Cranmore Infant School Maths Progression framework

At Cranmore, we believe that Maths is an important life skill. Our vision is that all children will be able to achieve excellence in Maths through an intrinsic love of learning the subject. We strive to enable fascination and an excitement to discover mathematical concepts.

We provide rich mathematical learning environments and opportunities which enable children to make links in their learning. Our Maths curriculum challenges and develops fluency, reasoning and problem-solving skills, through the use of a wide range of resources, representations and technologies Knowledge is broken down into small steps so that maths learning builds cumulatively over time. Our curriculum is fully inclusive and we keep SEND pupils within the curriculum by supporting them with manipulatives and an emphasis on talking and modelling. We use pre-teaching and post teaching with these pupils and ensure they are learning the same objective but with different scaffolds.

All staff share a consistent language and vocabulary model in order to aid clear conceptual understanding. All pupils from Reception to Year 2 also follow the mastering number programme. Being confident, resilient, able to persevere and show determination is at the core of what we want to achieve.

Our aims are the following:

- To implement the current statutory requirements of the Foundation stage and National curriculum.
- To ensure all of our children develop a “can do” attitude and perceive themselves as mathematicians.
- To give children opportunities (through mathematical enquiry and investigation) to experience the awe and wonder of pattern, connections and relationships.
- To ensure pupils become fluent in the fundamentals of mathematics, developing conceptual knowledge and have an ability to recall and apply knowledge accurately.
- To challenge children to think mathematically and engage in rich mathematical discussion using appropriate vocabulary to explain their reasoning and ideas concisely.
- To broaden children’s knowledge and understanding of how Maths is used in the wider world.
- For children to feel comfortable to make mistakes and embrace what can be learned from them.
- To foster strong links between home and school and provide a range of opportunities for parents to be involved with their child’s mathematical learning (for example parent workshops).

At Cranmore we are very clear on our intent, implementation and impact of our curriculum.

Intent

We use an inclusive mastery-aligned approach with clear practise of fluency, reasoning and problem solving. Cultural capital is at the heart of our learning so that children can apply their maths learning to real-life.

Implementation

Our pedagogy is to ensure there are daily fluency sessions which are coherently sequenced. We use manipulatives to support understanding and ensure that children are taught through the CPA approach (concrete-pictorial-abstract).

Impact

We have excellent assessment structures in place daily using our Maestro system and also end of unit assessments which helps us accurately measure pupil outcomes against the end of year expectations. We regularly seek pupil voice to ensure children enjoy, understand and are fully engaged and motivated in their maths lessons.

FS1

Counting

To recite numbers past 5 and say one number for each item in order: 1,2,3,4,5. To know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').

Representing Numbers

To develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). To show "finger numbers' up to 5. To link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. To experiment with their own symbols and marks as well as numerals.

Comparing and Ordering Numbers.

To compare quantities using language: 'more than', 'fewer than'.
To begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

Number Facts.

To develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). To know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). To show 'finger numbers' up to 5.

2D and 3D Shapes.

To talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.

FS2

Counting

To count objects, actions and sounds. To count beyond ten. To verbally count beyond 20, recognising the pattern of the counting system.

Place Value

To understand the 'one more than/one less than' relationship between consecutive numbers. To explore the composition of numbers to 10. To have a deep understanding of numbers to 10, including the composition of each number.

Representing Numbers

To subitise (recognise quantities without counting) up to 5. To link the number symbol (numeral) with its cardinal number value.

Comparing and Ordering Numbers.

To compare numbers. To understand the 'one more than/one less than' relationship between consecutive numbers. To compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.

Number Facts.

To subitise (recognise quantities without counting) up to 5. To explore the composition of numbers to 10. To automatically recall number bonds for numbers 0–10. To automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. To have a deep understanding of numbers to 10, including the composition of each number.

2D and 3D Shapes.
To select, rotate and manipulate shapes in order to develop spatial reasoning skills. To compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.

