

Forest Way School Maths Curriculum



Rationale

At Forest Way we recognise the importance of maths in ensuring our learners are as independent as possible and have the mathematical skills to meet their potential. Our learners are at the heart of this curriculum which has been written to ensure they reach their potential.

Intent

We want our learners to be independent as they can be in readiness for life beyond school. The FW maths curriculum will give them the confidence, resilience, numerical and problem-solving skills needed to succeed in life. The curriculum is progressive, consolidating previous learning, allows for our learners to progress at their own rate, ensures no learners' potential is limited and that every learner has the chance to master each growing part of the 'Apple Tree' at their own pace. The 'Apple Tree' is split into 6 areas of progression through maths, guided by the National Curriculum and Development Matters. Teaching and learning is adapted to meet the needs of our learners with consideration for preparing them to be as independent as possible. The content of these 6 areas of progression are grouped into the below 7 areas of maths.

Number and Place Value - the understanding, recognising, using and applying of number skills is important for our learners as we aim for our learners to use number in their everyday lives, for example this may be recognising numbers on a bus and clothing to applying number skills to demonstrate their understanding to gain access to courses beyond Forest Way.

Time- the recognising of, understanding, using and applying of time is important for our learners as we aim for our learners to be able to monitor time, plan for time and understand the importance of time in their everyday lives.

Money- the recognising of, understanding value and change and different ways to pay is of importance as we aim for our learners to be able to use money correctly and responsibly and be confident to do this.

Measure- the familiarisation and understanding of different measures is important for our learners in a variety of situations e.g. cooking, and also allows them to use measure when communicating with others.

Fractions (+Decimals and Percentages) – A part of our every-day lives, recognising wholes and parts of number and shape.

Geometry- the recognition of shapes, using shape, and understanding, following, and giving instructions contributes towards our learners recognising objects in real life, describing, and navigating and negotiating space.

Statistics- the gathering, displaying, and interpreting of data helps our learners to understand that knowledge can be obtained and extracted from different sources, it also enables our learners to work on their communication skills.

Implementation

Maths is taught through a multi-sensory curriculum approach, with individual learner needs in mind. Learning objectives are set based on learner needs and where they are working within the 'Apple Tree' analogy. Learners are supported through a variety of ways to enable them to meet their learning objective and their potential in readiness for life after school. Lessons are multidisciplinary and wherever possible and appropriate lessons link across the seven areas of maths. For example, if a learner is exploring the concept of 3, they would also explore a triangle as that has 3 sides, could be introduced to a clock and ruler, and locate the number 3 etc. The aim is to master knowledge and skills at each step.

Progression - The following curriculum shows knowledge and skills progression through maths. It contains 6 areas of progression; within each area the 7 areas of maths are detailed. Statements within the different areas of maths are grouped into sub-categories which are then displayed in progressive order. The 6 areas of progression (Seeds to Apples) move from experiential learning to preparation for adulthood and potentially accessing functional skills tests ready for further education. This curriculum is to be used alongside the 'real life scenario' guidance, further building on preparation for adulthood. The FW Maths curriculum draws upon The National Curriculum (2014), The DFE Ready to Progress guidance, The EYFS Framework, The Engagement Profile, and the Pre-Key Stage Standards.

Teachers should work through the curriculum working progressively in letter order. Move from A1 and then progress to A2 etc then across to B1 etc. Teachers should break down each aspect of learning as they see fit for their students. It doesn't matter how long this takes. Some learners may take several lessons – or longer on the same target. Teachers can find different approaches to teaching a concept that matches an individual's learning style. Students should not be moved on too soon. They must be secure in their knowledge, understanding and application before moving on so there are not gaps in learning. At the end of each area of the tree there are some progression statements. If students do not have concrete knowledge and understanding of these statements then they are not ready to progress to the next area of the tree. Helpful guidance and assessment and questioning examples can be found in the Government's Ready to Progress guidance (link):

[Mathematics guidance: key stages 1 and 2 \(covers years 1 to 6\) \(publishing.service.gov.uk\)](https://publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/824222/mathematics-guidance-key-stages-1-and-2-covers-years-1-to-6.pdf)

6 Areas of the Tree



Seeds -The very beginning of any learning journey. This is not subject specific though links to maths can be made in the learning/experiences.

Roots- The foundations and the beginning of the mathematical journey. This is where our learners experience, explore and start to grow on their mathematical journey. Without having firm roots, learners cannot progress in their knowledge and understanding of the subject.

Trunks-This is the core, the skills that support everything else. Our learners move on from exploration to more tangible concepts and develop their sense of number, time, money, measure, geometry, and statistics.

Branches- Our learners now begin to branch out, begin to expand and apply their knowledge and understanding for real life use.

Leaves- An area of further growth and in preparation for the application of mathematics for further learning. Our learners expand on their learning and actively apply and use their mathematical knowledge in new scenarios, preparing them for adulthood. The use of comprehension and problem solving is key at this stage for our pupils.

Apples and **Orchards**- Preparing for a new beginning, real life, adulthood and to achieve qualifications to enter their chosen course.

Functional Skills with Open Awards

We have highlighted the key skills that appear in the Functional Skills tests for KS4 and P16 teachers to be aware of:

Bold - Entry Level 1

Bold – Entry Level 2

Bold – Entry Level 3

Learners may be assessed against the Orchards statements which outline the skills required for Entry Level 1, 2 and 3. The Orchards statements are not progression statements as the progression is monitored throughout Seeds to Apples.

Students will focus on learning that supports the Maths Functional skills at a level appropriate to them once they begin in KS4 and so will no longer follow this FW Curriculum, though will be useful to keep it in mind.

If learners have reached the Leaves level before KS4 then they will be on the Vocational pathway and likely to be aiming for Entry 3 or Level 1 functional skills. Depending on their speed of progression it might be that other qualifications might need to be explored and discussion will need to take place with SLT about their pathway.

