# Maths Medium Term Plan

| Reception | | | | | | |
|---|---|---|---|---|---|---|
| | **Autumn** | | **Spring** | | **Summer**<br>*(In summer 2, when using Mastering number 'review and assess time' do this <u>in addition</u> to the shape, space, measure and spatial reasoning lessons on this plan)* | |
| **Mathematical Concepts Covered**<br><br>**Red- NCETM Mastering Number**<br>**Blue= White Rose** | • Subitising within 3<br>• Counting, Ordinality and Cardinality<br>• Composition of 3 and 4<br>• Subitising objects and sounds<br>• Comparison of sets by looking<br>• Counting, ordinality and Cardinality (2)<br>• Comparison of sets by matching<br>• Composition- whole and part<br>• Composition 3,4 and 5<br>• Counting, Ordinality and Cardinality- object counting, matching numeral to quantity<br>• Match, Sort and Compare.<br>• Talk About Measure and Patterns<br>• Circles and Triangles<br>• Shapes with 4 sides | | • Subitising within 5<br>• Counting, Ordinality and Cardinality-staircase pattern<br>• Composition- 5<br>• Composition- 6 and 7<br>• Composition- sets<br>• Counting, Ordinality and Cardinality- ordering<br>• Comparison- to 8<br>• Composition- 7<br>• Composition- doubles<br>• Composition- odd and even<br>• Mass and Capacity<br>• Length, Height and Time<br>• 3D Shapes | | • Counting, Ordinality and Cardinality- larger sets<br>• Subitising to 6<br>• Composition- 5 and a bit<br>• Composition- 10<br>• Comparison- linked to ordinality<br>• Summer 2- Review and Assess<br>• Manipulate, Compose and Decompose<br>• Visualise, Map and Build | |
| **Week 1** | **<u>Baseline AND intro to maths lessons through:</u>**<br><br>• Match objects<br>• Match pictures and objects<br>• Identify a set (MATCH, SORT AND COMPARE) | Focus on counting skills<br>Focus on the 'five-ness of<br>5' using one hand and the<br>die pattern for 5 **–w6** | Subitise within 5 focusing on die patterns<br>Match numerals to quantities within 5 **-w11** | Focus on the 'staircase' pattern and ordering numbers **-w16** | Counting – larger sets and things that cannot be seen **-w21** | Subitise to 5<br>Introduce the Rekenrek **-w26** |

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| | Subitising within 3 **-w1** | | | | | |
| **Week 2** | Focus on counting skills **-w2** | Comparison of sets - by Matching<br>Use the language of comparison: more than, fewer than, an equal number**- w7** | Counting – focus on ordinality and the 'staircase' pattern<br>See that each number is one more than the previous number **–w12** | Focus on ordering of numbers to 8<br>Use language of less than **-w17** | Subitising – to 6, including in structured arrangements **-w22** | **Review and Assess-**<br>Automatic recall of bonds to 5<br><br>(FIND THE STEPS BELOW IN: VISUALISE, BUILD AND MAP)<br>Identify units of repeating patterns<br>• Create own pattern rules<br>• Explore own pattern rules |
| **Week 3** | Explore how all numbers are made of 1s<br>Focus on composition of 3 and 4 **–w3** | Explore the concept of 'whole' and 'part' **-w8** | Focus on 5 composition**- w13** | Focus on 7 composition **-w18** | Composition – '5 and a bit' **-w23** | **Review and Assess-**<br>Composition of numbers to 10<br><br>(FIND THE STEPS BELOW IN: VISUALISE, BUILD AND MAP)<br>Replicate and build scenes and constructions<br>• Visualise from different positions<br>• Describe positions<br>• Give instructions to build |
| **Week 4** | Subitise objects and sounds **–w4** | Focus on the composition of 3, 4 and 5- **w9** | Focus on 6 and 7 as '5 and a bit' composition **–w14** | Doubles – explore how some numbers can be made with 2 equal parts **-w19** | Composition - of 10 **-w24** | **Review and Assess-**<br>Comparison<br><br>(FIND THE STEPS BELOW IN: VISUALISE, BUILD AND MAP)<br>Explore mapping<br>• Represent maps with models<br>• Create own maps from familiar places<br>• Create own maps and plans from story situations |
| **Week 5** | Comparison of sets - 'just by looking' | Practise object counting skills | Compare sets and use language of comparison: more than, fewer than, an | Sorting numbers according to attributes - odd and even numbers | Comparison – linked to ordinality<br>Play track games **–w25** | **Review and Assess-**<br>Number patterns |

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| | Use the language of comparison: more than and fewer than **–w5**<br>Match numerals to quantities within 10<br>Verbal counting beyond 20- **w10** | | equal number to<br>Make unequal sets equal **-w15** | **-w20** | | |
| **Week 6** | (FIND THE STEPS BELOW IN: MATCH, SORT AND COMPARE)<br>Sort objects to a type<br>• Explore sorting techniques<br>• Create sorting rules<br>• Compare amounts | (FIND THE STEPS BELOW IN: CIRCLES AND TRIANGLES)<br>Identify and name circles and triangles<br>• Compare circles and triangles<br>• Shapes in the environment<br>• Describe position | (FIND THE STEPS BELOW IN: MASS AND CAPACITY)<br>Compare mass<br>• Find a balance<br>• Explore capacity<br>• Compare capacity | (FIND THE STEPS BELOW IN: LENGTH, HEIGHT AND TIME AND 3D SHAPES)<br>•Talk about, order and sequence time<br>Recognise and name 3-D shapes<br>• Find 2-D shapes within 3-D shapes<br>• Use 3-D shapes for tasks | (FIND THE STEPS BELOW IN: MANIPULATE, COMPOSE AND DECOMPOSE)<br>Select shapes for a purpose<br>• Rotate shapes<br>• Manipulate shapes<br>• Explain shape arrangements | **Review and Assess-** Counting |
| **Week 7** | (FIND THE STEPS BELOW IN: TALK ABOUT MEASURE AND PATTERNS)<br>Compare size, mass and capacity<br>• Explore simple patterns<br>• Copy and continue simple patterns<br>• Create simple patterns | (FIND THE STEPS BELOW IN: SHAPES WITH 4 SIDES)<br>Identify and name shapes with 4 sides<br>• Combine shapes with 4 sides<br>• Shapes in the environment<br>• My day and night | (FIND THE STEPS BELOW IN: LENGTH, HEIGHT AND TIME)<br>Explore length<br>• Compare length<br>• Explore height<br>• Compare height | (FIND THE STEPS BELOW IN 3D SHAPES)<br>3-D shapes in the environment<br>• Identify more complex patterns<br>• Copy and continue patterns<br>• Patterns in the environment | (FIND THE STEPS BELOW IN: MANIPULATE, COMPOSE AND DECOMPOSE)<br>Compose shapes<br>• Decompose shapes<br>• Copy 2-D shape pictures<br>• Find 2-D shapes within 3-D shapes | |

