

## Wk Progression Focus

- 12 **Place value; subtraction**  
 Week 12 focuses on a robust understanding of place value in large numbers, which underpins the subtraction work that follows.

## Weekly Summary

Read and write numbers with up to 7-digits, understanding what each digit represents; work systematically to find out how many numbers round to 5000000; solve subtraction of 5- and 6-digit numbers using written column method (decomposition).

## Strands

**NPV** Number and place value;  
**WAS** Written addition and subtraction

## Objectives

- **NPV.76** Read, write, compare and order 7-digit numbers
- **NPV.88** Solve number and practical problems that involve square and cube numbers, numbers up to 10 000 000 and rounding any whole number to a required degree of accuracy
- **NPV.77** Locate 7-digit numbers on a line and round to nearest million
- **WAS.76** Subtract 5- and 6-digit numbers using column subtraction
- **DPE.76** Multiply and divide by 10, 100 and 1000 giving answers up to 3 decimal places
- **DPE.75** Identify the value of each digit in numbers given to 3 decimal places
- **DPE.79** Convert decimals (up to 3 decimal places) to fractions and vice-versa using 1000ths and 100ths, e.g.  $0.382 = 382/1000$
- **FRP.85** Use common multiples to express fractions in the same denomination
- **FRP.86** Associate a fraction with division and calculate decimal fraction equivalents
- **FRP.84** Multiply simple pairs of proper fractions, writing the answer in its simplest form

- 13 **Multiplication of decimals and fractions**  
 Weeks 13 and 14 focus on understanding decimal and proper fractions and their equivalences; calculations including multiplication of these numbers are rehearsed.

Multiply and divide by 10, 100 and 1000; compare and order numbers with up to three decimal places; know common fraction / decimal equivalents; multiply pairs of unit fractions and multiply unit fractions by non-unit fractions

**DPE** Decimals, percentages and their equivalence to fractions; **FRP** Fractions, ratio and proportion

- 14 **Multiplication of decimals and fractions**  
Weeks 13 and 14 focus on understanding decimal and proper fractions and their equivalences; calculations including multiplication of these numbers are rehearsed.
- Use partitioning to mentally multiply 2-digit numbers with one decimal place by whole 1-digit numbers; multiply numbers with two decimal places; use short multiplication to multiply amounts of money; use estimation to check answers to calculations; use long multiplication to multiply 3-digit and 4-digit numbers by numbers between 10 and 30.
- MMD** Mental multiplication and division; **WMD** Written multiplication and division; **PRA** Problem solving, reasoning and algebra; **NPV** Number and place value
- **MMD.76** Use partitioning to mentally multiply 2-digit numbers with one decimal place by whole 1-digit numbers, e.g.  $4.2 \times 6$
  - **WMD.80** Multiply numbers with 2 decimal places by 1-digit numbers
  - **WMD.76** Use short multiplication to multiply money, e.g. £46.29 by 1-digit numbers
  - **WMD.79** Use long multiplication to multiply 3- and 4-digit numbers by numbers between 10 and 30
  - **PRA.78** Use mathematical reasoning to investigate and solve problems and puzzles, justify their reasoning
  - **PRA.81** Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
  - **NPV.88** Solve number and practical problems that involve square and cube numbers, numbers up to 10 000 000 and rounding any whole number to a required degree of accuracy
- 15 **2D shapes; angles**  
Week 15 focuses on 2D shapes, particularly quadrilaterals, in relation to their diagonals and interior angles; circles are also taught, along with relevant terminology.
- Name, classify and identify properties of quadrilaterals; explore how diagonal lines can bisect quadrilaterals; understand what an angle is and that it is measured in degrees; know what the angles of triangles, quadrilaterals, pentagons, hexagons and octagons add to and use these facts and mathematical reasoning to calculate missing angles; recognise and identify the properties of circles and name their parts; draw circles using pairs of compasses; draw polygons using a ruler and a protractor
- GPS** Geometry: properties of shapes; **PRA** Problem solving, reasoning and algebra
- **GPS.76** Name and classify quadrilaterals according to their properties
  - **GPS.77** Begin to know how diagonal lines bisect quadrilaterals
  - **GPS.78** Know angle sums for triangles and quadrilaterals and use this fact to calculate missing angles
  - **GPS.79** Know angle sums for

16 **Addition and subtraction**

Week 16 focuses on mental and written addition and subtraction methods, including solving word problems.

Add and subtract numbers using mental strategies; solve addition of 4- to 7-digit numbers using written column addition; identify patterns in the number of steps required to generate palindromic numbers; solve subtraction of 5-, 6- and 7-digit numbers using written column method (decomposition); solve additions and subtractions choosing mental strategies or written procedures as appropriate; read, understand and solve word problems

**MAS** Mental addition and subtraction; **NPV** Number and place value; **WAS** Written addition and subtraction; **PRA** Problem solving, reasoning and algebra

pentagons, hexagons, octagons and use this fact to calculate missing angles

- **GPS.80** Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
- **GPS.81** Draw 2D shapes with ruler, protractor, compass using given dimensions and angles
- **PRA.78** Use mathematical reasoning to investigate and solve problems and puzzles, justify their reasoning
- **MAS.75** Solve additions using appropriate mental strategies
- **MAS.78** Solve subtractions using appropriate mental strategies
- **MAS.79** Subtract decimal numbers using appropriate mental strategies
- **NPV.88** Solve number and practical problems that involve square and cube numbers, numbers up to 10 000 000 and rounding any whole number to a required degree of accuracy
- **WAS.78** Add large numbers using written column addition (4–7 digits)
- **WAS.76** Subtract 5- and 6-digit numbers using column subtraction
- **WAS.79** Subtract large numbers using column subtraction (6–7 digits)
- **PRA.70** Identify patterns,

17 **Multiplication and division**

Week 17 focuses on number patterns involving factors and multiples, and on long division.

Identify common factors and common multiples; understand that a prime number has exactly two factors and find prime numbers less than 100; understand what a composite (non-prime) number is; use long division to divide 3- and 4-digit numbers by 2-digit numbers, giving remainders as a fraction, simplifying where possible

**WMD** Written multiplication and division; **NPV** Number and place value; **PRA** Problem solving, reasoning and algebra

devise and test rules and use them to make predictions

- **WMD.81** Identify common factors, common multiples and prime numbers
- **WMD.83** Use short division to divide 4-digit numbers by 1-digit numbers, including those with a remainder
- **WMD.84** Use long division to divide 3-digit numbers by 'friendly' 2-digit numbers, simplifying fraction remainders
- **WMD.85** Use long division to divide 4-digit numbers by 'friendly' 2-digit numbers
- **WMD.87** Use long division to divide 4-digit numbers by 2-digit numbers
- **NPV.68** Identify all the prime numbers less than 100 using Eratosthenes sieve
- **PRA.70** Identify patterns, devise and test rules and use them to make predictions
- **PRA.81** Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