Key concepts that should run through each of these stages

- Application across a range of scenarios
- Problem solving
- Use of mathematical language
- Real life scenarios/relevance to real life (relevant to the individual student)

Impact

This curriculum links directly to the whole school aim and vision for all learners to 'Thrive at Forest Way'. We empower our learners to achieve their mathematical potential, be confident in their mathematical ability and as independent as possible, enabling them to apply maths in real life and where applicable complete functional skills tests in order to access further education. This will be evidence through IEP targets, Tapestry, small steps assessment, pre-key stage standards and the engagement profile. This 'basket of indicators' forms a complete picture of the positive impact of maths on our learners' abilities.

SEEDS

Equivalent levels: P1 to P4/Engagement Profile

The 'Seeds' phase consists of 3 parts and has been devised from The EYFS Framework and The Engagement Profile. The 3 parts are briefly explained below.

Experience- pupils are to be introduced to a range of early mathematical activities

Engage- pupils should be given opportunity and encouraged to engage with activities and demonstrate their curiosity.

Respond- pupils should be given opportunity and encouraged to respond to activities and investigate objects and what can be done with them

The Engagement Profile included the 5 pillars which are –

Exploration – a pupil can build on their initial reaction to a new stimulus or activity

Realisation – how the pupil interacts with a new stimulus or activity or discovers a new aspect of a familiar stimulus or activity

Anticipation – how much the pupil predicts, expects, or associates a stimulus or activity with an event.

Persistence – a pupil can sustain their attention in a stimulus or activity for long enough that they can actively try to find out more and interact with it

Initiation – how much, and the different ways, a pupil investigates a stimulus or activity to bring about a desired outcome

It is important to note that for our NSSL learners, 'Maths' is not something that has to have a stand along session. Mathematical learning falls within 'cognition and Learning' which can encompass many skills, not just those found in the subject of Maths. It is important that sessions take this into account and that communication and exploration are a key feature of sessions.

Cognition is divided into four areas:

- awareness
- exploration
- control and early problem solving
- sequence and pattern

There is no expectation at this level that learners 'understand' mathematical concepts but that they are able to explore aspects of it that are of relevance and interest to them and their daily lives. I.e. they may explore Big and Small and get a sense that these are different – but they are

not expected to be able to have full understanding in this even though understanding (cognition) may well show development after repetition. For full understanding, this (understanding of 'big' and 'small') would need to be able to transfer to any and all objects not just those that have been explored in their sessions, and this is not expected at engagement level.

Area of Maths	Suggestions of activities/focus for NSSL/Engagement level students – SEEDS
Number/Place Value	• Developing awareness of number names through their enjoyment of action rhymes and songs. Pupils may communicate consistent preferences for certain number songs • Develop growing awareness of few and lots/more • Noticing changes in number of objects /images or sounds in a group of up to 3 • Exploratory play with sets of objects to 3 • Exploratory play with large numbers or magnetic numbers hidden in messy media (no need to understand the numeral – just getting used to seeing a 'number shape'. • Play games such as bowling to see a starting amount go down to 'less'/a smaller amount
Fractions	• Practice cutting, breaking, folding items to make different parts • Playing with Duplo blocks or other toys in parts– put together, pull apart • Finding the matching half in messy media – observing how they make a 'whole' thing
Time	• Get to know and enjoy daily routine, develop anticipation for sequence • Develop understanding of routine – knowing that something is about to happen 'now' • Play games with 'go/start' and 'stop/finish' • Now and next activities/First, then • Night (dark) and day (light) – experience • Cause and effect – waiting for things to happen • Fast and slow

Money	Exchanging one item for another – this does not have to be ‘money’ at this stage
Geometry and Measure	- Co-operate with shared exploration of shape, colour, size - Actively explore (or explore with support) items relating to colour, shape and variation in size and weight - Object permanence activities - Prepositions – real life, simplistic through play – in/out, up/down, on/under, on/off, - Develop understanding that things exist even when out of sight - Simple matching or pairing, or exploration of this concept – real life objects initially - Explore and observe filling and emptying containers, problem solving – getting things in or out of containers - Inset puzzles to promote problem solving, matching, spatial awareness, shape
Statistics	- Simple matching or pairing, or exploration of this concept – real life objects initially - Begin to organise and categorise objects e.g. choosing all/putting all the teddies together or choosing/picking out items of interest vs not. – showing preferences for one group over another

ROOTS

Equivalent levels: P4 – P8/EYFS/Pre-key Stage 1 Standards

	Roots A	Roots B	Roots C	Roots D	Roots E
Number/PV	Number A1 Follow a counting sequence within 3	Number B1 Count reliably within 3, counting out up to 3 objects and use numbers to three in familiar activities and games	Number C1 Understanding of one-to-one correspondence and Cardinal numbers (The last number name used gives the total number of objects) Matching concrete objects and pictorial	Number D1 Understand 6, 7, 8 – counting, ordering, composition.	Number E1 Use ordinal numbers (first, second, third) when describing the position of objects, people, or events
	Number A2 Respond to and join in with familiar number rhymes, stories, songs, and games (0-5)	Number B2 Understand the value of 1-5, counting out sets of 1 – 5 and ordering sets of objects (no need to read numerals)	Number C2 Begin to Subitise - within 5 in a range of ways (formats and situations)	Number D2 Understand 9 and 10 – counting, ordering and composition	Number E2 Recognise +, - and equals and can add and subtract 1-3 from numbers up to 10
	Number A3 Demonstrates an understanding of more and less	Number B3 Find 1 more and 1 less within the range of 1-5 using objects	Number C3 Develop understanding of the composition of numbers 1-5 (4 can be 1 and 3 or 2 and 2) using concrete objects	Number D3 Continue to rote count onwards from a given small number up to 10 (for example, continuing the rote count onwards in a game using dice and moving counters up to 10)	Number E3 Within 10 – explore odds and evens, how quantities can be shared equally or not.