# Year 1

## Autumn Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number: Place value within 10** | | | | | **Number: Addition and Subtraction within 10** | | | | | **Geometry: Shape** | |

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|---|---|---|
| 1. Sort objects<br>2. Count objects<br>3. Count objects from a larger group<br>4. Represent objects<br>5. Recognise numbers as words<br>6. Count on from any number<br>7. 1 more<br>8. Count backwards within 10<br>9. 1 less<br>10. Compare groups<br>11. Fewer, more, same<br>12. Less than, greater than, equal to<br>13. Compare numbers<br>14. Order objects and numbers<br>15. The number line | 1. Introduce part and wholes<br>2. Part whole model<br>3. Write number sentences<br>4. Fact families – addition facts<br>5. Number bonds **within 10**<br>6. Systematic number bonds within 10 – using tools<br>7. Number bonds **to 10**<br>8. Addition – add together – e.g. 4 + 3<br>9. Addition – add more – new terminology '4 more'<br>10. Addition problems<br>11. Find a part<br>12. Subtraction – find a part – making link between finding a part and 'subtraction'<br>13. Fact families – the eight facts - + + - - | 1. Recognise and name 3-D shapes<br>2. Sort 3-D shapes – into groups / Venn<br>3. Recognise and name 2-D shapes<br>4. Sort 2-D shapes<br>5. Patterns with 2-D and 3-D shapes<br><br>*3-D shapes first as these are tangible shapes that they can touch and feel, see mostly in real life context.* |

### National Curriculum Links

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|---|---|---|
| • Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number.<br>• Count, read and write numbers to 10 in numerals and words.<br>• Given a number, identify one more or one less.<br>• Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. | • Represent and use number bonds and related subtraction facts within 10.<br>• Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.<br>• Add and subtract one-digit numbers to 10, including zero.<br>• Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems. | • Recognise and name common 2-D shapes, including: (e.g. rectangles (including squares), circles and triangles).<br>• Recognise and name common 3-D shapes, including: (e.g. cuboids (including cubes), pyramids and spheres). |

# Year 1

## Spring Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Place value within 20 | | | Number: Addition and Subtraction within 20 | | | Number: Place Value (within 50) | | Measurement: Length and Height | | Measurement: Mass and Volume | |

### Number: Place value within 20

1. Count within 20
2. Understand 10 – showing 10
3. Understand 11,12,13
4. Understand 14,15,16
5. Understand 17,18,19
6. Understand 20 –
7. 1 more 1 less –
8. The number line to 20
9. Use a number line to 20
10. Estimate on a number line to 20
11. Compare numbers to 20
12. Order numbers to 20

*In the Autumn term, children learnt the numbers to 10. In this small step, they extend that learning to count to 20.*
*Use concrete resources to support children to see the "10-and-a-bit" structure of teen numbers.*

### Number: Addition and Subtraction within 20

1. Add by counting on
2. Add ones using number bonds
3. Find and make number bonds to 20
4. Doubles
5. Near doubles
6. Subtract ones using number bonds
7. Subtraction – counting back
8. Subtraction – finding the difference
9. Related facts
10. Missing number problems

*Build on their learning, to be able to count on from 10 rather than from 1.*
*Children should begin to understand that addition is commutative and that it is more efficient to start from the greater number than the smaller number. E.g. when working out 1 + 13, it is quicker to add 1 to 13 than to add 13 to 1.*

### Number: Place Value (within 50)

1. Count from 20 to 50
2. 20, 30, 40 and 50
3. Count by making groups of tens
4. Groups of tens and ones
5. Partition into tens and ones
6. The number line to 50
7. Estimate on a number line to 50
8. 1 more 1 less

*In this small step, children count forwards and backwards between 20 and 50.*
*Number tracks and half-hundred squares are useful representations to support children counting to 50.*

### Measurement: Length and Height

1. Compare lengths and heights
2. Measure lengths using objects
3. Measure lengths using centimetres

*In this small step, children compare lengths and heights of objects using language such as "longer than", "shorter than" and "taller than".*
*Children should also be exposed to objects that have the same length or height and use the language of "is the same" or "is equal to" to compare.*

### Measurement: Mass and Volume

1. Heavier and lighter
2. Measure mass
3. Compare mass
4. Full and empty
5. Compare volume
6. Measure capacity
7. Compare capacity

*Formally introduced to mass for the first time. They may have some understanding of describing something as heavy or light from their own experience or from previous learning in Reception. They then use balance scales to check their comparisons. They need to understand that the heavier object is lower on the balance scale.*

## National Curriculum Links

- Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number.
- Count, read and write numbers to 20 in numerals and words.
- Given a number, identify one more or one less.
- Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.

- Represent and use number bonds and related subtraction facts within 20.
- Read, write and interpret mathematical statements involving addition (+), subtraction and (-) and equals (=) signs.
- Add and subtract one-digit and two-digit numbers to 20, including zero.
- Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ☐ – 9.

- Count to 50 forwards and backwards, beginning with 0 or 1, or from any number.
- Count, read and write numbers to 50
- Identify one more or one less.
- Identify and represent numbers using objects, pictorial representations, the number line, use the language of: equal to, more than, less than
- Count in 2s, 5s, 10s

- Measurement: Length and Height Measure and begin to record lengths and heights.
- Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half).

- Measurement: Weight and Volume Measure and begin to record mass/weight, capacity and volume.
- Compare, describe and solve practical problems for mass/weight:[for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].

