To solve word problems that apply the bar model heuristic and involve fractions. |
|                                       | Lesson 6 – Solving Word Problems   | To create and solve complex word problems using the four operations.             |
|                                       | Chapter Consolidation              | To practise various concepts covered in the chapter.                             |
| Week 5                                | Mid-Year (A) Tests and Remediation |  |

# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6B

### Fractions, Decimals and Percentages: Percentage

| Maths — No Problem!<br>Book Reference | Lesson Name                                     | Lesson Objective  |
|---------------------------------------|---|---|
| Chapter 7<br>– Percentage             | Lesson 1 – Finding the Percentage of a Number   | To find the percentage of a whole number using division and multiplication; to use bar modelling as a pictorial approach to calculating percentage. |
|                                       | Lesson 2 – Finding the Percentage of a Quantity | To find the percentage of a quantity; to use bar model diagrams to support the division and multiplication of numbers towards the percentage.       |
|                                       | Lesson 3 – Finding Percentage Change            | To find the percentage change in an amount over time; to calculate the percentage change where the number gives rise to a decimal.                  |
|                                       | Lesson 4 – Using Percentage to Compare          | To use percentage, bar models and fractions to compare amounts.   |
|                                       | Chapter Consolidation                           | To practise various concepts covered in the chapter.  |

# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6B

### Ratio and Proportion: Ratio

| Maths — No Problem!<br>Book Reference | Lesson Name                                    | Lesson Objective   |
|---------------------------------------|--|--|
| Chapter 8<br>– Ratio                  | Lesson 1 – Comparing Quantities                | To use ratios and fractions to compare objects; to find the relationship between ratios, percentages and fractions.                    |
|                                       | Lesson 2 – Comparing Quantities                | To determine the ratio of a quantity using concrete materials; to simplify ratios using concrete materials in addition to division.    |
|                                       | Lesson 3 – Comparing Several Quantities        | To compare more than two quantities using the term 'ratio'; to use bar models to express ratios where there is more than one quantity. |
|                                       | Lesson 4 – Finding Quantities from Ratios      | To use ratio to count quantities.  |
|                                       | Lesson 5 – Ratios with Measurements            | To use ratio to measure quantities.  |
|                                       | Lesson 6 – Finding Ratios                      | To compare quantities by writing a ratio.  |
|                                       | Lesson 7 – Comparing Ratios to Find a Quantity | To apply knowledge of ratios to word problems.   |
|                                       | Lesson 8 – Word Problems Involving Ratio       | To solve word problems involving ratio.  |
|                                       | Lesson 9 – Word Problems Involving Ratio       | To apply the advanced bar model heuristic to ratio word problems.  |
|                                       | Lesson 10 – Word Problems Involving Ratio      | To apply the advanced bar model heuristic to ratio word problems.  |
|                                       | Chapter Consolidation                          | To practise various concepts covered in the chapter.   |

# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6B

### Algebra: Algebra

| Maths — No Problem!<br>Book Reference | Lesson Name   | Lesson Objective  |
|---------------------------------------|---|---|
| Chapter 9<br>– Algebra                | Lesson 1 – Describing a Pattern                         | To determine a pattern using concrete materials and pictorial representation; to use a table to identify a repeating pattern; to express a rule using a letter or symbol.   |
|                                       | Lesson 2 – Describing a Pattern                         | To determine a pattern using concrete materials and pictorial representation; to use a table to identify a repeating pattern; to express the relationship between consecutive numbers in terms of a symbol or letter.                       |
|                                       | Lesson 3 – Describing a Pattern                         | To determine a pattern using concrete materials and pictorial representation; to use a table to identify a pattern; to express the relationship between consecutive numbers in terms of a symbol or letter.                                 |
|                                       | Lesson 4 – Describing a Pattern                         | To determine a pattern using concrete materials and pictorial representation; to use a table to identify a pattern; to express unknown numbers in terms of a letter or symbol, including using a number before a letter for multiplication. |
|                                       | Lesson 5 – Writing Algebraic Expressions                | To use a table to identify a pattern; to write algebraic expressions.   |
|                                       | Lesson 6 – Writing Algebraic Expressions                | To be able to express a missing number algebraically.   |
|                                       | Lesson 7 – Writing and Evaluating Algebraic Expressions | To be able to express missing number problems algebraically.  |
|                                       | Lesson 8 – Writing Formulae                             | To recognise patterns; to write and evaluate algebraic expressions with two steps; to write and use formulae.   |
|                                       | Lesson 9 – Using Formulae                               | To use formulae to solve problems; to replace a letter/variable with a number then solve the equation; to use inverse operations to solve equations.  |
|                                       | Lesson 10 – Solving Equations                           | To solve equations; to use equations to find unknown values.  |
|                                       | Chapter Consolidation                                   | To practise various concepts covered in the chapter.  |

# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6B

### Measurement: Area and Perimeter

| Maths — No Problem!<br>Book Reference | Lesson Name   | Lesson Objective  |
|---------------------------------------|---|---|
| Chapter 10<br>– Area and Perimeter    | Lesson 1 – Finding the Perimeter and the Area of Rectangles | To find the area and perimeter of rectangles; to calculate perimeter using the known area and vice versa.   |
| Lessons 1–6                           | Lesson 2 – Finding the Base and Height of Triangles         | To identify the base and height of a triangle.  |
|                                       | Lesson 3 – Finding the Area of Triangles                    | To use prior knowledge of area to determine and solve the area of a triangle; to use and apply the formula for the area of a rectangle to solve problems involving triangles. |
|                                       | Lesson 4 – Finding the Area of Parallelograms               | To find the area of a parallelogram using an understanding of triangles; to use concrete materials to find the area of a parallelogram.                                       |
|                                       | Chapter Consolidation                                       | To practise various concepts covered in the chapter.  |
|                                       | 3 consolidation days  | To be used if lessons take longer than expected or a topic needs to be revisited.   |



# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6B

### Geometry – Properties of Shapes: Geometry

| Maths — No Problem!<br>Book Reference | Lesson Name   | Lesson Objective  |
|---------------------------------------|---|---|
| Chapter 12<br>– Geometry              | Lesson 1 – Investigating Vertically Opposite Angles | To investigate opposite angles; to use prior knowledge of angles to solve problems involving angles.                      |
| Lessons 1–5                           | Lesson 2 – Solving Problems Involving Angles        | To solve problems involving angles using the bar model heuristic; to solve problems involving angles without protractors. |
|                                       | Lesson 3 – Investigating Angles in Triangles        | To determine and show the sum of the angles inside a triangle.  |
|                                       | Lesson 4 – Investigating Angles in Quadrilaterals   | To investigate and determine angles in quadrilaterals.  |
|                                       | Lesson 5 – Finding Angles in Polygons               | To use the knowledge of angles inside a triangle and a quadrilateral to solve problems involving angles in other shapes.  |

# Primary Maths Series — Year 6 lesson breakdown

## Spring Term – Textbook 6B

### Geometry – Position and Direction: Position and Movement

| Maths — No Problem!<br>Book Reference                       | Lesson Name   | Lesson Objective   |
|---|---|--|
| Chapter 13<br>– Position and<br>Movement<br><br>Lessons 1–5 | Lesson 1 – Showing Negative Numbers                 | To represent negative numbers on both vertical and horizontal number lines.  |
|   | Lesson 2 – Describing Position                      | To describe the positions of objects on a coordinate grid; to use x and y axes to determine the position of objects on a grid. |
|   | Lesson 3 – Describing Position                      | To describe the position of points using coordinates on a grid.  |
|   | Lesson 4 – Drawing Polygons<br>on a Coordinate Grid | To draw polygons on a coordinate grid; to recognise polygons on a coordinate grid.   |
|   | Lesson 5 – Describing Translations                  | To describe the translation of shapes on a coordinate grid.  |

# Primary Maths Series — Year 6 lesson breakdown

## Summer Term – Textbook 6B

### Statistics: Graphs and Averages

| Maths — No Problem!<br>Book Reference | Lesson Name                                    | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 14<br>– Graphs and Averages   | Lesson 1 – Understanding Averages              | To calculate the average (mean) of sets of values.  |
|                                       | Lesson 2 – Calculating the Mean                | To calculate the mean.  |
|                                       | Lesson 3 – Calculating the Mean                | To calculate the mean.  |
|                                       | Lesson 4 – Solving Problems Involving the Mean | To solve problems involving the mean; to use the mean and the number of values to calculate the total; to use given information to find unknown values. |
|                                       | Lesson 5 – Reading Pie Charts                  | To read and interpret pie charts.   |
|                                       | Lesson 6 – Reading Pie Charts                  | To read and interpret pie charts.   |
|                                       | Lesson 7 – Reading Pie Charts                  | To read and interpret pie charts; to use percentages in pie charts.   |
|                                       | Lesson 8 – Reading Pie Charts                  | To read and interpret pie charts; to use knowledge of angles to interpret pie charts.   |
|                                       | Lesson 9 – Reading Line Graphs                 | To read line graphs; to interpret the information in line graphs that show distance and time.   |
|                                       | Lesson 10 – Reading Line Graphs                | To read and interpret line graphs; to answer questions about the information in line graphs.  |
|                                       |  | Lesson 11 – Converting Miles and Kilometres   |
|                                       | Chapter Consolidation                          | To practise various concepts covered in the chapter.  |
| Weeks 10 and 11                       | Revision and End-of-Year (B) Tests             |   |
| Week 12                               | Revisit Topics                                 |   |