Fractions	Number A4	Demonstrates an understanding of 1 and lots	Number B4	Recognise numerals 1-5 when seen in many different contexts and fonts	Number C4	Automatically recall number bonds to 5 and use this knowledge in play situations.	Number D4	Develop understanding of the composition of numbers 5-10 and make number bonds in different ways	Number E4	Within 10 – explore double facts
	Fraction A1	I can recognise parts of an item.	Fraction B1	With support complete a simple jigsaw.	Fraction C1	I can complete a simple jigsaw independently.	Fraction D1	Shade in only half of a pre-halved shape - showing understanding of half	Fraction E1	I can halve an item i.e. fold a square or snap a biscuit
	Fraction A2	Help someone to complete a jigsaw			Fraction C2	Complete the other half of a drawing i.e. a face, a butterfly			Fraction E2	Combine halves to make wholes – i.e. 2D shapes, symmetrical images
	Time A1	Identify clocks from other items	Time B1	Understand (and use) vocabulary related to time, e.g. quicker, slower, later,	Time C1	Ordering daily routine - Sequence 2 to 5 pictures of daily routine	Time D1	Use the terms before, after, next, first, and last in relation to events	Time E1	Show awareness of time, through some familiarity with names of the days of the week and significant times in their day
	Time A2	Play games to understand the passing of time i.e. races to do a task.	Time B2	Sort events into those we do in the day or at night	Time C2	Show understanding of a variety of language related to time, e.g. midnight, morning, afternoon, evening	Time D2	Understand and use words such as today, yesterday, and tomorrow		
	Money A1	Identifying coins from other objects	Money B1	Matching and sorting coins	Money C1	Experience receiving change	Money D1	Begin to demonstrate an understanding that different products have different exchange values.	Money E1	Exchange the correct number of pennies for an item up to 10p
Time										
Money										

Geometry	Money A2	Exchanging a coin for an object	Money B2	Identifying and naming coins		Money D2	Exchanging more than one coin for an item Read price labels in 'pence'	Money E2	Use coins (2p, 5p, 10p) to make amounts to 10 in different ways.	
	Geometry A1	Can fill an object	Geometry B1	Can move an object at different speeds	Geometry C1	Copy simple patterns – using real-life materials	Geometry D1	Recognise the concept of 'same' in various situations	Geometry E1	Show an understanding of simple positional language with objects – in, on, under , next to, above , in front , behind
	Geometry A2	Can recognise different sizes	Geometry B2	Exploring patterns – real life – recognise pattern or not a pattern	Geometry C2	Continue a 2-step pattern and discuss how they know it is a pattern – reasoning. Use simple reasoning to explain why something is not a pattern	Geometry D2	Following and acting on simple instructions – movement of own body i.e. forwards, backwards, in, on, under	Geometry E2	Matching and sorting 2D shapes
	Geometry A3	Can change the shape of a materials	Geometry B3	Identify the largest or small shape of two	Geometry C3	Demonstrate there are contrasting quantities e.g. ordering the shapes		Geometry E3	Naming and identifying 2D shapes and in relation to real life objects	
NB: Much of 'Measure' cannot stand alone – it needs to link with Number and Place value										
Measure	Measure A1	Move an object at different speeds	Measure B1	Recognise that there are different temperatures for different things (i.e seasons, foods, drinks, taps)	Measure C1	Match and identify groups of big and small. Use vocab 'Big' and 'Small' accurately	Measure D1	Say if an object is heavy or light and use the language associated with this and making comparisons.	Measure E1	Solve practical problems relating to knowledge of measure so far – i.e. will this fit in here?

Statistics	Statistics A1	Be able to copy a simple pattern	Measure B2	Say if something is hot or cold	Measure C2	Recognise concept of 'same' or 'different' in relation to different measures		
			Statistics B1	Sort objects into colours	Statistics C1	Sort 2 and 3 sets of objects to make a physical chart		
			Statistics B2	Sort and compare big and small objects on request				
							Statistics D1	Sort objects by shapes – make a visual representation
							Statistics D2	Gains information from pictograms
							Statistics E1	Uses most, least, counting skills, comparative language when looking at different visual representations
							Statistics E2	Make a visual representation to answer a question (i.e pictograms for a purpose)

Progression Statements (Roots) –

Number & Place Value –Pupils should understand that the total number of objects changes when items are added or taken away, but that the number of objects remains the same when they are rearranged provided nothing has been taken or added.

- Pupils should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

Fraction – pupils should be able to understand the uses of halves.

Time – pupils should be able to understand the order of the day and the vocabulary its uses.

Money – pupils should be able to understand that different coins can be uses for different products.

Geometry – pupils should be able to identify the 2D shapes.

Measure – pupils should be able to understand and compare the difference between big, small, heavy, and light. Also, to solve the practical measure.

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Statistics – pupils should be able to sort patterns, understanding pictogram.

TRUNKS

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Equivalent levels: KS1- Yr1 (A, B, C) - Yr2 (D, E)

	Trunks A		Trunks B		Trunks C		Trunks D		Trunks E	
Number/pv	Number A1	Solve number problems involving the addition and subtraction of single-digit numbers up to 10 (in various ways for different purposes – concrete/pictorial/abstract)	Number B1	Count, read, write and order numbers 0-20 Forwards and backwards	Number C1	Count forwards, backwards and recognise and sequence odd and even numbers within 100	Number D1	Demonstrate understanding of inverse relationships – addition and subtraction (i.e. 2 + 4 = 6 and so 6 – 4 = 2) investigate in different ways	Number E1	Learn different methods of adding and subtracting 1 and 2-digit numbers mentally and on paper – be able to show working out for problem Qs (Introduce column addition/subtraction NO carrying or decomposition)
	Number A2	Demonstrate an understanding through investigation of the commutative law (e.g. 2+3=5 therefore 3+2=5)	Number B2	Represent and solve one-step problems that involve addition and subtraction including missing number problems Initially within 10 then within 20	Number C2	Count in multiples of 10 up to 100, and understand that 5 tens is 50 etc	Number D2	Understand the term ‘difference’ and answer related questions.	Number E2	Count forwards and backwards in multiples of 2, 5 and 10
	Number A3	Recognise number bonds to 10 and begin to know by heart, using them in functional, problem-solving ways	Number B3	Halve numbers up to 20	Number C3	Identify one more or one less of any given number within 100	Number D3	Add a 2-digit number to a 1-digit number crossing 10	Number E3	Explore repeated addition by making arrays – physical then pictorial
	Number A4	Build numbers beyond 10 and recognise counting patterns i.e 0-9	Number B4	Distribute items fairly and recognise when	Number C4	Identify and represent numbers using objects and pictorial	Number D4	Show ability to check work and explain	Number E4	Calculate and write simple mathematical statements using the (x)