# Year 1

## Summer Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Multiplication and Division | | | Number: Fractions | | Geometry: Position and Direction | Number: Place Value (within 100) | | Measurement: Money | | Measurement: Time | |
| 1. Count in 10s.<br>2. Make equal groups.<br>3. Add equal groups.<br>4. Make arrays.<br>5. Make doubles.<br>6. Make equal groups – grouping.<br>7. Make equal groups – sharing | | | 1. Halving shapes or objects.<br>2. Halving a quantity.<br>3. Find a quarter of a shape or object.<br>4. Find a quarter of a quantity | | 1. Describe turns.<br>2. Describe Position (1).<br>3. Describe Position (2). | 1. Counting to 100.<br>2. Partitioning numbers.<br>3. Comparing numbers (1).<br>4. Comparing numbers (2).<br>5. Ordering numbers.<br>6. One more, one less. | | 1. Recognising coins.<br>2. Recognising notes.<br>3. Counting in coins. | | 1. Before and after.<br>2. Dates.<br>3. Time to the hour.<br>4. Time to the half hour.<br>5. Writing time.<br>6. Comparing time. | |
| National Curriculum Links | | | | | | | | | | | |
| • Count in multiples of twos, fives and tens.<br>• Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. | | | • Recognise, find and name a half as one of two equal parts of an object, shape or quantity.<br>• Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.<br>• Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter,tall/short, double/half) | | • Describe position, direction and movement, including whole, half, quarter and three-quarter turns | • Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.<br>• Count, read and write numbers to 100 in numerals.<br>• Given a number, identify one more and one less.<br>• Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least. | | • Recognise and know the value of different<br>• denominations of coins and notes. | | • Sequence in chronological order using language: before & after, next, first, today, yesterday, tomorrow, morning, afternoon evening.<br>• Recognise and use language relating to dates, including days of the week, weeks, months and years.<br>• Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.<br>• Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later].<br>• Measure and begin to record time (hours, minutes, seconds) | |

# Year 2

## Autumn Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|

### Number: Place value

1. Numbers to 20
2. Count objects to 100 by making 10s
3. Recognise tens and ones
4. Place value chart
5. Partition numbers to 100
6. Write numbers to 100 in words
7. Flexibly partition numbers to 100
8. Write numbers to 100 in expanded form - tens and ones
9. 10s on the number line to 100
10. 10s and 1s on the number line to 100
11. Estimate numbers on a number line
12. Compare objects
13. Compare numbers
14. Order objects and numbers
15. Count in 2s, 5s and 10s
16. Count in 3s

### Number: Addition and Subtraction

1. Bonds to 10
2. Fact families
3. Related facts
4. Bonds to 100 (tens)
5. Add and subtract 1s
6. Adding by making 10
7. Add three 1-digit numbers
8. Add to the next 10
9. Add across 10
10. Subtract across 10
11. Subtract from a 10
12. Subtract 1-digit number from a 2-digit number (across a 10)
13. 10 more, 10 less
14. Add and subtract 10s
15. Add two 2-digit numbers (not across 10)
16. Add two 2-digit numbers (across 10)
17. Mixed addition and subtraction
18. Compare number sentences
19. Missing number problems

### Geometry: Shape

1. Recognise 2-D and 3-D
2. Count sides on a 2-D
3. Count vertices on 2-D
4. Draw 2-D shapes
5. Lines of symmetry on shapes
6. Lines of symmetry to complete shapes
7. Sort 2-D Shapes (shapes not taught in Y1)
8. Count faces on 3-D shapes
9. Count edges on 3-D shapes
10. Count vertices on 3-D shapes
11. Sort 3-D shapes
12. Make patterns with 2-D and 3-D shapes

### National Curriculum Links

- Read and write numbers to at least 100 in numerals and in words.
- Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers using different representations including the number line.
- Compare and order numbers from 0 up to 100; use <, > and = signs.
- Use place value and number facts to solve problems.
- Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.

- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers.
- Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.
- Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods.
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.
- Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].
- Compare and sort common 2-D and 3-D shapes and everyday objects.

# Year 2

## Spring Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Measurement: Money | | Number: Multiplication and Division | | | | | Measurement: Length and Height | | Measurement: Mass, capacity and temperature | | |

### Measurement: Money

1. Count money – pence
2. Count money – pounds
3. Pounds and pence
4. Choose notes and coins
5. Make the same amount
6. Compare amounts of money
7. Calculate with money
8. Make a pound
9. Find change
10. Two-step problems

### Number: Multiplication and Division

1. Recognise equal groups
2. Make equal groups
3. Add equal groups
4. Introduce the multiplication symbol
5. Multiplication sentences
6. Use arrays
7. Make equal groups – grouping
8. Make equal groups – sharing
9. 2 times table
10. Divide by 2
11. Doubling and halving
12. Odd and even numbers
13. 10 times table
14. Divide by 10
15. 5 times table
16. Divide by 5
17. 5 and 10 times tables

### Measurement: Length and Height

1. Measure in cm
2. Measure in m
3. Compare lengths and heights
4. Order length and heights
5. Four operations with lengths and heights

### Measurement: Mass, capacity and temperature

1. Compare mass
2. Measure in grams
3. Measure in kilograms
4. Four operations with mass
5. Compare volume and capacity
6. Measure in millimetres
7. Measure in litres
8. Four operations with volume and capacity
9. Temperature

## National Curriculum Links

### Measurement: Money

- Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.
- Find different combinations of coins that equal the same amounts of money.
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

### Number: Multiplication and Division

- Recall and use multiplication and division facts for the 2, 5- and 10-times tables, including recognising odd and even numbers.
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) sign.
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.
- Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.

### Measurement: Length and Height

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.
- Compare and order lengths, mass, volume/capacity and record the results using >, < and =.

### Measurement: Mass, capacity and temperature

- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.
- Compare and order lengths, mass, volume/capacity and record the results using >, < and =.

