# Year 1 Learning and Progression Steps for Mathematics 

## What are Learning and Progression Steps (LAPS)?

The Learning and Progression Steps are designed to scaffold the learning required in order to meet the expectations of the National Curriculum. Statements in the Lancashire Key Learning for Mathematics document have been broken down into smaller steps to support teachers in planning appropriate learning opportunities. These key pieces of learning will support pupils in becoming fluent in the knowledge and skills of the curriculum and ensure that the learning is effective and sustained.

The number of steps is dependent on the learning and do not constitute expectations for the end of each term. The colour coding is an approximate indicator of end term expectations
Orange (including the end of previous year expectation) are the steps in learning for the autumn term.
Green are the steps in learning for the spring term.
Yellow are the steps in learning for the summer term and incorporate the end of year expectations.
The colours correspond with the structure of the Lancashire Mathematics Curriculum and reflect how often each learning objective is explicitly taught across the year. Some key learning objectives are not taught in every term, and in some cases not in the summer term. This means that end of year expectations may need to be met before the end of the summer term

The final step in the progression for each strand of learning is the end of year expectation.
The steps are not of equal size and different amounts of time may be required for children to move between individual steps. For example,

| Understand how <br> multiplication and <br> division statements <br> can be represented <br> using arrays | Use arrays to identify what the term <br> 'factor' means | Use arrays to identify all the factor <br> pairs of a given number | Identify factor pairs of a given number <br> within the multiplication tables that <br> they know |
| :--- | :--- | :--- | :--- | | Progression is likely to be |
| :--- |
| within the same lesson | | Progression is likely to be |
| :--- |
| over a series of lessons |

Some learning within the same end of year expectation has been split and designed to run concurrently alongside each other. For example,

```
Read and write number
up to }1000\mathrm{ in numerals
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    and in words
    | Read multiples of 1000 to 10000 in <br> numerals and in words | Read multiples of 100 to 10000 in <br> numerals and in words | Read numbers to 10000 where 0 is <br> not used as a place holder | Read numbers to 10000 where 0 is <br> used as a place holder |  |
| :---: | :---: | :---: | :---: | :---: |
| Write multiples of 1000 to 10000 in <br> numerals and in words | Write multiples of 100 to 10000 in <br> numerals and in words | Write numbers to 10000 where 0 is <br> not used as a place holder | Write numbers to 10000 where 0 is <br> used as a place holder |  |

## Read and write numbers to at least 10000

Some LAPS may need to be completed before another can be started.

## Where have they come from?

The Learning and Progression Steps (LAPS) have been derived from the Lancashire Key Learning in Mathematics statements, identified primarily from the National Curriculum 2014 programmes of study.

## How are they different from the Key Learning Statements?

The Learning and Progression Steps (LAPS) are smaller, progressive steps which support learning towards the Key Learning in Mathematics expectations.

## How are they different from the Key Learning Indicators of Performance (KLIPs)?

The Key Learning Indicators of Performance (KLIPs) document is an assessment tool. The Learning and Progression Steps (LAPS) document is a planning tool and is not intended to be used for summative assessment purposes. However, they may support teachers in judging whether children are on track to meet the end of year expectations at different points throughout the year.

The terms 'entering', 'developing' and 'secure' are used in Lancashire's assessment approach, KLIPs, as summative judgements in relation to age related expectations. Definitions for these terms can be found in the introduction to the KLIPs document.

## How might Learning and Progression Steps (LAPS) in Mathematics be useful?

Learning and Progression Steps (LAPS) may be used in a number of ways. For whole class teaching, LAPS may be used to support differentiation. When planning, it may be appropriate to use LAPS statements to inform learning objectives for a session or number of sessions. Learning and Progression Steps (LAPS) in Mathematics should be selected according to the learning needs of the individual or group. Emphasis however, should always be on developing breadth and depth of learning to ensure skills, knowledge and understanding are sufficiently embedded before moving on.
The LAPS should not be used as an assessment tool, but they can inform teachers about children's progress towards the end of year expectations at the end of each term.

