



MATHS IN FOUNDATION

JANUARY 2024



MATHEMATICS

EARLY LEARNING GOALS

Number:

- Have a deep understanding of number to 10, including the composition of each number.
- Subitise (recognise quantities without counting) up to 5.
- 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.

Numerical Patterns:

- Verbally count beyond 20, recognising the pattern of the counting system.
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed



MATHS AT CHUTER EDE



At Chuter Ede we use and adapt White Rose Education in Maths as well as using various other resources to ensure children are provided with a wide range of mathematical experiences and questions.

- We also use White Rose in Education in Foundation, this provides children with a solid foundation in maths starting in Reception which can be continued to be built on in Key Stage 1 and Key Stage 2.
- It is adapted to suit our curriculum and other resources are used alongside.
- Children are given lots of practical experiences and a variety of resources to support their maths learning and gain a deeper understanding of number and the number system.

Chuter Ede Foundation Maths Progression using White Rose Maths 2023-2024

Autumn Term

T1 W1	T1 W2	T1 W3	T1 W4	T1 W5	T1 W6	T2 W1	T2 W2	T2 W3	T2 W4	T2 W5	T2 W6	T2 W7
Getting To Know You		Match, Sort and Compare		Talk about Measure and patterns		It's me 1, 2, 3		Circles and Triangles	1, 2, 3, 4, 5		Shapes with 4 sides	Assessment and consolidation

Spring Term

T3 W1	T3 W2	T3 W3	T3 W4	T3 W5	T4 W1	T4 W2	T4 W3	T4 W4	T2 W5	T2 W6
Alive in 5		Mass and Capacity	Growing 6, 7, 8		Length, Height and Time.			Building 9 and 10		Explore 3D shapes

Summer Term

T5 W1	T5 W2	T5 W3	T5 W4	T5 W5	T5 W6	T6 W1	T6 W2	T6 W3	T6 W4	T6 W5	T6 W6	T6 W7	T6 W8
To 20 and Beyond		How Many Now?	Manipulate, Compose And Decompose	Sharing and Grouping		Sharing and Grouping	Visualise, Build and Map			Transition Week?	Make Connections	Consolidation and transition	

MATHEMATICS IN FOUNDATION

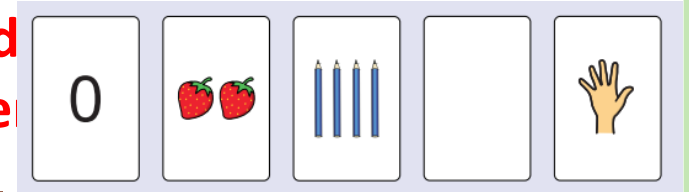
- Shape and measure is no longer a specific Early Learning Goal but is still taught throughout the year and alongside numbers e.g. 4 sided shapes are taught with number 4.
- It is also taught as a unit where we explore length, height, capacity and weight and teach key vocabulary such as shorter, longer, heavier, balanced, full, empty, half full.



- Maths is one of our continuous provision areas in all foundation classrooms which children can choose to play and explore throughout the day.
- Maths is taught during class carpet times but also taught throughout the day e.g. Through routines such as our visual timetable, time, number/shape recognition in our environment, snack maths, register time/daily calendar.
- We explicitly teach maths concepts and encourage children to use vocabulary to talk about what they notice. 'I notice...'
- It is so important that children can talk about what they see and explain their thoughts and working out. This allows children to explain their reasoning and understanding and allows misconceptions to be addressed as well as developing their mathematical vocabulary.

DEEP UNDERSTANDING OF NUMBER

•Seeing and showing numbers represented in different ways and in different contexts. Children will be able to count quantities saying one number for each object and also know that anything can be counted.

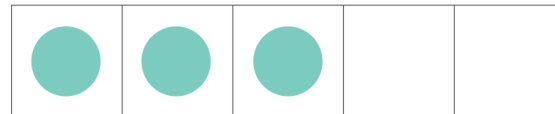


•Being able to recognise numbers in and out of sequence.

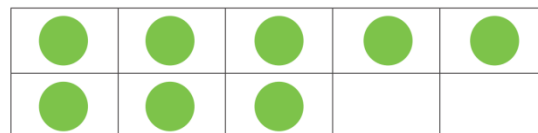


•Reading stories and singing rhymes that include numbers to support understanding.