Year 1

Year 1 KNOWLEDGE AND SKILLS—Number and Place Value	**ESSENTIAL VOCABULARY**
Place value to 10, 20 then to 50 and then 100. To count, read and write forwards and backwards from any given number. To count 1 more or 1 less than a given number. To compare and order numbers up to 10, 20, then to 50 and then 100. To compare groups using language such as equal, more, greater, less and fewer. To introduce > and < and = symbols To order numbers. To be able to use ordinal numbers and use the number line independently for calculation and counting. To partition numbers. To represent numbers using objects and pictorial representations. To count in 2's, 5's and 10's.	number, zero, one, two, three… to twenty and beyond. none how many…? count, count (up) to count on (from, to) count back (from, to) count in ones, twos, tens. more, less, many, few odd, even pattern, pair units, ones tens digit 'teens' number partition, part-whole diagram the same number as, as many as, equal to Of **two** objects/amounts: greater, more, larger, bigger less, fewer, smaller Of **three** or more objects/amounts: greatest, most, biggest, largest least, fewest, smallest one more, ten more one less, ten less compare order first, second, third… tenth, eleventh… twentieth last, last but one before, after next between, half-way between above, below
Year 1 KNOWLEDGE AND SKILLS—Calculation.	**ESSENTIAL VOCABULARY**
To be able to use a part whole model and find a part. To understand and use the addition symbol To identify fact families and addition facts Find/recall number bonds within 10 and 20. Systematic methods for number bonds within 10 Compare number bonds. To identify doubles. Addition: Adding together or adding more. To add by counting on. To count in 10's. Subtraction: Taking away, how many left? Crossing out. Introducing the subtraction symbol Subtraction: Finding a part, breaking apart Fact families – The 8 facts Subtraction: Counting back, crossing 10 or not crossing 10. Subtraction: Finding the difference Comparing addition and subtraction statements a + b > c To make and add equal groups with grouping and sharing. To make arrays Make equal groups -grouping and sharing	Addition, add, more, plus make, sum, total altogether one more, two more… ten more how many more to make…? how many more is… than…? how much more is…? Subtraction, subtract, take (away), minus how many are left/left over? how many are gone? one less, two less, ten less… how many fewer is… than…? how much less is…? difference between =, equals, sign, is the same as Part- whole diagram score, double, near double
Year 1 KNOWLEDGE AND SKILLS—Geometry- shape, position and direction.	**ESSENTIAL VOCABULARY**
Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles	circle, triangle, square, rectangle, cube, pyramid, sphere, cone, cuboid, cylinder, face, points, corners, vertices, solid hollow shape, pattern, flat curved, straight round

Describe turns, position, direction and movement, including whole, half, quarter and three-quarter turns.	face, side, edge, end sort make, draw
Year 1 KNOWLEDGE AND SKILLS— Measurement, length and height, weight and volume, money and time.	**ESSENTIAL VOCABULARY**
Compare, describe and solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]. Measure and begin to record lengths and heights. Recognise and know the value of different denominations of coins and notes Compare, describe and solve practical problems for time (hours, minutes, quicker, slower, earlier, later). Measure and begin to record time (hours, minutes, seconds). Sequence events in chronological order using language (before, after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	Coin, penny, pence, pound, (£) price, cost, total buy, sell, pay spend, spent, change length, width, height long, short, tall, high, low wide, narrow, thick, thin longer, shorter, taller longest, shortest, tallest far, further, furthest, near, close ruler, metre (m), centimetre (cm) Compare, guess, estimate weigh, weighs, balances, kilogram heavy/light, heavier/lighter, heaviest/lightest balance, scales, weight Capacity, litre full, half full, empty holds most/ least days of the week: Monday, Tuesday… months of the year: January, February… seasons: spring, summer, autumn, winter day, week, fortnight, month, year, weekend morning, afternoon, evening, night, midnight next, last, after hour, minute, second o'clock, half past, clock, watch, hands
Year 2	
Year 2 KNOWLEDGE AND SKILLS—Number and Place Value	**ESSENTIAL VOCABULARY**
Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward. Recognise the place value of each digit in a two-digit number (tens, ones). Identify, represent and estimate numbers using different representations, including the number line. Compare and order numbers from 0 up to 100; use <, > and = signs. Read and write numbers to at least 100 in numerals and in words. Count objects to 100, read and write numerals in numbers and words. Tens and ones with a part whole model. Use a place value chart. Compare numbers and objects. Count in 2s, 5s and 10s confidently. Make equal parts, recognise/ find a half Recognise/ find a quarter Recognise/ find a third Unit fractions Non-unit fractions Count in fractions	sequence continue predict rule one-, two- or three-digit number place, place value stands for, represents exchange < > symbols calculate, calculation exact, exactly guess how many, estimate nearly, close to, about the same as just over, just under too many, too few, enough, not enough units, ones, tens, hundreds digit 'teens' number the same number as, as many as equal to Of two objects/amounts: greater, more, larger, bigger less, fewer, smaller Of three or more objects/amounts: greatest, most, biggest, largest least, fewest, smallest one more, ten more one less, ten less compare order size
Year 2 KNOWLEDGE AND SKILLS— Calculation	**ESSENTIAL VOCABULARY**
Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones ,a two-digit number and	addition, one hundred more , one hundred less , tens boundary Multiplication and division multiple of , once, twice, three times, four times, five times… ten times…

