# HVPA Maths Updated Sequence of Learning Progression – Year 2

This overview breaks down each of the Programmes of Study and domains covered by Year 2 and shows the approximate amount of weeks expected in the teaching of each area. Time is built in for consolidation and extension (based on the security of pupils' understanding & readiness to move on, challenge through problem solving and reasoning) and assessment within each term.

Changes within the Learning Progressions:

**Place Value Within 100**

- The recommended time for learning this block has been increased from 3 weeks to 4 weeks.
- Consolidation of Year 1 material on the numbers to 100 is more explicit, and broken down into a greater number of steps.
- There is increased emphasis on partitioning and flexibility in representing numbers in different forms.
- This will support coming material on addition and subtraction.
- More use is made of the number line as a key representation, including to support comparing numbers

**Addition and subtraction (within 100)**

- The key concepts in this block have been broken down into even smaller steps to support learning and to more easily identify exactly where any intervention is needed.
- Closing these gaps early on will help children to gain greater success.
- Steps relating to each of addition and subtraction are grouped together more to support development of understanding of each concept.
- The column methods for addition and subtraction have been moved to Year 3.
- Adding by making 10 now features in Year 2 having been moved here from Year 1. This is supported by its own step and a related next step which explores adding to the next 10

**Geometry**

- More time is invested in line symmetry as this has been split into two steps to explore the different skills of identifying a line of symmetry and completing a shape given one "half" and the line of symmetry in more detail.
- The steps on making patterns with 2-D and 3-D shapes have been combined as they cover the same skill.
- Both repeating (ABABAB) and symmetric (ABCBA and ABCCBA) patterns are explored.

| Autumn Term | | | | | |
|---|---|---|---|---|---|
| **Strand** | **PM Unit** | **PM Unit Title** | **Lesson** | **NC Objective 1** | **NC Objective 2** |
| **Number** – Number and Place Value (approx. 3½ weeks) | 1 | Numbers to 100 (17 lessons) | Numbers to 20 | Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number (Year 1) | Read and write numbers from 1 to 20 in numerals and words (Year 1) |
| | | | Count in 10s | Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens (Year 1) | |
| | | | Count in 10s and 1s | 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 |
| | | | Recognise 10s and 1s | | |
| | | | Build a number from 10s and 1s | | |
| | | | Use a place value grid | | |
| | | | Partition numbers to 100 | | |
| | | | Partition numbers flexibly within 100 | | |
| | | | Write numbers to 100 in expanded form | | Read and write numbers to at least 100 in numerals and in words |
| | | | 10s on a number line to 100 | Identify, represent and estimate numbers using different representations, including the number line | |
| | | | 10s and 1s on a number line to 100 | | Recognise the place value of each digit in a two-digit number (tens, ones) |
| | | | Estimate numbers on a number line | | |
| | | | Compare numbers (1) | Compare and order numbers from 0 up to 100; use and = signs | Identify, represent and estimate numbers using different representations, including the number line |
| | | | Compare numbers (2) | | |
| | | | Order numbers | | |
| | | | Count in 2s, 5s and 10s | Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward | |
| | | | Count in 3s | | |
| **Number** – addition and subtraction (approx. 5 weeks) | 2 | Addition and subtraction (1) (13 lessons) | Fact families | Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 | |
| | | | Learn number bonds | | |
| | | | Add two multiples of 10 | | |
| | | | Complements to 100 (tens) | | |
| | | | Add and subtract 1s | | Solve problems with addition and subtraction: using concrete objects and pictorial |
| | | | Add by making 10 | | |

