

Landgate School Long Term Planning 2019-2021

Key-Stage 1

Intent: We aim for our Learners to become maths-positive problem-solvers and to have ideas, to develop vocabulary and reasoning skills and so better understand mathematical concepts in the world around them. We aim to ensure learners can confidently apply their mathematics skills when out in the community to provide them both with the love of mathematics and the independent skills to support them into adulthood.

Emphasis at KS1 is on **practice, key vocabulary and developing confidence** in understanding basic concepts, learning number facts to 20, common shapes and measures linked to practical, real-life situations. Learners will develop early functional mathematic skills through the appropriate use of concrete objects and pictorial methods as learning aids throughout all topics and curriculum subjects taking the 5 principles of counting into account:

1. **One to one principle:** assign one number name to each object counted, ensure that they count each object only once to ensure all objects are counted.
2. **Stable order principle:** understand that numbers have to be said in a certain order when counting.
3. **Cardinal principle:** that the number name assigned to the final object in a group is the total number of objects in that group.
4. **Abstraction principle:** understanding that anything can be counted, including things that cannot be touched (eg sounds, movements)
5. **Order-irrelevance principle:** understanding that it does not matter which order objects in a group are counted, the total will still be the same.

This overview is not definitive but has starting points for teachers to use in conjunction with the National Curriculum, Rising Stars Vocabulary, Landgate Learning Ladders and the Engagement Model for assessment as well as their own professional judgement in providing a broad, balanced and meaningful maths curriculum.

Opportunities: Strategies used within EYFS are continued at Key-Stage 1 where learning is through thematic approaches, continuous provision and play, songs and digit-dance, roleplay, internet games and apps, outdoor learning and community visits in cohesion with more focussed teacher-led activities and discrete maths lessons involving increasing numbers upto 100 and beyond.

- Develop mental fluency and confidence with whole numbers, place value and counting reliably by learning to subitise number (instantly recognise small quantities without having to count)
- Recognise, copy and extend sequences and patterns
- Work with numerals and the four operations using practical materials and symbols to solve simple one-step problems by understanding conservation of number (that the total remains the same if nothing is added or taken away), commutative and inverse.
- Use, read and spell key mathematical vocabulary to describe, draw, compare and sort a range of quantities, shapes and measures.

		Key-Stage 1
KS1 Focus 1 (Autumn 1)	Key Focus/ Opportunities:	<p align="center">Number and Place value (0-10)</p> <p align="center">Activities, continuous provision, outdoor and community visits linked to theme. World Maths Day 15th October 2020 (3P Digital Learning of mental maths strategies)</p>
	Vocabulary and Knowledge:	<p>Rising Stars Vocabulary p10, p13 Incl: 0-10, number, numeral, count, 1s, how many?, same as, equal to, smallest, biggest, more than, less than, most, least, altogether.</p> <ul style="list-style-type: none"> • recognise the number of objects in a small group • know how to identify and represent quantities • numerals stand for number names
	Key Skills:	<p>Learners should be taught to:</p> <ul style="list-style-type: none"> • Count to 10, forwards and backwards • Sort and count objects by placing them in a line or array • Identify and represent numbers using objects, pictorial representations, read and write numerals • Use one-to-one correspondence to count and compare small quantities of identical and non-identical objects in groups • Recognise how many altogether.
	Key Focus/ Opportunities:	<p align="center">Geometry: 2D Shape (including fractions)</p> <p align="center">Activities, continuous provision, outdoor and community visits linked to theme. 'Squiggle Shape', Food tech and snack</p>
	Vocabulary and knowledge:	<p>Rising Stars Vocabulary: p11, p15 Incl: 2D shape, circle, triangle, square, rectangle, match, pattern, flat, curved, straight, corner, side, symmetry, 3D shape, sphere, cone, cylinder, cube, pyramid, size, whole, half</p> <ul style="list-style-type: none"> • develop spatial thinking and recognise shapes as wholes • apply knowledge of shape and use spatial awareness to solve puzzles • develop understanding of equal parts and non-equal parts and relate this to a shape or object being split into two equal parts
	Key skills:	<p>Learners should be taught to:</p> <ul style="list-style-type: none"> • Manipulate 2D and 3D shapes • Sort and match 2D shapes • Recognise and name 2D shapes in many different variations and orientations • Match, extend and create patterns and sequences • Explore halves and quarters for the first time. • Find a 'half' as one of two equal parts of a 'whole' object or shape