# Year 2

## Summer Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Fractions | | | Measurement: Time | | | Geometry: Position and direction | | Statistics | | Problem solving | |

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| 1. Make equal parts.<br>2. Recognise half.<br>3. Find half.<br>4. Recognise quarter.<br>5. Find a quarter.<br>6. Recognise a third.<br>7. Find a third.<br>8. Unit fractions.<br>9. Non0unit fractions.<br>10. Equivalence of 1⁄2 and 2/4.<br>11. Find three quarters.<br>12. Count in fractions. | 1. O'clock and half past.<br>2. Quarter past and quarter to.<br>3. Telling time to 5 minutes.<br>4. Minutes in an hour, hours in a day.<br>5. Find durations of time.<br>6. Compare durations of time. | 1. Describing movement.<br>2. Describing turns.<br>3. Describing movement and turns.<br>4. Making patterns with shapes. | 1. Make tally charts.<br>2. Draw pictograms (1-1).<br>3. Interpret pictograms (1-1).<br>4. Draw pictograms (2, 5 and 10).<br>5. Interpret pictograms (2, 5 and 10).<br>6. Block diagrams. | |

## National Curriculum Links

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| • Recognise, find, name and write fractions 1/3, 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity.<br>• Write simple fractions for example, 1/2 of 6 = 3 and recognise he equivalence of 2/ 4 and 1 / 2 | • Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.<br>• Know the number of minutes in an hour and the number of hours in a day.<br>• Compare and sequence intervals of time. | • Use mathematical vocabulary to describe position, direction and movement; movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).<br>• Order and arrange combinations of mathematical objects in patterns and sequences. | • Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.<br>• Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.<br>• Ask and answer questions about totalling and comparing categorical data. | |

# Year 3

## Autumn Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|

### Number: Place Value

1. Represent numbers to 100
2. Partition numbers to 100
3. Number line to 100
4. Hundreds
5. Represent numbers to 1000
6. Partition numbers to 1000
7. Flexible partition of numbers to 1000
8. Hundreds, tens and ones
9. Find 1, 10 or 100 more or less
10. Number line to 1000
11. Estimate on a number line to 1000
12. Compare numbers to 1000
13. Order numbers to 1000
14. Count in 50s

### Number: Addition and Subtraction

1. Apply number bonds within 10
2. Add and subtract 1s
3. Add and subtract 10s
4. Add and subtract 100s
5. Spot the pattern – exploring the effect of + and – 1s, 10s, and 100s
6. Add 1s across 10
7. Add 10s across 100
8. Subtract 1s across 10
9. Subtract 10s across 100
10. Make connections – E.g. if children know 5 + 7 = 12, then they also know that 12 – 5 = 7, 120 – 50 = 70 and 50 + 70 = 120
11. Add two numbers (no exchange)
12. Subtract two numbers (no exchange)
13. Add two numbers (across 10) – column addition with exchange
14. Add two numbers (across 100) – column addition with exchange
15. Subtract two numbers (across a 10) – column subtraction exchange
16. Subtract two numbers (across a 100) – column subtraction exchange
17. Add 2-digit and 3-digit numbers
18. Subtract a 2-digit from a 3-digit number
19. Complements to 100
20. Estimate answers
21. Inverse operations
22. Make decisions – which operation and method is appropriate

### Number: Multiplication and Division A

1. Multiplication – equal groups
2. Use arrays
3. Multiples of 2
4. Multiples of 5 and 10
5. Sharing and grouping
6. Multiply by 3
7. Divide by 3
8. 3 times tables
9. Multiply by 4
10. Divide by 4
11. The 4 times table
12. Multiply by 8
13. Divide by 8
14. The 8 times table
15. 2, 4 and 8 times tables

## National Curriculum Links

- Identify, represent and estimate numbers using different representations.
- Find 10, 100 more or less
- Recognise the place value in a three-digit number (hundreds, tens, ones).
- Compare and order numbers up to 1000.
- Read and write numbers up to 1000 in numerals and in words.
- Solve number problems and practical problems involving these ideas.
- Count from 0 in 4, 8, 50 and 100.

- Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens, a three-digit number and hundreds.
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.
- Estimate the answer to a calculation and use inverse operations to check answers.
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

- Count from 0 in multiples of 4, 8, 50 and 100.
- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
- Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.
- Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objectives.

# Year 3

## Spring Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Multiplication and Division B | | | Measurement: Length and Perimeter | | | Number: Fractions | | | Measurement: Mass and Capacity | | |

| Number: Multiplication and Division B | Measurement: Length and Perimeter | Number: Fractions | Measurement: Mass and Capacity |
|---|---|---|---|
| 1. Multiples of 10<br>2. Related calculations<br>3. Reasoning about multiplication<br>4. Multiply a 2-digit number by 1-digit number (no exchange)<br>5. Multiply a 2-digit number by 1-digit number (with exchange)<br>6. Link multiplication and division<br>7. Divide a 2-digit number by a 1-digit number (no exchange)<br>8. Divide a 2-digit number by a 1-digit number (flexible partitioning)<br>9. Divide a 2-digit number by a 1-digit number (with remainders)<br>10. Scaling<br>11. How many ways? – making combinations | 1. Measure in m and cm<br>2. Measure in mm<br>3. Measure in cm and mm<br>4. Metres, cm and mm<br>5. Equivalent lengths (m and cm)<br>6. Equivalent lengths (cm and mm)<br>7. Compare lengths<br>8. Add lengths<br>9. Subtract lengths<br>10. What is perimeter?<br>11. Measure perimeter<br>12. Calculate perimeter | 1. Understand the denominators of unit fractions<br>2. Compare and order unit fractions<br>3. Understand the numerators of non-unit fractions<br>4. Understand the whole<br>5. Compare and order non-unit fractions<br>6. Fractions and scales<br>7. Fractions on a number line<br>8. Count in fractions on a number line<br>9. Equivalent fractions on a number line<br>10. Equivalent fractions as bar models | 1. Use scales<br>2. Measure mass in grams<br>3. Measure mass in kilograms and grams<br>4. Equivalent masses (kg and g)<br>5. Compare mass<br>6. Add and subtract mass<br>7. Measure capacity and volume in mm<br>8. Measure capacity and volume in litres and millilitres<br>9. Equivalent capacities and volumes (litres and millilitres)<br>10. Compare capacity and volume<br>11. Add and subtract capacity and volume |

### National Curriculum Links

| | | | |
|---|---|---|---|
| • Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.<br>• Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.<br>• Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objectives | • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).<br>• Measure the perimeter of simple 2D shapes. | • Recognise and show, using diagrams, equivalent fractions with small denominators.<br>• Compare and order unit fractions, and fractions with the same denominators.<br>• Add and subtract fractions with the same denominator within one whole [for example,5⁄7 + 1⁄7 = 6⁄7].<br>• Solve problems that involve all of the above. | • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). |