| Strand | PM Unit | PM Unit Title | Lesson | NC Objective 1 | NC Objective 2 |
|---|---|---|---|---|---|
| | | | Add using a number line | Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones | representations, including those involving numbers, quantities and measures |
| | | | Add three 1-digit numbers | | |
| | | | Add to the next 10 | Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones | |
| | | | Add across a 10 | | |
| | | | Subtract across a 10 | | |
| | | | Subtract from a 10 | Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: two two-digit numbers | Solve problems with addition and subtraction: applying their increasing knowledge of mental and written methods |
| | | | Subtract a 1-digit number from a 2-digit number – across 10 | Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones | Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures |
| | 3 | Addition and subtraction (2) (12 lessons) | 10 more, 10 less | Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward | |
| | | | Add and subtract 10s | Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and tens | |
| | | | Add two 2-digit numbers – add 10s and add 1s | | |
| | | | Add two 2-digit numbers – add more 10s then more 1s | | |
| | | | Subtract a 2-digit number from a 2-digit number – not across 10 | | |
| | | | Subtract a 2-digit number from a 2-digit number – across 10 | | |
| | | | How many more? How many fewer? | | |
| | | | Subtraction – find the difference | Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures | |
| | | | Compare number sentences | Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures | Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 |
| | | | Missing number problems | | |
| | | | Mixed addition and subtraction | | Solve problems with addition and subtraction: applying their increasing knowledge of mental and written methods |
| | | | Two-step problems | | |
| Geometry – properties of shape (approx. 2½ weeks) | 4 | Properties of shapes (12 lessons) | Recognise 2D and 3D shapes | Compare and sort common 2D and 3D shapes and everyday objects. | |
| | | | Count sides on 2D shapes | Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line | |
| | | | Count vertices on 2D shapes | | |
| | | | Draw 2D shapes | | |
| | | | Lines of symmetry on shapes | | |
| | | | Sort 2D shapes | Compare and sort common 2D and 3D shapes and everyday objects | |
| | | | Make patterns with 2D shapes | Order and arrange combinations of mathematical objects in patterns and sequences | |
| | | | Count faces on 3D shapes | Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces | |
| | | | Count edges on 3D shapes | | |
| | | | Count vertices on 3D shapes | | |
| | | | Sort 3D shapes | Compare and sort common 2D and 3D shapes and everyday objects | |
| | | | Make patterns with 3D shapes | Order and arrange combinations of mathematical objects in patterns and sequences | |

**Spring Term**

| Strand | PM Unit | PM Unit Title | Lesson | NC Objective 1 | NC Objective 2 |
|---|---|---|---|---|---|
| Measure – money (approx. 2 weeks) | 5 | Money (10 lessons) | Count money – pence | Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value | Recognise and know the value of different denominations of coins and notes (year 1) |
| | | | Count money – pounds (notes and coins) | | |
| | | | Count money – pounds and pence | | |
| | | | Choose notes and coins | | |
| | | | Make the same amount | Find different combinations of coins that equal the same amounts of money | |
| | | | Compare amounts of money | Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change | |
| | | | Calculate with money | | |
| | | | Make £1 | Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value | |
| | | | Find change | Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change | |
| | | | Two-step problems | | |
| | 6 | Multiplication & Division (1) | Recognise equal groups | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental | Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial |

| Strand | PM Unit | PM Unit Title | Lesson | NC Objective 1 | NC Objective 2 |
|---|---|---|---|---|---|
| **Number** – multiplication & division (approx. 4 weeks) | | (10 lessons) | | methods, and multiplication and division facts, including problems in contexts. | representations and arrays with the support of the teacher (year 1) |
| | | | Make equal groups | | |
| | | | Add equal groups | | |
| | | | The × sign | Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs | |
| | | | Multiplication sentences | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs |
| | | | Use arrays | | |
| | | | Make equal groups – grouping | | |
| | | | Make equal groups – sharing | | |
| | 7 | Multiplication & Division (2) (10 lessons) | 2 times-table | Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers | |
| | | | Divide by 2 | | |
| | | | Double and halve | Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. |
| | | | Odd and even numbers | | |
| | | | 10 times-table | | |
| | | | Divide by 10 | | |
| | | | 5 times-table | | |
| | | | Divide by 5 | | |
| | | | Bar modelling – grouping | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | |
| | | | Bar modelling – sharing | | |
| **Measurement** (approx. 2½ weeks) | 8 | Length & Height (5 lessons) | Measure in cm | 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 | |
| | | | Measure in m | | |
| | | | Compare lengths and heights | Compare and order lengths, mass, volume/capacity and record the results using >, < and = | |
| | | | Order lengths and heights | | |
| | | | Four operations with lengths and heights | Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures | |
| | 9 | Mass, capacity and temperature (8 lessons) | Compare mass | Compare and order lengths, mass, volume/capacity and record the results using >, < and = | |
| | | | Measure in grams | 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 | |
| | | | Measure in kilograms | | |
| | | | Compare volume and capacity | Compare and order lengths, mass, volume/capacity and record the results using >, < and = | |
| | | | Measure in millilitres | 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 | |
| | | | Measure in litres | | |
| | | | Measure temperature using a thermometer | | |
| | | | Read thermometers | | |