KS1 Focus 2 (Autumn 2)	Key Focus/ Opportunities:	Number: Place Value (0-20) and Statistics Activities, continuous provision, outdoor and community visits linked to theme. Enterprise Week Dec 2020
	Vocabulary and Knowledge:	Rising Stars Vocabulary p12, p13 Incl: 0-10, number, numeral, count, 1s, how many? same as, equal to, smallest, biggest, more than, less than, most, least, altogether, group, set <ul style="list-style-type: none"> • recognise the number of objects in a small group • know how to identify, represent and compare quantities of objects in a small group • numerals stand for number names • develop fluency and understanding of number and number sequence
	Key Skills:	Learners should be taught to: <ul style="list-style-type: none"> • Count to 20 (forwards and backwards from any given number, where appropriate) • Count up to 10 objects in a group accurately by placing them in a line or array • Compare numbers (begin to use < > = symbols, where appropriate) • Sort objects by characteristic eg item, colour, shape, size, quantity, odd/even • Order groups of objects/numbers on a number line/ten frame/chart/pictogram
	Key focus/ Opportunities:	Measure: Time and Calendar Activities, continuous provision, outdoor and community visits linked to theme. Events and celebrations: Daily routines and timetable, Bonfire Night, Christmas, New Year Calendar
	Vocabulary and knowledge:	Rising Stars Vocabulary p15, p19 Incl: time, routine and positional language (first, next, then, morning, afternoon, dinner time, playtime, bedtime..), days of the week, months of the year, birthday, holiday, clock, hour, minutes, o'clock, quarter past/to, half past <ul style="list-style-type: none"> • develop a sense of time and know of 'events' (immediate, daily, weekly etc) • begin to sequence 'events' in chronological order • recognise ways/equipment in which time is recorded
	Key Skills:	Learners should be taught to: <ul style="list-style-type: none"> • recognise and use language relating to dates, sequencing events, telling the time • measure, and begin to record time (eg daily schedule, number of sleeps, calendar, recipe order, timers, clocks, watch..) • compare how long an activity, challenge or event takes • show/write hands on a clock for o'clock and half-past

KS1 Focus 3 (Spring 1)	Key Focus/ Opportunities:	<p style="text-align: center;">Number: Place value (0-50) and Addition</p> <p style="text-align: center;">Activities, continuous provision, outdoor and community visits linked to theme. Kung-fu punctuation, Problem-solving theme day</p>
	Vocabulary and Knowledge:	<p>Rising Stars Vocab p10, p13 Incl: <i>how many, add, more, and, make, equals, total, altogether</i></p> <ul style="list-style-type: none"> • Begin to subitise number quantities of number bonds to 10 • Begin to recognise the place value of each digit in a two-digit number up to 20 (tens, ones) • Begin to recognise the commutative law (e.g. $3 + 2 = 5$, therefore $2 + 3 = 5$) • Know the + symbol for addition and = equal to
	Key Skills	<p>Learners should be taught to:</p> <ul style="list-style-type: none"> • Count to and across 50, forwards and backwards • use real-life objects to add 1 to a group and indicate how many there are now • combine groups to find a whole • use the commutative law to work out number bonds to 10 (using a ten frame and part-whole model where appropriate) • identify, represent and estimate numbers using different practical representations, including the number line
	Key focus/ Opportunities:	<p style="text-align: center;">Measure: Length, Height, Distance</p> <p style="text-align: center;">Activities, continuous provision, outdoor and community visits linked to theme.</p>
	Vocabulary and knowledge	<p>Rising Stars Vocab p11. p14 Incl: <i>measure, length, height, long, short, tall, high, far, near, (-er, -est comparatives).</i></p> <ul style="list-style-type: none"> • begin to make direct comparisons • begin to recognise that number can be a measure of length/height
	Key skills	<p>Learners should be taught to:</p> <ul style="list-style-type: none"> • make direct comparisons of everyday items • sort items according to characteristics of length (including fractions 'half of', if appropriate) • understand and use simple comparative language to describe length • begin to make indirect comparisons with non-standard units of measure (eg blocks for counting)

