NB: no unit on time/ money/roman numerals/ number bonds – need to be intergrated

WJA Maths LTP – Year 6

Autumn

Week 1 & Week 2

Number: Place Value

National Curriculum objectives
1. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
2. Round any whole number to a required degree of accuracy
3. Use negative numbers in context, and calculate intervals across zero
4. Solve number and practical problems that involve all of the above.

Small Steps
Week 1
- Numbers to 10,000, 100,000, a million
- Numbers to ten million
- Compare and order any number

Week 2
- Round numbers to 10, 100 and 1,000
- Round any number
- Negative numbers

Week 3 & Week 4 & Week 5 & Week 6

Number: Addition, Subtraction, multiplication and Division

National Curriculum objectives
1. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using long multiplication
2. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
3. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
4. Perform mental calculations, including with mixed operations and large numbers
5. Identify common factors, common multiples and prime numbers
6. Use their knowledge of the order of operations to carry out calculations involving the four operations
7. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
8. Solve problems involving addition, subtraction, multiplication and division
9. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Small Steps
Week 1
- Add and subtract whole numbers with more than 4 digits
- Inverse operations (addition and subtraction)
- Multi step addition and subtraction problems
- Add and subtract integers

Week 2
- Multiply 4 digits by 1 digit, 2 digits by 2 digits, 3 digits ny 2 digits
- Mulitply up to a 4 digit numbers by a 2 digit numbers

Week 3
- Divide 4 digits by 1 digit and 2 digits
- Divide with remainders
- Short division
- Division using factors
- Long division

Mental & Oral
prime numbers to 100
squares and cubes
order of operations

Week 4
- Common factors
- Common multiples

Throughout unit – mental calculations and estimation
Reason for known facts

Week 7 & Week 8 & Week 9 & Week 10 & Week 11

Number: Fractions

National Curriculum objectives
1. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
2. Compare and order fractions, including fractions > 1
3. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
4. Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 4 1 × 2 1 = 8 1]
5. Divide proper fractions by whole numbers [for example, 3 1 ÷ 2 = 6 1]

Small Steps
Week 1
- Equivalent fractions
- Simplify fractions
- Improper fractions to mixed numbers
- Mixed numbers to improper fractions

Week 2
- Fractions on a numbers line
- Compare and order (denominator and numerator)

Week 3
- Add mixed numbers
- Subtract mixed numbers
- Subtract fractions
- Mixed addition and subtraction

Week 4
- Multiply fractions bu integers
- Multiply fractions by fractions
- Divide fractions by integers

Week 5
- Four rules with fractions
- Fraction of an amount
- Fraction of an amount – find the whole

Week 12

Geometry: Position and Direction

National Curriculum objectives
1. describe positions on the full coordinate grid (all four quadrants)
2. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Small Steps
Week 1
- The first quadrant
- Four quadrants
- Translations
- Reflections

Cross curricular links

Spring

Week 1 & Week 2

Number: Decimals

National Curriculum objectives
6. Associate a fraction with division and calculate decimal fraction equivalents
7. Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
8. Multiply one-digit numbers with up to two decimal places by whole numbers
9. Use written division methods in cases where the answer has up to two decimal places
10. Solve problems which require answers to be rounded to specified degrees of accuracy
11. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Small Steps
Weeks 1 & 2
- Understand tenths, hundredths and thousandths
- Up to 3 decimal places
- Multiply and divide by 10, 100 and 1,000
- Multiple and divide decimals by integers
- Division to solve problems
- Decimals as fractions
- Fractions as decimals

Week 3 & Week 4

Number: Percentages

National Curriculum objectives
11. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Small Steps
Weeks 1 & 2
- Understand percentages
- Fractions to percentages
- Equivalent FDP
- Order FDP
- Percentage of an amount
- Percentages – missing values

Week 5

Number: Algebra

National Curriculum objectives
1. Use simple formulae
2. Generate and describe linear number sequences
3. Express missing number problems algebraically
4. Find pairs of numbers that satisfy an equation with two unknowns
5. Enumerate possibilities of combinations of two variables.

Small Steps
Weeks 1 & 2
Find a rule
- Forming expression
- Substitution
- Formulae
- Solve one and two step equations
- Find pairs of values
- Enumerate possibilities

Week 6

Measurement: Converting units

National Curriculum objectives
1. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
2. Use, read, write and convert between standard units, converting from a smaller unit to a larger unit, and vice versa, using decimal notation to up to three decimal places
3. Convert between miles and kilometres

Small Steps
Week 1
- Metric measure
- Convert metric measures
- Calculate with metric measures
- Miles & KM
- Imperial measures

Week 7 & Week 8

Measurement: Perimeter, Area and Volume

National Curriculum objectives
4. Recognise that shapes with the same areas can have different perimeters and vice versa 52. Recognise when it is possible to use formulae for area and volume of shapes
6. Calculate the area of parallelograms and triangles
7. Calculate, estimate and compare volume of cubes and cuboids using standard units,

Small Steps
Week 1
- Shapes – same area
- Area and perimeter
- Area of a triangle
- Area of a parallelogram
- Volume – count cubes
- Volume of a cuboid

Week 8

Number: Ratio

National Curriculum objectives
1. solve problems involving the relative sizes of two quantities where missing values can be found by using integer X and ÷ facts
2. Solve problems involving the calculation of % and the use of % for comparison
3. Solve problems involving similar shapes where the scale factor is known or can be found
4. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

Small Steps
Week 1
- Using ratio language
- Ration and fractions
- Ratio symbol
- Calculating ratio
- Using scale factors
- Calculating scale factors
- Ratio and proportion problems

Week 9

Statistics

National Curriculum objectives
1. Interpret and construct pie charts and line graphs and use these to solve problems
2. Calculate and interpret the mean as an average.

Small Steps
Week 1
- Read and interpret line graphs
- Use line graphs to solve problems
- Circles
- Read and interpret pie charts
- Pie charts with percentages
- Draw pie charts
- The mean

Link to topic

Week 10 & Week 11

Geometry: Properties of Shapes

National Curriculum objectives
1. Draw 2-D shapes using given dimensions and angles
2. Recognise, describe and build simple 3-D shapes, including making nets
3. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
4. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
5. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

Small Steps
Week 1
- Measure a protractor
- Draw lines and angles accurately
- Angles on a straight line
- Angles around a point
- Calculate angles
- Vertically opposite angles

Week 2
- Angles in a triangle
- Angles in a triangle – special cases
- Angles in a triangle – missing angles
- Angles in quadrilaterals
- Angles in regular polygons

Week 3
- Draw shapes accurately
- Draw nets of 3D shapes
- Radius, diamtere and circumference – not on WR

Cross curricular links

Summer

Consolidation and SATs Preparation

Consolidation, Investigations and Preparation for KS3

Cross curricular links

Link for planning https://whiterosemaths.com/resources/primary-resources/primary-sols/ (includes example videos) Tips Additional objective/ method/ unit Things to consider for planning Key objective New concept