## Are LAPS consistent with the other resources from the Lancashire Mathematics Team?

Yes, the LAPS are related to the content of the Mathematics Planning Support Disc and also the Progression Towards Written Calculation Policies and the Progression in Mental Calculation Strategies.
These can be found on the website:
www.lancsngfl.ac.uk/curriculum/primarymaths

## Key Learning in Mathematics - Year 1

## Number - number and place value

- Count to and across 100 , forwards and backwards, beginning with 0 or 1 , or from any given number
- Count in multiples of twos, fives and tens
- Read and write numbers to 100 in numerals
- Read and write numbers from 1 to 20 in numerals and words
- Begin to recognise the place value of numbers beyond 20 (tens and ones)
- Identify and represent numbers using objects and pictorial representations including the number line
- Use the language of: equal to, more than, less than (fewer), most, least
- Given a number, identify one more and one less
- Given a number identify ten more or less
- Order numbers to 50
- Recognise and create repeating patterns with numbers, objects and shapes
- Identify odd and even numbers linked to counting in twos from 0 and 1
- Solve problems and practical problems involving all of the above


## Number - fractions

- Understand that a fraction can describe part of a whole
- Understand that a unit fraction represents one equal part of a whole
- Recognise, find and name a half as one of two equal parts of an object shape or quantity (including measure)
- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity (including measure)

Number - addition and subtraction

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

Number - multiplication and division

- Recall and use doubles of all numbers to 10 and corresponding halves
- 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


## Measurement

- Measure and begin to record:
- lengths and heights, using non-standard and then manageable standard units ( $\mathrm{m} / \mathrm{cm}$ )
- mass/weight, using non-standard and then manageable standard units (kg/g)
- capacity and volume using non-standard and then manageable standard units (litres/ml)
- time (hours/minutes/seconds)
within children's range of counting competence
- Compare, describe and solve practical problems for: - lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)
- 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)
- time (for example, quicker, slower, earlier, later)
- Recognise and use language relating to dates, including days of the week, weeks, months and years
- Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
- Recognise and know the value of different denominations of coins and notes


## Statistics

- Sort objects, numbers and shapes to a given criterion and their own
- Present and interpret data in block diagrams using practical equipment
- Ask and answer simple questions by counting the number of objects in each category
- Ask and answer questions by comparing categorical data


## Geometry - properties of shapes

- Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles
- Recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres


## Geometry - position and direction

- Describe movement, including whole, half, quarter and three-quarter turns
- Recognise and create repeating patterns with objects and shapes
- Describe position and direction

These Learning and Progression Steps (LAPS) are designed to show the necessary steps in learning to make effective and sustainable progress within a single year. They begin with the 'end of year' expectation from the previous year and build up to the 'end of year expectation' of the current year.

The number of steps is dependent on the learning and do not constitute expectations for the end of each term.
The steps are not of equal size and different amounts of time may be required for children to move between individual steps.