# Primary Maths Series — Year 6 lesson breakdown

## Summer Term – Textbook 6B

### Number and Place Value: Negative Numbers

| Maths — No Problem!<br>Book Reference | Lesson Name  | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 15<br>– Negative Numbers      | Lesson 1 – Adding and Subtracting Negative Numbers | To add and subtract negative numbers using a number line. |
|                                       | Lesson 2 – Using Negative Numbers                  | To create number stories using negative numbers.          |
|                                       | Chapter Consolidation                              | To practise various concepts covered in the chapter.      |
| Week 4                                | SATs   |   |

# Primary Maths Series — Year 6 lesson breakdown

## Summer Term – Textbook 6B

### Measurement: Volume

| Maths — No Problem!<br>Book Reference | Lesson Name                                  | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 11<br>– Volume                | Lesson 1 – Finding the Volume of Cuboids     | To find the volume of cubes and cuboids using concrete materials.   |
|                                       | Lesson 2 – Finding the Volume of Cuboids     | To determine the formula for the volume of cubes and cuboids and apply it to calculate the volume of shapes.                      |
|                                       | Lesson 3 – Finding the Volume of Cuboids     | To estimate the volume of objects and spaces; to calculate the volume of boxes using the formula for volume of cubes and cuboids. |
|                                       | Lesson 4 – Finding the Volume of Cuboids     | To calculate, estimate and compare the volume of cubes and cuboids.   |
|                                       | Lesson 5 – Solving Problems Involving Volume | To solve word problems involving the volume of cubes and cuboids; to apply the formula for the volume of a cube or cuboid.        |
|                                       | Chapter Consolidation                        | To practise various concepts covered in the chapter.  |

# Primary Maths Series — Year 6 lesson breakdown

## Summer Term – Textbook 6B

### Geometry – Properties and Shapes: Geometry

| Maths — No Problem!<br>Book Reference | Lesson Name  | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 12<br>– Geometry              | Lesson 6 – Naming Parts of a Circle                      | To name the parts of a circle; to calculate diameter and radius using parts of a circle.  |
| Lessons 6–12                          | Lesson 7 – Solving Problems Involving Angles in a Circle | To solve problems involving angles in a circle.   |
|                                       | Lesson 8 – Drawing Quadrilaterals                        | To draw quadrilaterals with specific side lengths and parallel lines; to find the perimeter of shapes and name trapeziums and parallelograms. |
|                                       | Lesson 9 – Drawing Triangles                             | To draw triangles using measurements and angles as the starting point; to use a protractor to draw triangles using angles.                    |
|                                       | Lesson 10 – Drawing Triangles                            | To construct triangles using a protractor and ruler; to use ratio to determine the dimensions of a triangle.                                  |
|                                       | Lesson 11 – Drawing Nets of 3D Shapes                    | To construct the nets of 3D shapes by identifying the faces and the 2D shapes that construct them.  |
|                                       | Lesson 12 – Drawing Nets of 3D Shapes                    | To construct the nets of 3D shapes by identifying the faces and the 2D shapes that construct them.  |
|                                       | Chapter Consolidation                                    | To practise various concepts covered in the chapter.  |
|                                       | 2 consolidation days                                     | To be used if lessons take longer than expected or a topic needs to be revisited.   |

# Primary Maths Series — Year 6 lesson breakdown

## Summer Term – Textbook 6B

### Geometry – Position and Direction: Position and Movement

| Maths — No Problem!<br>Book Reference | Lesson Name  | Lesson Objective  |
|---------------------------------------|--|---|
| Chapter 13<br>– Position and Movement | Lesson 6 – Describing Reflections                  | To describe reflection using a mirror line and the terms 'object' and 'image'.          |
| Lessons 6–10                          | Lesson 7 – Describing Movements                    | To reposition objects so they can be reflected in the x and y axis as the mirror line.  |
|                                       | Lesson 8 – Describing Movements                    | To describe the movement of objects using the terms 'translation' and 'reflection'.     |
|                                       | Lesson 9 – Using Algebra<br>to Describe Position   | To use algebra to describe the positions of coordinates in relationship to one another. |
|                                       | Lesson 10 – Using Algebra<br>to Describe Movements | To represent translation and reflection using algebraic notation.                       |
|                                       | Chapter Consolidation                              | To practise various concepts covered in the chapter.                                    |

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