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Fractions	Number A5	repeat. Understand place value of 10 Add and Subtract single digit numbers from numbers up to 20 Use concrete method moving on to pictorial and abstract	Number B5	items are distributed unfairly -Continue to develop understanding of odd and even numbers Estimate amounts within 10 then up to 20 and apply reasoning. Use subitising to support estimations by seeing groups of numbers and knowing that there are 'more' thus aiding estimations	Number C5	representations including the number line, and use the language of equal to, more than, less than (fewer), most, least Recognise the place value of two-digit numbers and use this to partition (practical methods before written)	Number D5	reasoning and methods Add a 2-digit number and 1s Add a 2-digit number and 10s Using concrete objects, pictorial representations, and mentally	Number E5	and (=) signs (within 10 or multiples of 2,5,10 to 100) Calculate and then write mathematical statements using the division sign (work practically to gain firm understanding first before moving on to writing statements along-side the practical/physical calculation)
	Fraction A1	Identify halves and quarters of shapes or images	Number B6	Continue to develop fluency in mental addition and subtraction facts within 10 for every-day purposes.	Number C6	Read and write numbers to 100 recognising place value of each digit	Number D6	Add a pair of two-digit numbers/subtract a pair of two-digit numbers (Add and subtract within 100 by applying one-digit addition and subtraction facts – add and subtract only ones or only tens to/from a 2-digit number - Use of partitioning knowledge)	Number E6	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
Fractions	Fraction A1		Fraction B1	Show a half by grouping and sharing a number of objects into 2 sets	Fraction C1	Work out half of an even number up to 20.	Fraction D1	Share items into 4 sets	Fraction E1	Answer problem questions to find halves

Time	Fraction A2	Make halves and quarters of shapes or images		Fraction C2	Work out half of an odd number up to 20. Learn about remainders Concrete – pictorial - abstract Learn about halving a whole number (1 remainder = half)	Fraction D2	Find out ¼ of an amount (within 20) Concrete – Pictorial - abstract	Fraction E2	Answer problem questions to find quarters		
	Time A1	Learn the days of the week and their order – be able to order from any given day		Time B1	Learn months of the year, their order and some key events linked to them and learn about seasons	Time C1	Identify and make o'clock times - analogue	Time D1	Identify and make half past times - analogue	Time E1	Beginning to understand specific times in relation to daily routine
	Time A2	Answer questions such as how many days until...				Time D2	Make and read half-past times				
Money	Money A1	Understanding that coins have different values and make equivalents	Money B1	Exchanging the correct coin for an object	Money C1	Matching coins to their written forms	Money D1	Add and/or select coins to make up to 20p.	Money E1	Recognising and identifying notes	
					Money C2	Recognising and using £ and p			Money E2	Show more than one way of making an amount up to 20p.	
Geometry	Geometry A1	Identify and describe common 2D shapes and identify those common shapes in the environment.	Geometry B1	Recognise 2D shapes such as pentagons, hexagons and octagons	Geometry C1	Creating own 2 and 3 step patterns	Geometry D1	Naming and recognising all 3D shapes -including identifying within the environment. Draw lines of symmetry on shapes and pictures	Geometry E1	Describe the properties of 2D shapes using correct language.	
			Geometry B2	Complete 2 step patterns – with regular and irregular shapes, both in 3D (physical	Geometry C2	Can pick out described shapes from a collection e.g. picking out all the round	Geometry D2		Geometry E2	Describe the properties of 3D shapes using correct language.	

Measure Statistics						
	Measure A1	Sorting and ordering by size – starting with 2 objects and increasing (big, small, tall, short, long)	Geometry B3	patterns\ and 2D (i.e on paper) Complete 3 step patterns with regular and irregular shapes/objects	Geometry C3	shapes in the classroom Explore symmetry through play
	Measure A2	Explore capacity and related vocabulary – link to fractions (full, half full, empty)	Measure B1	Use simple comparable vocabulary related to size, length, width, height, weight, and capacity – heavier, lighter, shorter, taller, tallest, shortest, bigger, biggest, fullest	Measure C1	Explore measuring length using standard units (cm, m, mm) up to 100
Statistics	Statistics A1	Experience collecting data e.g. bar chart, tally chart	Measure B2	Experience measuring using non-standards (cubes, hands etc.) being able to line up correctly and tell where to stop measuring.	Statistics C1	Interpreting and drawing conclusions from a list or group of objects e.g. tally charts or bar chart or pie chart
			Statistics B1	Using tally charts – read and create. Experience 5 bar gate – link to counting in 5s	Geometry D3	Describe turns using the language ‘full turn’, ‘half turn’, ‘clockwise’, ‘anticlockwise’, right and left.
					Measure D1	Explore measuring weight using standard units
					Measure D2	Explore measuring capacity using standard units
					Statistics D1	Construct and interpret simple line/ block graphs
			Measure E1	Solve practical problems for capacity, volume, length, and weight using what has been learnt so far.	Geometry E3	Describe and create patterns that involve direction and turns. Plot simple routes using forwards, backwards, left and right for different purposes and with different means.
			Statistics E1	Interpreting data to answer one-part questions e.g. How many people like apples?		