|  | End of EYFS expectation | Learning and Progression Statements |  |  |  |  |  |  |  | End of Year 1 expectation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Count reliably with numbers from 1 to 20 | Count within 0 to 20 forwards and backwards from any number understanding that 0 represents the value of an empty set and the number that is before one in the counting sequence | Count to at least or 0 forward backwards (ens there is increased on the ability to backwards | rom 1 that phasis unt | Count to forwards (ensure increased the abi bac | om 1 or 0 ackwards there is hasis on count ds) |  | 00 from any rwards and (ensure that ncreased n the ability backwards) | Count across 100 forwards and backwards to develop familiarity with the patterning of the number system (there is no need to go beyond 130 as this exemplifies the pattern adequately) | Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number |
|  | Count reliably with numbers from 1 to 20 | Recite and know the sequence of counting in tens from zero paying particular attention to twenty, thirty and fifty whose names do not follow the root number | Recite and know the sequence of counting in fives from zero |  | d know the ence of in twos zero | Count ob twos (thes more fa numb |  | Count objects in fives | Count objects in tens | Count in multiples of twos, fives and tens |
|  | Recognise numbers from 1-20 <br> Read numbers from 1-20 in numerals | Read numbers to 20 |  | Read 'tens' numbers to 100 and understand the difference between 'teens' numbers and multiples of tens, e.g. 18 and 80 |  |  |  | Read | numbers to 100 | Read and write |
|  |  | Write numbers to 20 |  | Write 'tens' numbers to 100 and understand the difference between 'teens' numbers and multiples of tens |  |  |  | Write | numbers to 100 | numerals |
|  | Recognise numbers from 1-20 <br> Read numbers from 1-20 in numerals | Read numbers from 1 to 20 in numerals (as above) |  |  |  | Read numbers in words from 1 to 20 |  |  |  |  |
|  |  | Write numbers from 1 to 20 in numerals (as above) |  |  |  | Write numbers in words from 1 to 20 |  |  |  | numerals and words |
|  |  | NB (Number words are in the following phonics phases: phase 2: ten; phase 3: six; phase 4: three, seven, one; phase 5: five, nine, four, eight; phase 6: two. Numbers beyond 10, as polysyllabic words, come next) |  |  |  |  |  |  |  |  |



|  | End of EYFS expectation | Learning and Progression Statements |  |  |  |  |  |  |  | End of Year 1 expectation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | These steps fit the Lancashire Progression Towards Written Calculation Policies and Progression in Mental Calculations Policies |  |  |  |  |  |  |  |  |  |
|  | Understand addition as combining two or more parts to make a larger group (the whole) Understand subtraction as taking away a part from the whole to leave the other part Begin to record number stories using number sentences | Use pictures and symbols to write mathematical statements involving addition (+), subtraction (-) and equals (=) signs when representing a simple problem, e.g. and identify which groups in the number sentence are the parts and which is the whole |  | Read mathematical statements involving addition ( + ), subtraction $(-)$ and equals (=) signs, including where the $=$ sign is at the start of the calculation, e.g. $7=3+4$ and identify which groups in the number sentence are the parts and which is the whole |  | Interpret mathematical statements involving addition ( + ), subtraction <br> $(-)$ and equals (=) signs and model them using pictures or practical equipment, including where the $=$ sign is at the start of the calculation, e.g. $7=3+4$ and identify which groups in the number sentence are the parts and which is the whole |  | Write involving <br> $(-)$ an represen $5+4=$ sig <br> and id number | thematical statements addition (+), subtraction equals (=) signs when ing a simple problem, e.g. , including where the = is at the start of the calculation, e.g. $7=3+4$ <br> tify which groups in the ntence are the parts and ich is the whole | Read, write and interpret mathematical statements involving addition ( + ), subtraction $(-)$ and equals (=) signs |
|  | Know number bonds to 10 | Use concrete materials, such as ten frames, to represent addition facts for ten |  |  | Use concrete materials, such as ten frames, to represent subtraction facts from ten | Use concrete materials, such as ten frames, to represent addition facts for twenty |  | crete , e.g. explore nship dition and number for 20 | Use concrete materials, such as ten frames, to represent subtraction facts from twenty | Represent and use number bonds and related subtraction facts within 20 |
|  | Using quantities and objects, they add and subtract | Add two single digit materials or pictures | mbers using a counting | concrete <br> method | Add two single digit materials or pictures a | mbers using concrete a counting on method | Add a | and two appropri | igit number using an strategy | Add and subtract onedigit and two-digit numbers to 20, |