# Year 3

## Summer Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Fractions | | Measurement: Money | | Measurement: Time | | | Geometry: Shape | | Statistics | | Consolidation |
| 1. Compare fractions.<br>2. Order fractions.<br>3. Add fractions.<br>4. Subtract fractions. | | 1. Pounds and pence.<br>2. Converting pounds and pence.<br>3. Adding money.<br>4. Subtracting money.<br>5. Giving change | | 1. Months and years.<br>2. Hours in a day.<br>3. Telling the time to 5 minutes.<br>4. Telling the time to the minute.<br>5. AM and PM.<br>6. 24 hour clock.<br>7. Finding the duration.<br>8. Comparing the duration.<br>9. Start and end times.<br>10. Measuring time in seconds | | | 1. Turns and angles.<br>2. Right angles in shapes.<br>3. Compare angles.<br>4. Draw accurately.<br>5. Horizontal and vertical.<br>6. Parallel and perpendicular.<br>7. Recognise and describe 2D shapes.<br>8. Recognise and describe 3D shapes.<br>9. Make 3D shapes.<br>10. | | 1. Pictograms.<br>2. Bar charts.<br>3. Tables. | | |
| National Curriculum Links | | | | | | | | | | | |
| • Recognise and show, using diagrams, equivalent fractions with small denominators.<br>• Compare and order unit fractions, and fractions with the same denominators.<br>• Add and subtract fractions with the same denominator within one whole [for example,5⁄7 + 1⁄7 = 6⁄7].<br>• Solve problems that involve all of the above | | • Add and subtract amounts of money to give change, using both £ and p in practical contexts. | | • Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12-hour and 24-hour clocks.<br>• Estimate and read time with increasing accuracy to the nearest minute.<br>• Record and compare time in terms of seconds, minutes and hours.<br>• Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.<br>• Know the number of seconds in a minute and the number of days in each month, year and leap year.<br>• Compare durations of events [for example to calculate the time taken by particular events or tasks | | | • Recognise angles as a property of shape or a description of a turn.<br>• Identify right angles, recognise that two right angles make a half- turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.<br>• Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.<br>• Draw 2-D shapes and make 3-D shapes using modelling materials.<br>• Recognise 3-D shapes in different orientations and describe them. | | • Interpret and present data using bar charts, pictograms and tables.<br>• Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables. | | |

# Year 4

## Autumn Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Place Value | | | | Number: Addition and Subtraction | | | Measurement: Area | Number: Multiplication and Division A | | | |

### Number: Place Value

1. Represent numbers to 1000
2. Partition numbers to 1000
3. Number line to 1000
4. Thousands
5. Represent numbers to 10000
6. Partition numbers to 10000
7. Flexible partitioning of numbers to 10000
8. Find 1, 10, 100 and 1000 more or less
9. Number line to 10000
10. Estimate on a number line to 10000
11. Compare numbers to 10000
12. Order numbers to 10000
13. Roman numerals
14. Round to the nearest 10
15. Round to the nearest 100
16. Round to the nearest 1000
17. Round to the nearest 10,100 or 1000
18. Count backwards through zero to include negative numbers

### Number: Addition and Subtraction

1. Add and subtract 1s, 10s, 100s, and 1000s
2. Add up to two 4-digit numbers – no exchange
3. Add two 4-digit numbers – one exchange
4. Add two 4-digit numbers – more than one exchange
5. Subtract two 4-digit numbers – no exchange
6. Subtract two 4-digit numbers – one exchange
7. Subtract two 4-digit numbers – more than one exchange
8. Efficient subtraction
9. Estimate answers
10. Checking strategies

### Measurement: Area

1. What is area?
2. Count squares
3. Make shapes
4. Compare areas

### Number: Multiplication and Division A

1. Multiples of 3
2. Multiply and divide by 6
3. 6 times table and division facts
4. Multiply and divide by 9
5. 9 times table and division facts
6. The 3, 6 and 9 times table
7. Multiply and divide by 7
8. 7 times table and division facts
9. 11 times table and division facts
10. 12 times table and division facts
11. Multiply by 1 and 0
12. Divide a number by 1 and itself
13. Multiply three numbers

## National Curriculum Links

### Number: Place Value

- Count in multiples of 6, 7, 9. 25 and 1000.
- Find 1000 more or less than a given number.
- Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).
- Order and compare numbers beyond 1000.
- Identify, represent and estimate numbers using different representations.
- Round any number to the nearest 10, 100 or 1000.
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers.
- Count backwards through zero to include negative numbers.

### Number: Addition and Subtraction

- Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.
- Estimate and use inverse operations to check answers to a calculation.
- Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

### Measurement: Area

- Find the area of rectilinear shapes by counting squares

### Number: Multiplication and Division A

- Recall and use multiplication and division facts for multiplication tables up to 12 × 12.
- Count in multiples of 6, 7, 9. 25 and 1000.
- Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.
- Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

# Year 4

## Spring Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Multiplication and Division B | | | Measurement: Length and Perimeter | | Number: Fractions | | | | Number: Decimals | | |

| Number: Multiplication and Division B | Measurement: Length and Perimeter | Number: Fractions | Number: Decimals |
|---|---|---|---|
| 1. Factor pairs<br>2. Use factor pairs<br>3. Multiply by 10<br>4. Multiply by 100<br>5. Divide by 10<br>6. Divide by 100<br>7. Related facts – multiplication and division<br>8. Informal written methods for multiplication<br>9. Multiply a 2-digit by a 1-digit number<br>10. Multiply a 3-digit by a 1-digit number<br>11. Divide a 2 digit by a 1-digit number<br>12. Divide a 2 digit by a 1-digit number (2)<br>13. Divide a 3 digit by a 1-digit number<br>14. Correspondence problems<br>15. Efficient multiplication | 1. Measure in km and m<br>2. Equivalent lengths (km and m)<br>3. Perimeter on a grid<br>4. Perimeter of a rectangle<br>5. Perimeter of rectilinear shapes<br>6. Find missing lengths in rectilinear shapes<br>7. Calculate the perimeter of rectilinear shapes<br>8. Perimeter of regular polygons<br>9. Perimeter of polygons | 1. Understand the whole<br>2. County beyond 1<br>3. Partition a mixed number<br>4. Number lines with mixed numbers<br>5. Compare and order mixed numbers<br>6. Understand improper fractions<br>7. Convert mixed numbers to improper fractions<br>8. Convert improper fractions to mixed numbers<br>9. Equivalent fractions on a number line<br>10. Equivalent fraction families<br>11. Add two or more fractions<br>12. Add fractions and mixed numbers<br>13. Subtract two fractions<br>14. Subtract from whole amounts<br>15. Subtract from mixed numbers | 1. Tenths as fractions<br>2. Tenths as decimals<br>3. Tenths on a place value chart<br>4. Tenths on a number line<br>5. Divide a 1-digit number by 10<br>6. Divide a 2-digit number by 10<br>7. Hundredths as fractions<br>8. Hundredths as decimals<br>9. Hundredths on a place value chart<br>10. Divide 1 or 2 digit numbers |