Progression Statements (Trunks) –

Number & Place Value - pupils should be able to understand and apply knowledge of place value within 2-digit numbers. and compose and decompose two digit numbers using standard and non-standard partitioning.

- Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.

- Solve 2 step problems using the 4 operations, working within 100

Fraction – pupils should be able to understand the uses of quarters.

Time – pupils should be able to begin understanding o'clock and half past to the time.

Money – pupils should be able to find coins to make up to 20p.

Geometry – pupils should be able to understand 3D shapes.

Measure – pupils should be able to explore the length, weight, and capacity unit measurements and to start using the correct vocabulary words

Statistics – pupils should be able to understand how to interpret the data using one-part questions.

BRANCHES

Equivalent levels: Yr3-Yr4

	Branches A	Branches B	Branches C	Branches D	Branches E
Number/PV	Number A1 Learn that 10 tens are 100 and 10 one-hundreds are 1000 – 100 is ten times the size of ten – find a pattern of how many tens in other 3-digit multiples of 10.	Number B1 Apply partitioning to numbers to 1000 (i.e. $253 = 200 + 50 + 3$ or $240 + 13$)	Number C1 Count in multiples of 50 and 100	Number D1 Be confident using numbers in their thousands for a range of purposes, understanding place value of thousands.	Number E1 Add and subtract numbers with up to 4 digits using formal written methods – column addition and subtraction <i>(Make sure pupils have mental strategies (i.e. number bonds) firmly embedded before using column methods that require decomposition or carrying)</i>
	Number A2 Learn about place value of 3-digit numbers	Number B2 Estimate the answer to a calculation and express reasoning	Number C2 Count in multiples of 3	Number D2 Round numbers to their nearest 10, 100 or 1000	Number E2 Estimate calculations and use inverse operations to check answers
	Number A3 Be able to find 10 more/less and 100 more/less than any given number and use this purposefully	Number B3 Add and subtract up to 3-digit numbers using the column method, including carrying and decomposition, for a range of purposes/problems	Number C3 Count in in multiples of 4 and 8	Number D3 Count backwards in 1s and other multiples (starting with 10, 5 and 2)	Number E3 Solve 2 step addition and subtraction problems deciding which operations to use, giving reasons for the choice

Number A4	Add and subtract 1s, 10s and 100s to three-digit numbers mentally	Number B4	Learn to check answers using inverse operations	Number C4	Practice mental recall of multiplication tables, 2,3,4,5,6,8,10 – make connections with the 2, 4 and 8 x tables by doubling/halving	Number D4	Develop an understanding of negative numbers –be able to count back through 0, explore different everyday uses of negative numbers.	Number E4	Developmental recall of all multiplication facts up to 12x12
Number A5	Count, read, write and recognise numbers up to 200 and compare and order them using terms such as greater than, less than, order on a number line, use within measure activities	Number B5	Learn to check answers using a calculator – use a range of different types of calculator (i.e. PC, mobile phone as well as classic calculators)	Number C5	Multiply 2-digit numbers by a one-digit number using partitioning (i.e. 43x6 becomes 40x6 and 3x6 then add together)	Number D5	Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts	Number E5	Multiply 2 digit and 3-digit numbers by a one-digit number using the partitioning and the grid method of multiplication
Number A6	Count, read, write and recognise numbers up to 500 and compare and order them using terms such as greater than, less than, order on a number line, use within measure activities					Number D6	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10 or 100), for example: $8 + 6 = 14$ $80 + 60 = 140$ $800 + 600 = 1,400$	Number E6	Develop understanding of division with remainders in practical ways and understanding the decimal place meaning when using a calculator
Number A7	Count, read, write and recognise numbers up to 1000 and compare and								

		order them using terms such as greater than, less than, order on a number line, use within measure activities								
Fractions	Fraction A1	Count in fractions of 1 half.	Fraction B1	Recognise equivalence of 1/2 - Understand that 0.5 means half and 1/2 is the same as 50% Recognise decimal and percentage equivalents for 1/4 and 3/4	Fraction C1	Order fractions on different number lines (0-1 for 1/2, 1/4, 3/4 or a 0-10 number line – fill in in halves	Fraction D1	Recognise and show, using diagrams, equivalent fractions with small denominators	Fraction E1	Recognise quarters, thirds and tenths of numbers and shapes and count up and down in quarters, thirds, and tenths
	Time A1	Reading digital clock for o'clock and half past times	Time B1	Know that 1 year= 52 weeks, 1 week = 7 days, 1 day – 24 hours, 1 minute = 60 seconds, 1 hour is 60 minutes	Time C1	Learn that time can be told is 'past' the hour and 'to' the hour.	Time D1	Add and take away time in 15-minute (quarter hour) increments	Time E1	Experience recording and monitoring time e.g. using a stop clock, setting an alarm clock, setting the timer on an oven
	Time A2	Match o'clock and half past times to digital clock	Time B2	Use a calendar to find dates	Time C2	Match, Identify and make times - quarter past and quarter to - analogue	Time D2	Telling and demonstrating the time to 5 minutes increments	Time E2	Adding times together to work how long you need to do something.
Time	Time A3	Find the difference between 2 times given in hours.	Time B3	Know hours in a day, minutes in an hour and seconds in a minute	Time C3	Reading and understanding the 12hr digital clock – all times including that 30 minutes is the same as half past, 15 minutes is the same as quarter past and 45	Time D3	Telling the time to one-minute increments	Time E3	Reading and understanding the 24hr digital clock – i.e. learn that 13 = 1 O'clock (pm) to 24 being 12am.