|  | numbers and count on or back to find the answer | Subtract a one-dig | mber from es and a | other usi g away m | oncrete materials or od | Subtract a one-digit fr | a two-dig | mber usi | an appropriate strategy | concrete objects and pictorial representations) |
|  | Solve problems | Solve one-step problems involving addition | Solve proble sub | e-step involving ction | Identify whether onestep problems are addition or subtraction and solve accordingly | Use concrete materials to create linked calculations, e.g. $\begin{aligned} & 3+4=7,4+3=7 \\ & 7=3+4,7=4+3 \\ & 7-3=4,7-4=3 \\ & 4=7-3,3=7-4 \end{aligned}$ |  | crete <br> o solve a <br> number <br> where a <br> ven first, <br> 7 (and <br> $+\square$ ), <br> 3 (and <br> - $\square$ ) | Use concrete materials to solve a missing number problem where a digit may not be given first, e.g. $\begin{gathered} \square+3=7 \text { (and } \\ 7=\square+3), \\ \square-4=3 \text { (and } \\ 3=\square-4) \end{gathered}$ | Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7=\square-9$ |


|  | End of EYFS expectation | Learning and Progression Statements |  |  |  |  |  | End of Year 1 expectation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Understand that doubling is adding the same number to itself and that it is multiplying by 2 <br> Understand that halving is sharing into two equal portions and that this is dividing by 2 | Use concrete materials to model doubles as adding the same number to itself | Recall doubles for one to five | Recall doubles for six to ten | Use concrete materials to model halves as splitting a group into two equal parts | Recall halves for even numbers to ten using finger patterns to support if required | Recall halves for even numbers from 12 to 20 | Recall and use doubles of all numbers to 10 and corresponding halves |
|  | Solve problems involving doubling, halving and sharing | See | Children need frequ and Applying, Context | ccess to a range of arning and Assess | xts using the conten ections from the Lan | all of the above. <br> Mathematics Plan |  | 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 |


|  | End of EYFS expectation | Learning and Progression Statements |  |  |  |  |  | End of Year 1 expectation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No equivalent objective in EYFS | Use concrete materials e.g. chocolate bars or fruit to split the whole into different parts and recognise that each part is a fraction of the whole |  | Split 2-D shapes into different parts and recognise that each part is a fraction of the whole shape |  | Split quantities into different parts and recognise that each part is a fraction of the whole quantity |  | Understand that a fraction can describe part of a whole |
|  | No equivalent objective in EYFS | Use concrete materials e.g. chocolate bars or fruit to split the whole into equal parts and recognise that each part is a unit fraction of the whole e.g. when a chocolate bar is split into three equal parts each part is one third of the whole bar |  | Split 2-D shapes into equal parts and recognise that each part is a unit fraction of the whole shape |  | Split quantities into equal parts and recognise that each part is a unit fraction of the whole quantity |  | Understand that a unit fraction represents one equal part of a whole |
|  | Understand that halving is sharing into two equal portions and that this is dividing by 2 | Recognise and name a half as one of two equal parts of a shape | Recognise and name a half as one of two equal parts of an object (using objects that can be accurately halved e.g. a KitKat) |  | Recognise and name a half as one of two equal parts of an even quantity |  | Recognise and name a half as one of two equal parts of an odd quantity | Recognise, find and name a half as one of two equal parts of an object, shape or quantity (including measure) |
|  |  | Find a half of a shape | Find a half of an object (using objects that can be accurately halved e.g. a KitKat) |  | Find a half of an even quantity |  | Find half of an odd quantity using materials that can be cut e.g. grapes or buns |  |
|  | No equivalent objective in EYFS | Recognise and name a quarter as one of four equal parts of a shape |  | Recognise and name a quarter as one of four equal parts of an object (using objects that can be accurately quartered e.g. a KitKat) |  | Recognise and name a quarter as one of four equal parts of a quantity (which is a multiple of 4) |  | Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity (including measure) |
|  |  | Find a quarter of a shape |  | Find a quarter of an object (using objects that can be accurately quartered e.g. a KitKat) |  |  | Find a quarter of a quantity (which is a multiple of 4) |  |


|  | End of EYFS expectation | Learning and Progression Statements |  | End of Year 1 expectation |
| :---: | :---: | :---: | :---: | :---: |
|  | Begin to use mathematical names for 'flat' 2-D shapes, and mathematical terms to describe shapes <br> Select a particular named 2-D shape | Name common 2-D shapes including when presented in different orientations | Identify common 2-D shapes from within a wider selection that includes a full range of shapes e.g. finding all the squares within a selection of quadrilaterals | Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles |