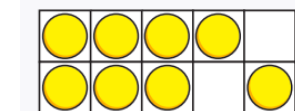
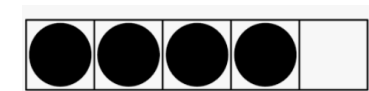
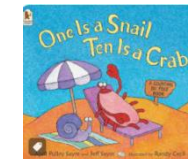
•Using a five frame.



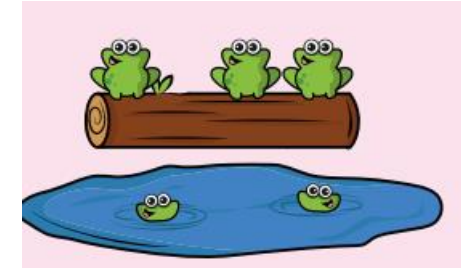
•Using a ten frame.



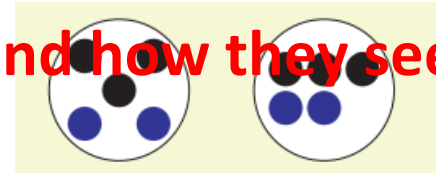
•These frames also support with counting. Children can move objects on to a five/ten frame to count them. Children will also learn what this number looks like on the frame e.g. there is one space on a five frame so there must be 4 and I know that 4 is one less than 5.



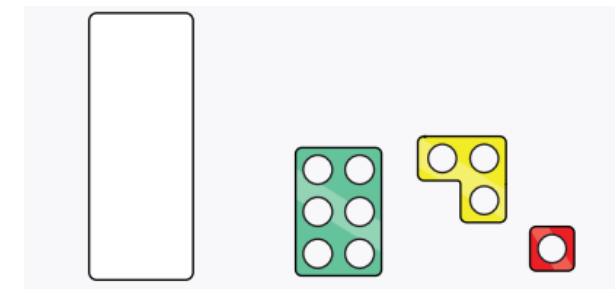
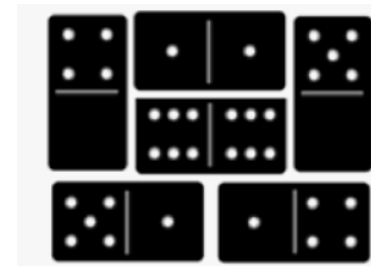
NUMBER- COMPOSITION OF NUMBERS TO 10



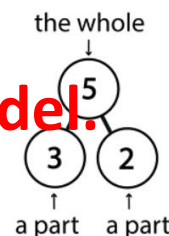
- Number stories are used to begin to understand the concepts addition and subtraction. First there are... then... There are...
- We use and show lots of different representations of numbers. We ask the children to say what number they see and how they see it.