Money	Money A1	Understanding the value of coins	Money B1	Adding multiple coins of the same value	Money C1	minutes is the same as quarter to. Calculate money with pence up to one pound and in whole pounds of multiple items and write with the correct symbols (£ or p)	Money D1	Add coins to £5 and then £10	Money E1	Working out change from £5 and £10 notes
	Money A2	Find different combinations of coins that equal the same amount of money	Money B2	Adding multiple coins of different values	Money C2	Understand when to use £ and p and the use of a decimal point. Convert from pence to pound and vice-versa	Money D2	Working out change from coins (amounts to £5, initially in whole £ then multiples of 10)		
	Geometry A1	Compare and sort 2D and 3D shapes and everyday objects	Geometry B1	Identify horizontal, vertical, and parallel lines	Geometry C1	Complete and create irregular patterns	Geometry D1	Use appropriate positional language to describe position and direction including between, inside, outside, middle, below, on top, forwards and backwards.	Geometry E1	Identify whether an angle is less or more than a right angle
Geometry	Geometry A2	Describing properties of 3D shapes (inc everyday objects) (number of edges, vertices and faces)	Geometry B2	Using a net of 2D shapes to make a 3D shape	Geometry C2	Describe turns as quarter, 3 quarters, whole turn, clockwise and anticlockwise	Geometry D2	Recognise angles as a measurement of turn, and know a right angle is 90°		
	Geometry A3	Recognise and identify the net of a cube and cuboid	Geometry B3	Understand reflections in a variety of ways			Geometry D3	Distinguish a right-angled triangle from other triangles.	Geometry E3	Use knowledge of movement and turns and rotations to describe and record directions. Including in practical contexts (for example, pupils giving instructions to others, programming

Measure	Measure A1	Use measures of weight, including grams and kilograms	Measure B1	Read and compare positive temperatures	Measure C1	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Measure D1	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds, and pints	Measure E1	robots, using instructions given in right angles.
	Measure A2	Use measures of capacity, including millilitres and litres		Read and use simple scales to the nearest labelled division						Use all four operations to solve problems involving measure using decimal notation, including scaling
	Statistics A1	Collecting data with two numerical variables (e.g. age and spending)		Sort and classify objects using more than 1 criterion		Statistics C1		Statistics D1		Take information from one format and represent the information in another format.

Progression Statement (Branches) –

Number & Place value – pupils should be able to understand the place-value in thousands

- Have good understanding of times tables to 12x12 (with good mental recall for those able to)

Fraction – pupils should be able to understand the same $\frac{1}{4}$, 0.25 and 25%

Time – pupils should be able to understand and identify every 1 minutes of the clock and to understand the difference of 12 hours and 24 hours to the time.

Money – pupils should be able to understand how to use decimal places in money and how to exchange the coins and notes.

Geometry – pupils should be able to be more confident in 2D and 3D shapes and everyday object. Pupils should understand the different angles from different triangles.

Measure – pupils should be able to use measurement units and use all four operation to solve problems in measurement,

Statistics – pupils should be able to start interpreting different types of data e.g. tables, diagram, lists and graphs and use reasoning and make comparisons

LEAVES

Equivalent levels: Yr5-Yr6

	Leaves A	Leaves B	Leaves C	Leaves D	Leaves E
Number/PV	Number A1 Begin to understand decimal place value to one decimal place i.e. Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1.	Number B1 Divide '1' into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of '1' with 2, 4, 5 and 10 equal parts.	Number C1 Round any number (to 10,000) to the nearest 10, 100, 1000, 10,000.	Number D1 Divide a number with up to 3 digits by a one-digit number using written methods (i.e. division by partitioning) and interpret remainders appropriately for the context.	Number E1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).
	Number A2 Recognise the place value of each digit in numbers with up to 2 decimal places	Number B2 Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	Number C2 Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Independently check calculations	Number D2 Divide a number with up to 4 digits by a one-digit number using written methods (i.e. division by partitioning) and interpret remainders appropriately for the context.	Number E2 Multiply and divide by 2 digit numbers
	Number A3 Apply place-value knowledge to known calculations for example: $8 + 6 = 14$ $0.8 + 0.6 = 1.4$ $0.08 + 0.06 = 0.14$		Number C3 Solve contextual and non-contextual addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Number D3 Multiply whole numbers by 1 digit numbers using a formal written method – introduce expanded short multiplication first	Number E3 solve number problems and practical problems that involve all learnt so far

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		Relate to functional use i.e. Money								
Fractions	Fraction A1	Add and subtract fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$.	Fraction B1	Use knowledge of $\frac{1}{2}$ to work out 50% off an item Use knowledge of $\frac{1}{4}$ to work out 25% off an item	Fraction C1	Recognise and identify equivalent fractions	Fraction D1	Read and write decimal numbers as fractions i.e. $0.75 = 75/100 = \frac{3}{4}$ $0.25 = 25/100 = \frac{1}{4}$ $0.6 = 60/100 = 6/10 = 3/5$ Understanding the methods needed	Fraction E1	Practise, use and understand the addition and subtraction of fractions with different denominators by identifying equivalent fractions with the same denominator
	Fraction A2	Work out $\frac{2}{3}$ or $\frac{3}{4}$ of a number to within 1000	Fraction B2	Round decimals with one decimal place to the nearest whole number	Fraction C2	Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths, and hundredths	Fraction D2	Solve simple measure and money problems involving fractions and decimals to two decimal places.	Fraction E2	Multiply decimals by whole numbers, starting with the simplest cases, such as $0.4 \times 2 = 0.8$, and in practical contexts, such as measures and money
	Time A1	Re-cap on previous learning. Be able to tell time confidently in a range of situations to the minute	Time B1	Adding times together to work how long you need to do something.	Time C1	Applying time knowledge in real life scenarios e.g. reading and understanding a TV guide or recipe times.	Time D1	Work on approximating times to the nearest 5 or 10 minutes to know how long until an event (i.e. It is 11.48 so about 10 mins till lunch time) Link with rounding up in Number.	Time E1	Add up 3 lengths of time correctly and solve time related problem questions.
Time			Time B2	Understanding time in their own day e.g. how long does it take you to get ready to go out, therefore when should you wake up?	Time C2	Find the difference between 2 times given in hours, half hours or quarter hours.			Time E2	Convert between hours, minutes, and seconds.