|  | Begin to use mathematical names for 'solid' 3-D shapes, and mathematical terms to describe shapes <br> Select a particular named 3-D shape | Name common 3-D shapes including when presented in different orientations | Identify common 3-D shapes from within a wider selection that includes a full range of shapes e.g. finding all the cuboids within a selection of 3-D shapes | Recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres |


|  | End of EYFS expectation | Learning and Progression Statements |  |  |  |  |  | End of Year 1 expectation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No equivalent objective in EYFS | Describe turning movements for whole and half turns | Describe t | ing movements using t and right | Describe turning move quarter turns including and right | ents for sing left | Describe turning movements for three-quarter turns including using left and right | Describe movement, including whole, half, quarter and threequarter turns |
|  | No equivalent objective in EYFS | Describe position using the terms top, middle and bottom | Describe on top of, betw | ition using the terms ront of, above, below, , around, inside d outside | Describe position using the terms near, close and far |  | Describe position using the terms before, after and the ordinal numbers e.g. first, second, third... | Describe position and direction |
|  |  | Describe direction using forwards and backwards |  | Describe direction using up and down |  | Describe direction using sideways, left and right |  |  |
|  | Recognise, create and describe patterns | Recognise and create a repeating pattern using two objects and shapes |  | Recognise and create a repeating pattern using three objects and shapes |  | Recognise and create a repeating pattern using more than three objects and shapes |  | Recognise and create repeating patterns with objects and shapes |


|  | End of EYFS expectation | Learning and Progression Statements |  |  |  |  |  | End of Year 1 expectation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No equivalent objective in EYFS | Identify criteria that different objects have in common e.g. these cars are all pink |  | Sort objects to a given criterion |  | Sort objects using their own criterion |  | Sort objects, numbers and shapes to a given criterion and their own |
|  |  | Identify criteria that different sha common e.g. these shapes all have are triangles | have in sides so | Sort shapes to a given criterion |  | Sort shapes using their own criterion |  |  |
|  |  | Identify criteria that different num common e.g. these numbers are than 8 | have in reater | Sort numbers to a given criterion |  | Sort numbers using their own criterion |  |  |
|  | No equivalent objective in EYFS | Present and interpret (see below LAPS) data in block diagrams using concrete materials |  |  | Interpret (see below LAPS) data in block diagrams presented using concrete materials |  |  | Present and interpret data in block diagrams using concrete materials |
|  | No equivalent objective in EYFS | Answer questions which ask 'How many...?' in a given data category | Ask questions such as 'How many...?' in a given data category |  | Answer questions which ask 'How many...?' in two given data categories |  | Ask questions such as 'How many...?' in two given data categories | Ask and answer simple questions by counting the number of objects in each category |
|  | No equivalent objective in EYFS | Use language of comparison to compare data categories e.g. more children have a pet cat than a pet dog |  | Answer questions which ask 'How many more...?' or 'How many fewer...?' when comparing two categories in a block diagram using concrete materials |  | Ask questions such as 'How many more...?' and 'How many fewer...?' when comparing two categories in a block diagram |  | Ask and answer questions by comparing categorical data |


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| Use everyday language to talk about time | Use language of before, after, next and first |  | Use language of mornin | afternoon and evening | Use language of today, yesterday and tomorrow |  | Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Use everyday language to talk about time | Tell the time to the hour | Tell recogn not be will be | time to the half hour that the hour hand will tly on the hour (NB - it ly half way between the our numbers) | Draw the hands on a clock to show times to the hour |  | Draw the hands on a clock to show times to half past the hour recognising that the hour hand is between the hour numbers | Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times |
| Use everyday language to talk about money | Recognise 1 p, $2 \mathrm{p}, 5 \mathrm{p}, 10 \mathrm{p}$ and 20 p coins by colour, shape, size and/or numerals/words | Exchange a $2 p, 5 p, 10 p$ and 20 p coin for the correct number of $1 p$ coins |  | Recognise and know the value of 50 p, $£ 1$ and $£ 2$ coins by colour, shape, size and/or numerals/words |  | Recognise and know the value of $£ 5$, £10 and $£ 20$ notes | Recognise and know the value of different denominations of coins and notes |

