Our Mathematics Curriculum

Chandag Infant School

EYFS

Number

Early Learning Goal :Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

- Recognise some numerals of personal significance.
- Recognises numerals 1 to 5.
- Counts up to three or four objects by saying one number name for each item.
- Counts actions or objects which cannot be moved.
- Counts objects to 10, and beginning to count beyond 10.
- Counts out up to six objects from a larger group.
- Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.
- Counts an irregular arrangement of up to ten objects.
- Estimates how many objects they can see and checks by counting them.
- Uses the language of 'more' and 'fewer' to compare two sets of objects.
- Finds the total number of items in two groups by counting all of them.
- Says the number that is one more than a given number.
- Finds one more or one less from a group of up to five objects, then ten objects.
- In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.
- Records, using marks that they can interpret and explain.
- Begins to identify own mathematical problems based on own interests and fascinations.

Shape, space and measure

Early Learning Goal : Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes.

- Selects a particular named shape.
- Can describe their relative position such as 'behind' or 'next to'.
- Orders two or three items by length or height.
- Orders two items by weight or capacity.
- Uses familiar objects and common shapes to create and recreate patterns and build models.
- Uses everyday language related to time.
- Beginning to use everyday language related to money.
- Orders and sequences familiar events.
- Measures short periods of time in simple ways.

First hand experiences and pupil offer:

Maths is embraced in all aspect of provision in EYFS and planning in the moment allows for skilled adults to interact with children, embracing teachable moments within the child's play. Children are encouraged to notice, explore and talk about objects in their everyday world and experience, for example exploring shape, time and measure: shapes found in the environment; long and short things; things of a specific length; and ones about patterns, or comparing things that are heavier or lighter. Although there are opportunities all around the EYFS environment, our setting has a designated maths area which is well resourced with concrete objects and items which motivate the children to think mathematically. Rich activities such cookery and visits, allow children to apply their maths skills or make links to maths in real life ways. Out outdoor environment provide a range of natural materials for children to arrange, compare and order and children are encouraged to count the things they see and talk about and use numbers beyond ten. Links are made whenever possible between reading books and opportunities for maths e.g. Goldilocks and the three bears. There are a range of number games readily available and adults are ready to teach and model with the children how to use them. Just as with English, children are encouraged to mark make and record what they have done, e.g. by drawing or tallying and this is often seen in the outdoor area where children go on mini-beast hunts or in the role play area. Songs and rhymes are used to help children remember and recall numbers and number facts in a memorable and engaging way. Alongside this, weekly planning and long term planning ensure coverage of skills and progression within the taught mathematics curriculum in EYFS.

Year 1 Outcomes	Year 2 Outcomes
Number & Place Value I can count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number I can count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s Given a number, I can identify 1 more and 1 less I can identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least I can read and write numbers from 1 to 20 in numerals and words. **Addition & Subtraction** I can read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs I represent and use number bonds and related subtraction facts within 20 I can add and subtract one-digit and two-digit numbers to 20, including 0 I can solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9.	**.Number & Place Value** I can count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backwards. I recognise the place value of each digit in a two-digit number (10s, 1s) I can identify, represent and estimate numbers using different representations, including the number line I can compare and order numbers from 0 up to 100; use <, > and = signs I can read and write numbers to at least 100 in numerals and in words I use place value and number facts to solve problems. **Addition & Subtraction** I can solve problems with addition and subtraction: i. using concrete objects and pictorial representations, including those involving numbers, quantities and measures ii. applying their increasing knowledge of mental and written methods I recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 I can add and subtract numbers using concrete objects, pictorial representations, and mentally, including: i. a two-digit number and 1s ii. a two-digit number and 10s iii. 2 two-digit numbers iv. adding 3 one-digit numbers I can show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot I recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Multiplication & Division

I can 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.

Fractions

I recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity

I recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity.

Measurement

I compare, describe and solve practical problems for:

i. lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
ii. mass / weight
iii. capacity and volume
iv. time

I can measure and begin to record the following:

i. lengths and heights
ii. mass/weight
iii. capacity and volume
iv. time (hours, minutes, seconds)

I recognise and know the value of different denominations of coins and notes
I can sequence events in chronological order using language
I recognise and use language relating to dates, including days of the week, weeks, months and year

I can tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

Multiplication & Division

I can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

I calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs

I can show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot

I solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

Fractions

I recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity

I can write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.

Measurement

I can choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels

I compare and order lengths, mass, volume/capacity and record the results using >, < and =

I recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value

I can find different combinations of coins that equal the same amounts of money

I can solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

I compare and sequence intervals of time

I can tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.

I know the number of minutes in an hour and the number of hours in a day

Properties of Shapes

I recognise and name common 2-D and 3-D shapes, including:

Position and Direction

I can describe position, directions and movements, including whole, half, quarter and three-quarter turns.

Properties of Shapes

I can identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line

I can identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

I compare and sort common 2-D and 3-D shapes and everyday objects.