### National Curriculum Links

| | | | |
|---|---|---|---|
| • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.<br>• Recognise and use factor pairs and commutativity in mental calculations.<br>• Multiply two digit and three digit numbers by a one digit number using formal written layout.<br>• Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. | • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.<br>• Convert between different units of measure [for example, kilometre to metre | • Recognise and show, using diagrams, families of common equivalent fractions.<br>• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.<br>• Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.<br>• Add and subtract fractions with the same denominator | • Recognise and write decimal equivalents of any number of tenths or hundredths.<br>• Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths.<br>• Solve simple measure and money problems involving fractions and decimals to two decimal places.<br>• Convert between different units of measure [for example, kilometre to metre]. |

# Year 4

## Summer Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Decimals | | Measurement: Money | | Measurement: Time | | | Geometry: Shape | | Statistics | Geometry: Position and Direction | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Make a whole.<br>2. Write decimals.<br>3. Compare decimals.<br>4. Order decimals.<br>5. Round decimals.<br>6. Halves and quarters | | 1. Pounds and pence.<br>2. Ordering amounts of money.<br>3. Using rounding to estimate money.<br>4. Four operations | | 1. Hours, minutes and seconds.<br>2. Years, months, weeks and days.<br>3. Analogue to digital – 12 hour<br>4. Analogue to digital – 24 hour | | | 1. Identify angles.<br>2. Compare and order angles.<br>3. Triangles.<br>4. Quadrilaterals.<br>5. Lines of symmetry.<br>6. Complete a symmetric figure. | | 1. Interpret charts.<br>2. Comparison, sum and difference<br>3. Introducing line graphs.<br>4. Line graphs. | 1. Describe position.<br>2. Draw on a grid.<br>3. Move on a grid.<br>4. Describe a movement on a grid. | |

### National Curriculum Links

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| • Compare numbers with the same number of decimal places up to two decimal places.<br>• Round decimals with one decimal place to the nearest whole number.<br>• Recognise and write decimal equivalents to 1⁄4, 1⁄2 and 3⁄4.<br>• Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths. | | • Estimate, compare and calculate different measures, including money in pounds and pence.<br>• Solve simple measure and money problems involving fractions and decimals to two decimal places. | | • Read, write and convert time between analogue and digital 12- and 24-hour clocks.<br>• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. | | | • Identify acute and obtuse angles and compare and order angles up to two right angles by size.<br>• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.<br>• Identify lines of symmetry in 2-D shapes presented in different orientations.<br>• Complete a simple symmetric figure with respect to a specific line of symmetry. | | • Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.<br>• Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables | • Describe positions on a 2- D grid as coordinates in the first quadrant.<br>• Plot specified points and draw sides to complete a given polygon.<br>• Describe movements between positions as translations of a given unit to the left/ right and up/ down. | |

# Year 5

## Autumn Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Place Value | | | Number: Addition and Subtraction | | Number: Multiplication and Division A | | | Number: Fractions A | | | |

### Number: Place Value

1. Roman numerals to 1000
2. Numbers to 10,000
3. Numbers to 100,000
4. Numbers to 1,000,000
5. Read and write numbers to 1,000,000
6. Powers of 10
7. More or less
8. Partition numbers to 1,000,000
9. Number line to 1,000,000
10. Compare and order numbers to 100,000
11. Compare and order numbers to 1,000,000
12. Round to the nearest 10,100,1000
13. Round within 100,000
14. Round within 1,000,000

### Number: Addition and Subtraction

1. Mental strategies
2. Add whole numbers with 4+ digits
3. Subtract whole numbers with 4+ digits
4. Round to check answers
5. Inverse operations (+ and -)
6. Multi-step + and – problems
7. Compare calculations
8. Find missing numbers

### Number: Multiplication and Division A

1. Multiples
2. Common multiples
3. Factors
4. Common factors
5. Prime numbers
6. Square numbers
7. Cube numbers
8. Multiply by 10,100 and 1000
9. Divide by 10, 100 and 1000
10. Multiples of 10, 100 and 1000

### Number: Fractions A

1. Find fractions equivalent to a unit fraction
2. Find fractions equivalent to a non-unit fraction
3. Recognise equivalent fractions
4. Convert improper fractions to mixed numbers
5. Convert mixed numbers to improper fractions
6. Compare fractions less than 1
7. Order fractions less than 1
8. Compare and order fractions greater than 1
9. Add and subtract fractions with the same denominator
10. Add fractions within 1
11. Add fractions with total greater than 1
12. Add to a mixed number
13. Add two mixed numbers
14. Subtract factions
15. Subtract from a mixed number
16. Subtract from a mixed number – breaking the whole
17. Subtract two mixed numbers

## National Curriculum Links

### Number: Place Value

- Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.
- Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.
- Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000.
- Solve number problems and practical problems that involve all of the above.
- Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

### Number: Addition and Subtraction

- + and - numbers mentally with increasingly large numbers.
- + and - whole numbers with more than 4 digits, including using formal written methods (columnar + and -).
- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- Solve + and - multi-step problems in contexts, deciding which operations and methods to use and why.

### Number: Multiplication and Division A

- Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers.
- Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
- Establish whether a number up to 100 is prime and recall prime numbers up to 19.
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000.
- Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).
- Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes.