Money	Money A1	Be able to add a mix of coins to £20 (knowing to group into sets of 5 or 10 to keep count)	Money B1	Adding money on a calculator (use of decimal point for p)	Money C1	Solve real life problems, involving what to pay and how to pay – 2 step including change	Money D1	Understanding debit cards	Money E1	Understanding credit cards
	Geometry A1	Use north, south, east, and west to give directions	Geometry B1	To know that a circle is 360 degrees, and a straight line is 180 degrees	Geometry C1	Calculate area of squares and rectangles	Geometry D1	Understanding co-ordinates		
	Geometry A2	Using clockwise and anti-clockwise when giving directions	Geometry B2	Measure the perimeter of 2D shapes	Geometry C2	Experience using a protractor				
	Measure A1	Use and compare measures of length, capacity, weight, and temperature using metric or imperial units	Measure B1	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 decimal places where appropriate	Measure C1	Convert between miles and kilometres	Measure D1	Read a wide range of scales for measuring including finding placement of decimal numbers		
Statistics	Statistics A1	Interpreting data to answer two-part questions e.g. How many people like apples and bananas altogether?	Statistics B1	Interpreting data displayed in different ways to answer questions e.g. bar chart, table, tally chart	Statistics C1	Applying other mathematical knowledge answer questions from a chart or table e.g. finding two values and adding them together	Statistics D1	Plot data in a line graph Written and digitally	Statistics E1	Rea, interpret and compare Pie Charts

Progression Statement (Leaves) –

Number & Place Value – Understand place value to 2 decimal places

Fraction – pupils should be able to recognise and solve out of all the percentages of 100.

Time – pupils should be able to understand how to convert hours, minutes, seconds and how to solve word problems related to the time.

Money – pupils should be able to being understand what credit cards and debit cards are.

Geometry – pupils should be able to understand and give co-ordinates.

Measure – pupils should be able to understand how to solve measurement problems and covert units to correct measurement.

Statistics – pupils should be able to solve word problems and apply other mathematical knowledge questions and answers from data.

APPLES

Equivalent levels: Functional Skills Level 1

	Apples A		Apples B		Apples C		Apples D		Apples E	
Number/PV	Number A1	Read, write, order, and compare large numbers (up to one million)	Number B1	Recognise and use positive and negative numbers	Number C1	Mentally multiply and divide whole numbers and decimals by 10, 100, 1000	Number D1	Add and subtract decimals using column method.		
					Number C2	Multiply 4-digit numbers by 2 or 3-digit numbers using lattice method	Number D2	Calculate using BIDMAS		
Fractions	Fraction A1	Read, write, order, and compare common fractions and mixed numbers	Fraction B1	Read, write, order, and compare decimals up to three decimal places	Fraction C1	Add, subtract, multiply and divide decimals up to two decimal places	Fraction D1	Know how to work out any percentage of a number	Fraction E1	Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof
Time	Time A1	Plan journeys/travel with specific arrival times	Time B1	Solve problems using all 4 operations and conversions of time	Time C1	Find the difference between 2 times given in mixed units i.e. between 12.14am and 56 minutes past 4 or a time shown in digital and one in analogue.	Time D1	Be confident mentally working out everyday time problems		
Money	Money A1	Work out the savings for 3 for 2 offers	Money B1	Using technology to price travel costs and costs of events	Money C1	Comparing percentage off offers and 3 for 2 differs for value of money	Money D1	Work out earnings for hourly paid work.	Money E1	Calculate discounts in multiples of 5% on amounts of money
Geometry	Geometry A1	Plot co-ordinates to create shapes	Geometry B1	On a graph complete transformation of shapes	Geometry C1	Following and using a simple map	Geometry D1	Following directions e.g. from google maps, Sat Nav	Geometry E1	Calculate area of an L shape (or other

Measure	Geometry A2	Give directions including compass points, left, right, prepositions, and other directional language i.e. half turn, forwards, backwards, turn 90 degrees				
	Measure A1	Convert between units of length, weight, capacity, money, and time, in the same system	Measure B1	Interpret plans, elevations, and nets of simple 3-D shapes		
	Statistics A1	Applying other mathematical knowledge answer questions from a chart or table e.g. finding two values and adding them together	Statistics B1	Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs	Statistics C1	Find the mean and range of a set of quantities
Statistics					Statistics D1	Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events
					Statistics E1	Solve real life problems with knowledge and skills learnt
						simple compound shapes) ¹

Progression Statements (Apple) –

Number & Place Value – pupils should be able to calculate using BIDMAS.

Fraction – pupils should be able to simply fractions and workout any percentages of a number.

Time – pupils should be able to solve work problem in real-life situation e.g. bus/train timetable etc.

Money – pupils should be able to solve real-life situation of changing money, working out offer sales, and hourly pay salary.

Geometry – pupils should be able to follow Sat-Nav (map) directions, working out the area of the shapes.

Measure – pupils should be able to interpret simple 3D shapes.

Statistics – pupils should be able to solve word problems and apply other mathematical knowledge questions and answers from data.

Apples

During this stage, pupils should be working towards the following:

- Identify key information in word problems- identifying the numbers, measures, money, or time and what you they need to do
- Can solve multi step word problems across the different areas of maths
- Are able to work things out in different ways and decide what method is best e.g. more accurate, quicker, appropriate in the scenario etc.
- Understand the importance of and can independently check their answers and explain how they worked things out
- Apply their knowledge, different methods for working out and knowledge of inverse relationships
- Can use mathematical reasoning, demonstrating confidence in their ability when being challenged and can explain and justify their answer
- Can work across the different areas of maths and apply knowledge in real scenarios e.g. planning a cinema trip, shopping for the ingredients of a recipe etc.
- Can demonstrate money sense, can budget, understand the concept of saving and making justified financial decisions