KS1 Focus 6 (Spring 2)	Key Focus/ Opportunities:	Number: Place Value (0-50) and Subtraction Activities, continuous provision, outdoor and community visits linked to theme.
	Vocabulary and Knowledge:	Rising Stars Vocab p10, p13 Incl: <i>how many, one less, take away, how many are gone/left/left over? equals, total, altogether</i> <ul style="list-style-type: none"> • Begin to subitise number quantities of number bonds to 10 • Begin to recognise the inverse relationships involving addition and subtraction (e.g. if $3 + 2 = 5$, then $5 - 2 = 3$) • Know that the total number of objects changes when objects are added or taken away • Begin to recognise the $-$ symbol for subtraction and $=$ equal to
	Key Skills	Learners should be taught to: <ul style="list-style-type: none"> • Count to and across 50, forwards and backwards from a given number • Use real-life objects to take away 1 from a group and indicate how many there are now • Partition a set of 10 into number bonds (use part-whole model and number lines where appropriate)
	Key Focus/ Opportunities:	Measure: Weight, Mass and Capacity Activities, continuous provision, outdoor and community visits linked to theme.
	Vocabulary and Knowledge:	Rising Stars Vocab p11, p14-15 Incl: <i>weigh, balances, heavy, light, heavier than, lighter than heaviest, lightest, scale, container, full, empty, half, full, holds, estimate, guess</i> <ul style="list-style-type: none"> • experience weight and capacity and begin to recognise associated vocabulary • explore misconceptions eg larger objects are always heavier
	Key Skills	Learners should be taught: <ul style="list-style-type: none"> • to explore concepts of weight/mass, volume and capacity in practical ways • to predict cause and effect (eg: effects on balance scales, what will happen if drop toys in a full tub of water..) • begin to compare, measure and record mass/weight, capacity and volume

KS1 Focus 7 (Summer 1)	Key Focus/ Opportunities:	Number: Place Value (0-100) and Multiplication Activities, continuous provision, outdoor and community visits linked to theme.
	Vocabulary and Knowledge:	Rising Stars Vocab p10, p14 Incl: <i>double, multiply, groups of, sets of, array, equal</i> <ul style="list-style-type: none"> recognise number patterns awareness of equal groups that are arranged differently so understand that the groups look different but can still be equal in number
	Key Skills	Learners should be taught to: <ul style="list-style-type: none"> count to and across 100, forwards and backwards, read and write numbers to 100 in numerals where appropriate order numbers from 0 up to 100; begin to compare numbers (introduce $<$, $>$ and $=$ symbols where appropriate) explore multiplication informally begin to make equal sets and arrays of objects count in multiples of twos (doubling), fives and tens where appropriate.
	Key Focus/ Opportunities:	Measure: Money and Finance Activities, continuous provision, outdoor and community visits linked to theme.
	Vocabulary and Knowledge:	Rising Stars Vocab p11, p15 Incl: <i>money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay</i> <ul style="list-style-type: none"> concept of transaction (e.g. by exchanging a coin for an item, or one item for another, during a role-play activity)
	Key Skills:	Learners should be taught to: <ul style="list-style-type: none"> manipulate, recognise, sort, match and exchange real coins begin to recognise the value of different denominations of coins use $<$ $>$ $=$ to compare small amounts of money up to 10 pence where appropriate combine knowledge of money and counting in 2s 5s 10s to count money more efficiently.

KS1 Focus 8(Summer 2)	Key Focus/ Opportunities:	Number: Place value (0-100) and Division Activities, continuous provision, outdoor and community visits linked to theme.
	Vocabulary and Knowledge:	Rising Stars Vocab p10, p14 Incl: <i>share, halving, number patterns</i> , <ul style="list-style-type: none"> • explore sharing as a model of division and number patterns • know how to use 1 : 1 correspondence to share concrete objects into equal groups • recognise when a number of objects cannot be shared equally into equal groups
	Key Skills:	Learners should be taught to: <ul style="list-style-type: none"> • count to and across 100, forwards and backwards, from any given number, read and write numbers to 100 in numerals • explore the concept of division of quantities informally • focus on counting out equal groups of two (five, ten, up to fifty if appropriate) accurately • begin to partition a set into sub-sets, share and halve groups of objects using inverse of multiples of twos (fives, tens if appr) • begin to compare numbers (using <, > and = symbols where appropriate)
	Key Focus/ Opportunities:	Geometry: Position and Direction Activities, continuous provision, outdoor and community visits linked to theme. Algorithms, instructions, Geography, Orienteering/scavenger hunts, PE, Sports Day
	Vocabulary and Knowledge:	Rising Stars Vocab p12, p16 Incl: <i>position, over, under, above, below, top, bottom, side on, in, out, front, back beside, next to, opposite, direction, left, right up, down, forwards, backwards, sideways, whole turn, half turn</i> <ul style="list-style-type: none"> • Awareness of position, direction and movement, including whole, half turns
	Key Skills:	Learners should be taught to: <ul style="list-style-type: none"> • practically turn objects, shapes and themselves in different directions • begin to describe position and directions (eg when playing board game 'Snakes and Ladders') • follow directions and create own simple instructions, correcting errors