### Number: Fractions A

- Compare and order fractions whose denominators are multiples of the same number.
- Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example 2⁄5 + 4⁄5 = 6⁄5 = 11⁄5].
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
- Read and write decimal numbers as fractions [ for example 0.71 = 71/100 ]. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

# Year 5

## Spring Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Multiplication and Division B | | | Number: Fractions | | Number: Decimals and percentages | | | Measurement: Perimeter and area | | Statistics | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Multiply 4-digits by 1-digit.<br>2. Multiply 2-digits (area model).<br>3. Multiply 2-digits by 2-digits.<br>4. Multiply 3-digits by 2-digits.<br>5. Multiply 4-digits by 2-digits.<br>6. Solve problems with multiplication<br>7. Short division<br>8. Divide a 4-digit number by a 1 digit number<br>9. Divide with remainders<br>10. Efficient division<br>11. Solve problems with multiplication and division | | | 1. Multiply a unit fraction by an integer<br>2. Multiply a non-unit fraction by an integer<br>3. Multiply a mixed number by an integer<br>4. Calculate a fraction of a quantity<br>5. Fraction of an amount<br>6. Find the whole<br>7. Use fractions as operators | | 1. Decimals up to 2 decimals<br>2. Equivalent fractions and decimals (tenths)<br>3. Equivalent fractions and decimals (hundredths)<br>4. Equivalent fractions and decimals<br>5. Thousandths as a fraction<br>6. Thousandths as decimals<br>7. Thousandths on a place value chart<br>8. Order and compare decimals (same number of decimals)<br>9. Order and compare any decimals with up to 3 decimal places<br>10. Round to the nearest whole number<br>11. Round to 1 decimal place<br>12. Understand percentages<br>13. Percentages as fractions<br>14. Percentages as decimals<br>15. Equivalent fractions, decimals and percentages | | | 1. Perimeter of rectangles<br>2. Perimeter of rectilinear shapes<br>3. Perimeter of polygons<br>4. Area of rectangles<br>5. Area of compound shapes<br>6. Estimate area | | 1. Draw line graphs<br>2. Read and interpret line graphs<br>3. Read and interpret tables<br>4. Two-way tables<br>5. Read and interpret timetables | |

### National Curriculum Links

| | | | | |
|---|---|---|---|---|
| • Multiply and divide numbers mentally drawing upon known facts.<br>• Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.<br>• Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context. | • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.<br>• Read and write decimal numbers as fractions [ for example 0.71 = 71/100 ].<br>Solve problems involving multiplication and division | • Read, write, order & compare numbers with up to 3 DP<br>• Recognise & use thousandths and relate them to tenths, hundredths and decimal equivalents.<br>• Round decimals with two decimal places to the nearest whole number and to one DP<br>• Solve problems involving number up to 3 DP<br>• Recognise the per cent symbol (%) and understand per cent is 'number of parts per hundred', & write percentages as a fraction with denominator 100, and as a decimal.<br>• Solve problems of percentage & decimal equivalents of 1⁄2, 1⁄4, 1⁄5, 2⁄5, 4⁄5 & those fractions with a denominator of a multiple of 10 or 25. | • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.<br>• Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm2) and square metres (m2), and estimate the area of irregular shapes | • Solve comparison, sum and difference problems using information presented in a line graph.<br>• Complete, read and interpret information in tables including timetables. |

# Year 5

## Summer Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Geometry: Shape | | | Geometry: Position and Direction | | Number: Decimals | | | Number: Negative Numbers | Measurement: Converting Units | | Measurement: Volume |

| Geometry: Shape | Geometry: Position and Direction | Number: Decimals | Number: Negative Numbers | Measurement: Converting Units | Measurement: Volume |
|---|---|---|---|---|---|
| 1. Understand and use degrees<br>2. Classify angles<br>3. Estimate angles<br>4. Measure angles up to 180 degrees<br>5. Draw lines and angles accurately<br>6. Calculate angles around a point<br>7. Calculate angles on a straight line<br>8. Lengths and angles in shapes<br>9. Regular and irregular polygons<br>10. 3D shapes | 1. Read and plot coordinates<br>2. Problem solving with coordinates<br>3. Translation<br>4. Translation with coordinates<br>5. Lines of symmetry<br>6. Reflection in horizontal and vertical lines | 1. Adding decimals within 1.<br>2. Subtracting decimals within 1.<br>3. Complements to 1.<br>4. Adding decimals – across 1<br>5. Adding decimals with the same number of decimal places.<br>6. Subtracting decimals with the same number of decimal places.<br>7. Adding decimals with a different number of decimal places.<br>8. Subtracting decimals with a different number of decimal places.<br>9. Adding and subtracting whole and decimals.<br>10. Decimal sequences.<br>11. Multiplying decimals by 10, 100 and 1000.<br>12. Dividing decimals by 10, 100 and 1,000. | 1. Count forward and backwards with positive and negative numbers<br>2. Count through zero<br>3. Find the difference | 1. Kilograms and kilometres.<br>2. Milligrams and millilitres.<br>3. Convert units of length<br>4. Convert metric and imperial<br>5. Convert units of time<br>6. Calculate with timetables | 1. Cubic centimetres<br>2. Compare volume<br>3. Estimate volume<br>4. Estimate capacity |

### National Curriculum Links

| | | | | | |
|---|---|---|---|---|---|
| • Identify 3D shapes, including cubes and other cuboids, from 2D representations.<br>• Use the properties of rectangles to deduce related facts and find missing lengths and angles.<br>• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.<br>• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.<br>• Draw given angles and measure them in degrees.<br>• Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and 1⁄2 a turn (total 180°) other multiples of 90°. | • Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. | • Solve problems involving number up to three decimal places.<br>• Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.<br>• Use all four operations to solve problems involving measure [ for example, length, mass, volume, money] using decimal notation, including scaling. | Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. | • Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml].<br>• Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.<br>• Solve problems involving converting between units of time. | • Estimate volume<br>• Use all four operations to solve problems involving measure. |