Position & Direction

I can order and arrange combinations of mathematical objects in patterns and sequences.

I can use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).

Statistics

I can interpret and construct simple pictograms, tally charts, block diagrams and tables

I ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

I ask and answer questions about totalling and comparing categorical data.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Number and place value	Addition and subtraction Measurement	Addition and subtraction Number place value	Addition and subtraction Geometry	Geometry Addition subtraction Number and place value	Multiplication and division Measurement
Year 1	Place Value Addition and Subtraction Shape Problem solving	Place Value Addition and Subtraction Problem solving (Money introduced)	Time Place Value Length and Height Problem solving	Multiplication and Division Fractions Problem solving	Place Value Four operations Problem solving	Money Weight Volume Problem solving
Year 2	Place Value Addition and Subtraction Problem solving	Money Multiplication and Division Time Problem solving	Multiplication and Division Statistics Shape Problem solving	Fractions Measurement Length and Mass Problem solving	Time Position & direction Capacity Temperature Problem solving	Consolidation of all previously taught topics Problem solving Investigations

Chandag Infant School Mathematics Curriculum

Intent: **Our intent for maths at Chandag Infant School** is that *all* children see themselves as mathematicians and develop a thirst for learning in this subject area. We intend to produce conceptual learners who develop long-term, deep learning and fundamental skills for life. We intend for children to be secure in mathematical concepts and demonstrate mastery and greater depth. Our intent is for our pupils to understand the relevance of maths in everyday life. We intend that children gain new experiences through the maths curriculum, such as using real money and measuring through cooking. In the EYFS, we intend pupils to learn maths 'in the moment' through exploration of their environment and practising taught knowledge and skills .We intend that maths is taught in a cross-curricular way. We intend to develop confident mathematicians where all children are encouraged to 'talk the maths' and articulate their thinking by engaging in dialogic teaching and learning. We intend to produce mathematicians who can reason and problem-solve and reflect upon the learning process. Through maths learning, we intend children learn key skills, such as working independently, in partnerships and small group working. We intend to engage parents and carers in their children's maths learning.

Implement: **Our curriculum is organised** by following the National Curriculum 2014 and drawing upon the non-statutory *Development Matters* curriculum and *White Rose Schemes of Learning* to ensure curriculum coverage and knowledge and skills progression from EYFS to the end of KS1. Our curriculum is progressive and well-mapped and we plan for small steps of learning. Through secure subject knowledge, teachers support and challenge pupils in learning new knowledge and skills during discrete maths lessons, whilst providing opportunities for meaningful application of maths skills across the curriculum. We believe 'maths is all around' and we make explicit links to maths across the curriculum and in daily routines. We use formative assessment to plan subsequent lessons, ensuring progression is made and misconceptions are addressed. Feedback is given within the lesson so children can act upon this. Children are grouped fluidly to ensure the best outcomes in every lesson. Our lessons are fun, active and engaging and accommodate visual, auditory and kinaesthetic learners. ICT and appealing resources keep children engaged and motivated to learn. We follow a CPA approach (concrete-pictorial-abstract) so all children are exposed to a wide range of structures and representations so they can 'see the maths'. Our provision promotes independent learners by all staff modelling core resources used from EYFS to Year 2. These resources are accessible to all learners across the key stages. Dialogic teaching and learning gives learners 'a voice' where they are encouraged to articulate their ideas and use the correct mathematical language to explain and reason ideas. Careful questioning extends learners' thinking and supports children to make links. Mathematical language is modelled well so children can emulate this. Children hear and use stem sentences to help them 'talk the maths' and understand concepts taught. All children are given opportunities to reason and problem-solve at their own level to assure mastery learning takes place and to build resilience. Concepts are regularly revisited in 'mental orals' to assure fluency, as well as 'maths meetings' ('Muscle maths') in Key Stage One. Precision teaching and Pre-teach assures that children have opportunities to secure fundamental concepts and skills. Parents and carers are informed of our maths curriculum, how we teach maths, and the resources used to support maths learning at school through workshops throughout the year. Parents and carers are given information regarding links to maths online to support their child's learning further and their child's next steps are given during parents' evenings. Cross-curricular links are made and our cultural calendar is adapted every year and links are made to this, such as Data handling and Cooking opportunities (see cultural calendar).

Impact: **We measure outcomes through** both formative and summative assessments. Through devising desired knowledge, skills and vocabulary in long term and medium term planning, teachers can confidently use formative assessments, to which inform their short term planning. Annotations on planning, observation notes, photographs, screen shots and examples of work in children's books are used to evidence impact. 'Book looks' provide evidence of curriculum coverage, progression, level of challenge and response to feedback and marking. Lesson observations are carried out twice a year and shared with SLT and feedback is given to all teaching staff. 'Drop-in' sessions are also carried out to ensure consistency of quality teaching. Data (teacher judgements) are analysed and shared with SLT and Governors. Pupils are raised at Pupil Progress Meetings to ensure data is used to ensure progression.