Orchards Entry 1

Equivalent levels: Entry Level 1

	Orchards Entry 1	Orchards Entry 1	Orchards Entry 1	Orchards Entry 1	Orchards Entry 1
Number/P V	Read, write, order and compare numbers up to 20	Use whole numbers to count up to 20 items including zero	Add numbers which total up to 20, and subtract numbers from numbers up	Recognise 20 and interpret the symbols +, – and = appropriately	
Time	Read 12 hour digital and analogue clocks in hours	Know the number of days in a week, months, and seasons in a year. Be able to name and sequence			
Money	Recognise coins and notes and write them in numbers with the correct symbols (£ & p), where these involve numbers up to 20				
Geometry	Use everyday positional vocabulary to describe position and direction including left, right, in front, behind, under and above	Use everyday positional vocabulary to describe position and direction including left, right, in front, behind, under and above	Identify and recognise common 2-D and 3-D shapes including circle, cube, rectangle (incl. square) and triangle		
Measurement	Describe and make comparisons in				

	words between measures of items including size, length, width, height, weight and capacity				
Statistics	Read numerical information from lists	Sort and classify objects using a single criterion	Read and draw simple charts and diagrams including a tally chart, block diagram/graph		
Problem Solving	Use given mathematical information and recognise and use simple mathematical terms appropriate to Entry Level 1	Use the methods given above to produce, check and present results that make sense	Provide a simple explanation for those results		

Orchards do not have progression statements as these are assessment statements for the Entry Levels, however progression will be monitored from Seeds to Apples for all these statements.

Orchards Entry 2

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Equivalent levels: Entry Level 2

	Orchards Entry 2	Orchards Entry 2	Orchards Entry 2	Orchards Entry 2	Orchards Entry 2
Number/pv	Count reliably up to 100 items	Read, write, order and compare numbers up to 200	Recognise and sequence odd and even numbers up to 100	Recognise and interpret the symbols +, −, x, ÷ and = appropriately	Add and subtract two-digit numbers
	Multiply whole numbers in the range 0x0 to 12x12 (times tables)	Divide two-digit whole numbers by single-digit whole numbers and express remainders	Approximate by rounding to the nearest 10, and use this rounded answer to check results	Recognise simple fractions (halves, quarters and tenths) of whole numbers and shapes	Read, write and use decimals to one decimal place
Time	Know the number of hours in a day and weeks in a year. Be able to name and sequence	Read and record time in common date formats, and read time displayed on analogue clocks in hours, half hours and quarter hours, and understand hours from a 24-hour digital clock			
Money	Calculate money with pence up to one pound and in whole pounds of multiple items and write with the correct symbols (£ or p)				

Geometry	Recognise and name 2-D and 3-D shapes including pentagons, hexagons, cylinders, cuboids, pyramids and spheres		Describe the properties of common 2-D and 3-D shapes including numbers of sides, corners, edges, faces, angles and base		Use appropriate positional vocabulary to describe position and direction including between, inside, outside, middle, below, on top, forwards and backwards		
Measure	Use metric measures of length including millimetres, centimetres, metres and kilometres		Use measures of weight including grams and kilograms		Use measures of capacity including millilitres and litres		Read and compare positive temperatures
Statistics	Extract information from lists, tables, diagrams and bar charts		Make numerical comparisons from bar charts		Sort and classify objects using two criteria		Take information from one format and represent the information in another format including use of bar charts
Problem Solving	Use given mathematical information including numbers, symbols, simple diagrams and charts		Recognise, understand and use simple mathematical terms appropriate to Entry Level 2		Use the methods given above to produce, check and present results that make sense		Present appropriate explanations using numbers, measures, simple diagrams, simple charts and symbols appropriate to Entry Level 2
							Read and use simple scales to the nearest labelled division

Orchards do not have progression statements as these are assessment statements for the Entry Levels, however progression will be monitored from Seeds to Apples for all these statements.

Orchards Entry 3

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Equivalent levels: Entry Level 3

	Orchards Entry 3	Orchards Entry 3	Orchards Entry 3	Orchards Entry 3	Orchards Entry 3
Number/PV	Count, read, write, order and compare numbers up to 1000	Add and subtract using three-digit whole numbers	Divide three-digit whole numbers by single and double digit whole numbers and express remainders	Multiply two-digit whole numbers by single and double digit whole numbers	Approximate by rounding numbers less than 1000 to the nearest 10 or 100 and use this rounded answer to check results
	Read, write and understand thirds, quarters, fifths and tenths including equivalent forms	Read, write and use decimals up to two decimal places	Recognise and continue sequences that involve decimals		
Time	Read, measure and record time using am and pm	Read time from analogue and 24 hour digital clocks in hours and minutes			
Money	Calculate with money using decimal notation and express money correctly in writing in pounds and pence	Round amounts of money to the nearest £1 or 10p			
Geometry	Sort 2-D and 3-D shapes using	Use appropriate positional vocabulary			

	properties including lines of symmetry, length, right angles, angles including in rectangles and triangles	to describe position and direction including eight compass points and including full/half/quarter turns				
Measure	Use and compare measures of length, capacity, weight and temperature using metric or imperial units to the nearest labelled or unlabelled division	Compare metric measures of length including millimetres, centimetres, metres and kilometres	Compare measures of weight including grams and kilograms	Compare measures of capacity including millilitres and litres	Use a suitable instrument to measure mass and length	
Statistics	Extract information from lists, tables, diagrams and charts and create frequency tables	Interpret information, to make comparisons and record changes, from different formats including bar charts and simple line graphs	Organise and represent information in appropriate ways including tables, diagrams, simple line graphs and bar charts			
Problem Solving	Use given mathematical information including numbers, symbols, simple diagrams and charts	Recognise, understand and use simple mathematical terms appropriate to Entry Level 3	Use the methods given above to produce, check and present results that make sense to an appropriate level of accuracy	Present results with appropriate and reasoned explanation using numbers, measures, simple diagrams, charts and symbols appropriate to Entry Level 3.		



Orchards do not have progression statements as these are assessment statements for the Entry Levels, however progression will be monitored from Seeds to Apples for all these statements.