# Year 6

## Autumn Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number: Place Value | | Number: Four Operations | | | | | Number: Fractions A | | Number: Fractions B | | Measurement: Converting Units |
| 1. Numbers to 1,000,000<br>2. Numbers to 10,000,000<br>3. Read and write numbers to 10,000,000<br>4. Powers of 10<br>5. Number line to 10,000,000<br>6. Compare and order any integers<br>7. Round any integer<br>8. Negative Numbers | | 1. Add and subtract integers<br>2. Common factors<br>3. Common multiples<br>4. Rules of divisibility<br>5. Primes to 100<br>6. Square and cube numbers<br>7. Multiply up to a 4-digit number by a 2-digit number<br>8. Solve problems with multiplication<br>9. Short division<br>10. Division using factors<br>11. Introduction to long division<br>12. Long division with remainders<br>13. Solve problem with division<br>14. Solve multi-step problems<br>15. Order of operations<br>16. Mental calculations and estimation<br>17. Reason from known facts | | | | | 1. Equivalent fractions and simplifying<br>2. Equivalent fractions on a number line<br>3. Compare and order (denominator)<br>4. Compare and order (numerator)<br>5. Add and subtract simple fractions<br>6. Add and subtract any two fractions<br>7. Add mixed numbers<br>8. Subtract mixed numbers<br>9. Multi-step problems | | 1. Multiply fractions by integers<br>2. Multiply fractions by fractions<br>3. Divide a fraction by an integer<br>4. Divide any fraction by an integer<br>5. Mixed questions with fractions<br>6. Fraction of an amount<br>7. Fraction of an amount – find the whole | | 1. Metric measures<br>2. Convert metric measures<br>3. Calculate with metric measures<br>4. Miles and Kilometres<br>5. Imperial measures |
| National Curriculum Links | | | | | | | | | | | |
| • Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.<br>• Round any whole number to a required degree of accuracy.<br>• Use negative numbers in context, and calculate intervals across zero.<br>• Solve number and practical problems that involve all of the above. | | • Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.<br>• Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.<br>• Divide numbers up to 4 digits by a 2-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.<br>• Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context.<br>• Perform mental calculations, including with mixed operations and large numbers.<br>• Identify common factors, common multiples and prime numbers.<br>• Use their knowledge of the order of operations to carry out calculations involving the four operations.<br>• Solve problems involving addition, subtraction, multiplication and division. | | | | | • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.<br>• Compare and order fractions, including fractions >1.<br>• Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions | | • Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$).<br>• Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$ ).<br>• Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8).<br>• Identify the value of each digit to 3DP and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.<br>• Multiply 1-digit numbers with up to 2DP by whole numbers | | Use, read, write & convert between standard units, converting measurements of length, mass, volume & time from a smaller unit of measure to a larger unit, using decimal notation to up to 3 DP<br>Convert between miles & kilometres. |

# Year 6

## Spring Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ratio | | Algebra | | Decimals | | Fractions, decimals and percentages | | Measurement: Area, perimeter and volume | | Statistics | |

| Ratio | Algebra | Decimals | Fractions, decimals and percentages | Measurement: Area, perimeter and volume | Statistics |
|---|---|---|---|---|---|
| 1. Add or multiply?<br>2. Use ratio language<br>3. Introduce ratio symbol<br>4. Ratio and fractions<br>5. Scale drawing<br>6. Use scale factors<br>7. Similar shapes<br>8. Ratio problems<br>9. Proportion problems<br>10. Recipes | 1. 1-step function machines<br>2. 2-step function machines<br>3. Form expressions<br>4. Substitution<br>5. Formulae<br>6. Form equations<br>7. Solve 1-step equations<br>8. Solve 2-step equations<br>9. Find pairs of values<br>10. Solve problems with two unknowns | 1. Place value within 1<br>2. Place value – integers and decimals<br>3. Round decimals<br>4. Add and subtract decimals<br>5. Multiply by 10, 100 and 1000<br>6. Divide by 10, 100 and 1000<br>7. Multiply decimals by integers<br>8. Divide decimals by integers<br>9. Multiply and divide | 1. Decimal and fraction equivalents<br>2. Fractions as division<br>3. Understand percentages<br>4. Fractions to percentages<br>5. Equivalent fractions, decimals and percentages<br>6. Order fractions, decimals and percentages<br>7. Percentage of an amount – one step<br>8. Percentage of an amount – multi step<br>9. Percentages – missing values | 1. Shapes – same area<br>2. Area and perimeter<br>3. Area of a triangle – counting squares<br>4. Area of a right-angled triangle<br>5. Area of any triangle<br>6. Area of a parallelogram<br>7. Volume – counting cubes<br>8. Volume of a cuboid | 1. Line graphs<br>2. Dual bar charts<br>3. Read and interpret pie charts<br>4. Pie charts with percentages<br>5. Draw pie charts<br>6. The mean |

### National Curriculum Links

| Ratio | Algebra | Decimals | Fractions, decimals and percentages | Measurement: Area, perimeter and volume | Statistics |
|---|---|---|---|---|---|
| • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.<br>• Solve problems involving similar shapes where the scale factor is known or can be found.<br>• Solve problems involving un | • Use simple formulae.<br>• Generate and describe linear number sequences.<br>• Express missing number problems algebraically.<br>• Find pairs of numbers that satisfy an equation with two unknowns.<br>• Enumerate possibilities of combinations of two variables. | • Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places.<br>• Multiply one-digit numbers with up to 2 decimal places by whole numbers.<br>• Use written division methods in cases where the answer has up to 2 decimal places.<br>• Solve problems which require answers to be rounded to specified degrees of accuracy.<br>• Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.<br>• Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. | | • Recognise that shapes with the same areas can have different perimeters and vice versa.<br>• Recognise when it is possible to use formulae for area and volume of shapes.<br>• Calculate the area of parallelograms and triangles.<br>• Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3). | • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.<br>• Interpret and construct pie charts and line graphs and use these to solve problems.<br>• Calculate the mean as an average. |

# Year 6

## Summer Term

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Geometry: Shape | | | Geometry: Position and Direction | | | | | | | | |
| 1. Measure and classify angles<br>2. Calculate angles<br>3. Vertically opposite angles<br>4. Angles in a triangle<br>5. Angles in a triangle – special cases<br>6. Angles in a triangle – missing angles<br>7. Angles in quadrilaterals<br>8. Angles in polygons<br>9. Circles<br>10. Draw shapes accurately<br>11. Nets of 3D shapes | | | 1. Coordinates in the first quadrant<br>2. Coordinate in four quadrants<br>3. Translations<br>4. Reflections | | | | | | | | |
| National Curriculum Links | | | | | | | | | | | |
| • Draw 2-D shapes using given dimensions and angles.<br>• Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.<br>• Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. | | | • Describe positions on the full coordinate grid (all four quadrants)<br>• Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. | | | | | | | | |