**Summer Term**

| Strand | PM Unit | PM Unit Title | Lesson | NC Objective 1 | NC Objective 2 |
|---|---|---|---|---|---|
| **Number** – fractions (approx. 2½ weeks) | 10 | Fractions (12 lessons) | Introducing parts and wholes | Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity | Recognise, find and name a half as one of two equal parts of an object, shape or quantity (Year 1) |
| | | | Equal and unequal parts | Recognise, find and name a half as one of two equal parts of an object, shape or quantity (Year 1) | |
| | | | Recognise a half | | |
| | | | Find a half | | |
| | | | Recognise a quarter | Recognise, find and name a half as one of two equal parts of an object, shape or quantity (Year 1) | Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity |
| | | | Find a quarter | | |
| | | | Thirds | Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity | |
| | | | Find the whole | | |
| | | | Unit and non-unit fractions | Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 | |
| | | | Recognise the equivalence of a half and two quarters | | |
| | | | Recognise three quarters | Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity | |
| | | | Count in fractions up to a whole | Non-statutory guidance: Pupils should count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line (for example, 1 ½, 1 2/4 (or 1 ½), 1 3/4, 2) | |
| **Measurement** – time (1 week) | 11 | Time (5 lessons) | O'clock and half past | Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times (Year 1) | |
| | | | Quarter past and quarter to | 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 | |
| | | | Tell the time to 5 minutes | | |
| | | | Minutes in an hour | Know the number of minutes in an hour and the number of hours in a day | |
| | | | Hours in a day | | |

| Number – addition & subtraction (approx. 1½ weeks) | 12 | Addition & Subtraction (11 lessons) | My way, your way! | Use place value and number facts to solve problems | Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems |
|---|---|---|---|---|---|
| | | | Use number facts | Use place value and number facts to solve problems | |
| | | | Use a 100 square | | Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems |
| | | | Getting started | | Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures |
| | | | Missing numbers | Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems | |
| | | | Mental addition and subtraction (1) | Use place value and number facts to solve problems | Solve problems with addition and subtraction: applying their increasing knowledge of mental and written methods |
| | | | Mental addition and subtraction (2) | | |
| | | | Efficient subtraction | Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures | |
| | | | Solve problems – addition and subtraction | Use place value and number facts to solve problems | Solve problems with addition and subtraction: applying their increasing knowledge of mental and written methods |
| | | | Solve problems – multiplication and division | Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. | |
| | | | Solve problems – using the four operations | Use place value and number facts to solve problems | |
| Geometry – position and direction (approx. 1 week) | 14 | Position & Direction (5 lessons) | Language of position | Use mathematical vocabulary to describe position, direction and movement, including 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) | |
| | | | Describe movement | | |
| | | | Describe turns | | |
| | | | Describe movement and turns | Use mathematical vocabulary to describe position, direction and movement, including 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) | |
| | | | Make patterns by turning shapes | | Order and arrange combinations of mathematical objects in patterns and sequences |
| Statistics (approx. 1 ½ weeks) | 15 | Statistics (7 lessons) | Make tally charts | Interpret and construct simple pictograms, tally charts, block diagrams and simple tables | |
| | | | Tables | | |
| | | | Block diagrams | | |
| | | | Draw pictograms (1 to 1) | | |
| | | | Interpret pictograms (1 to 1) | Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity | Ask and answer questions about totalling and comparing categorical data |
| | | | Draw pictograms (1 to 2, 5 or 10) | Interpret and construct simple pictograms, tally charts, block diagrams and simple tables | |
| | | | Interpret pictograms (1 to 2, 5 or 10) | Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity | Ask and answer questions about totalling and comparing categorical data |