tens, two two-digit numbers , adding three one-digit numbers. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	times as (big, long, wide and so on) repeated addition , array row column row, column , share equally , one each, two each, three each… , group in pairs, threes… tens , equal groups of , ÷, divide, divided by, divided into. Lots of, groups of, array, pairs, equal groups x, times, multiply, multiplied by multiple of double, halve share, share equally group in pairs, threes… tens equal groups of ÷, divide, divided by, divided into, left, left over
Year 2 KNOWLEDGE AND SKILLS— Geometry- shape, position and direction.	**ESSENTIAL VOCABULARY**
Recognise 2D and 3D shapes and identify and describe their properties, including the number of sides, vertices and line symmetry. Compare and sort common 2-D and 3-D shapes and everyday objects. Draw and sort 2D shapes. Lines of symmetry Make patterns with 2D shapes. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes, for example, a circle on a cylinder and a triangle on a pyramid. Sort 3D shapes and make patterns with 3D shapes Use mathematical vocabulary to describe position, direction and movement including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise), and movement in a straight line.	quadrilaterals, polygons, sides, edges, vertices. Surface, faces, prisms. Cube cuboid pyramid sphere cone cylinder circle, circular triangle, triangular square rectangle, rectangular star pentagon hexagon octagon position over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back before, after beside, next to opposite between middle, edge centre corner direction journey, route left, right up, down higher, lower forwards, backwards, sideways across close, far, near along through to, from, towards, away from clockwise, anti-clockwise movement slide roll whole turn, half turn, quarter turn right angle straight line stretch, bend
Year 2 KNOWLEDGE AND SKILLS— Measurement, length and height, weight and volume, money and time.	**ESSENTIAL VOCABULARY**
Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Find different combinations of coins that equal the same amounts of money. Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit,	Money coin penny, pence, pound, (£) price, cost buy, bought, sell, sold change length, width, height, depth long, short, tall, high, low wide, narrow, deep, shallow, thick, thin longer, shorter, taller, higher longest, shortest, tallest, highest far, further, furthest, near, close

using rulers, scales, thermometers and measuring vessels Compare and order lengths, mass, volume/capacity and record the results using >, < and = Tell and write the time including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. Compare and sequence intervals of time.	metre (m), centimetre (cm) ruler, metre stick, tape measure measure size compare guess, estimate weigh, weighs, balances scales, weight heavy/light, heavier/lighter, heaviest/lightest kilogram (kg), half-kilogram, gram(g) capacity full, half full, empty, holds, contains litre (l), half-litre, millilitre (ml) days of the week: Monday, Tuesday… months of the year: January, February… seasons: spring, summer, autumn, winter day, week, fortnight, month, year weekend morning, afternoon, evening, night, midnight today, yesterday, tomorrow before, after next, last hour, minute, second o'clock, half past, quarter to, quarter past clock, watch, hands digital/analogue clock/watch, timer.

SEND Inclusion

Our curriculum is fully inclusive and accessible to all children, including those with SEND. We keep pupils with SEND within the curriculum by providing additional scaffolds rather than simplifying the core content. This may include pre-teaching vocabulary, breaking learning into smaller steps, using visual prompts, offering adult modelling, providing practical resources, or giving structured talk opportunities. All pupils learn the same key ideas, but receive the support they need to succeed. We aim for every child to feel confident, capable and part of the learning community.