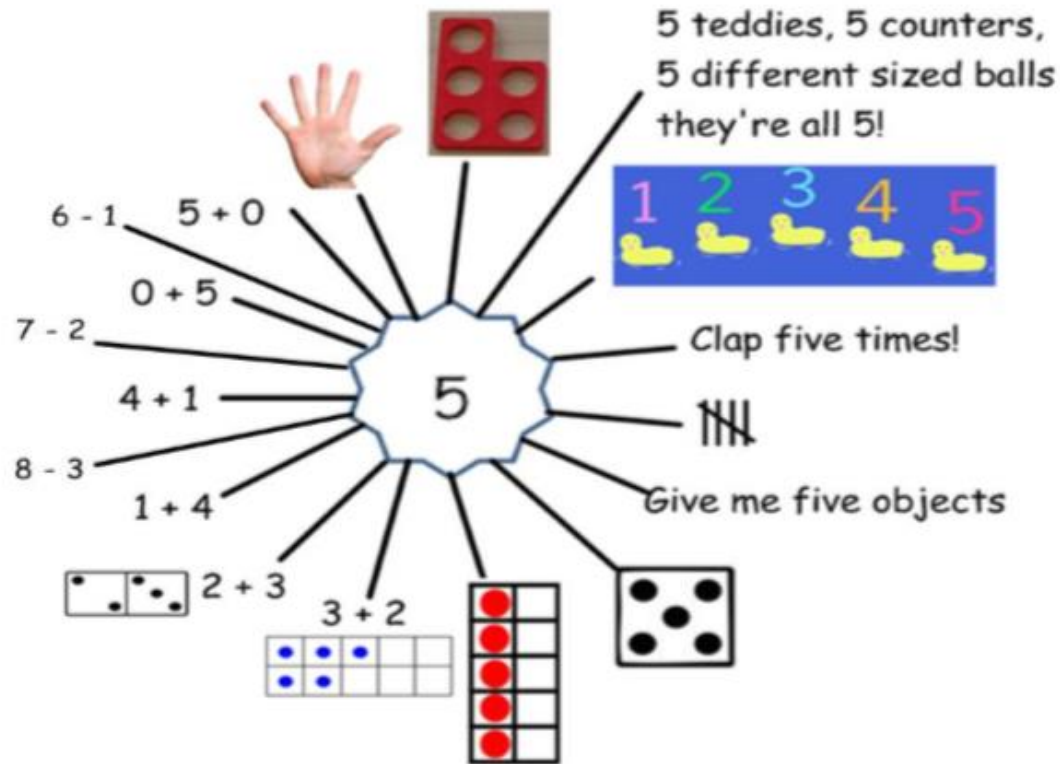
- Addition- We use lots of practical resources for children to see and count how many there are when quantities are added/com



- Part part whole model.



NUMBER- HAVE A DEEP UNDERSTANDING OF NUMBERS TO 10, INCLUDING THE COMPOSITION OF EACH NUMBER



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.

We look at each number to help children fully understand the value of each number (exploring different representations), the composition of it (that numbers can be made up of other numbers) and where it lies in the number system.

ADDITION

Children first need to understand what practically happens when we add two numbers.

Children need to know how to work out an addition question. We start off by counting how many there are altogether.

- We have 4 teddies and 5 teddies in separate groups and then we count them all together.



$$4 + 5 = 9$$



So if I have 4 teddies + 5 teddies is 'the same as' having 9 teddies altogether.

All calculations are practical before children begin to record the calculations as number sentences – this is to ensure concrete understanding of the maths they are using. Then we move on to using pictures or addition questions but still having resources to use such as cubes or Numicon.



We teach equals not as “the answer” but as meaning “the same is”.



ADDITION AND COMPOSITION OF NUMBER- THINGS TO HELP CHILDREN BECOME MORE CONFIDENT

- We can use anything to help us with our adding – 3 pencils and 5 pencils, 3 fingers and 5 fingers, draw 3 dots and 5 dots – children need to see adding as counting all of them in lots of different ways.
- Children can add in all different contexts. They can be building with construction or in the kitchen at home.

How many more pieces of Lego did you add to your tower?
How many pieces are there altogether?

If you make another castle using those blocks, will you still have the same amount?

Can you get me 2 more biscuits please. How many are there now?
What happens if I eat a biscuit?

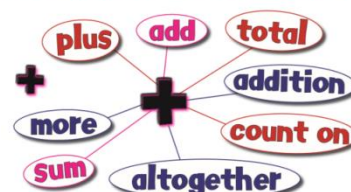
- Children need to know that when we add more the numbers gets bigger.
- It doesn't matter which way around the numbers are in the problem are $3 + 5$ or $5 + 3$ will still equal the same total.
- It is important that children understand that numbers can be made up of different arrangements and explore moving physically moving objects practically to see this.
- Using mathematical vocabulary helps develop and embed their understanding.

Addition Calculation

$$\begin{array}{ccccccc} 4 & + & 2 & = & 6 \\ \text{(add)} & & \text{(equals or same as)} & & \end{array}$$

$$\begin{array}{l} 6 = 4 + 2 \\ 4 + 2 = 5 + 1 \end{array}$$

Addition Vocabulary



SUBTRACTION

- Children learn that subtraction means to take away.
- Children first experience taking away through stories and songs.
- During choosing time is a great way to ask maths questions.



If you took two away how many would you have left?

Can you give your friend 5 cubes. How many do you have left?

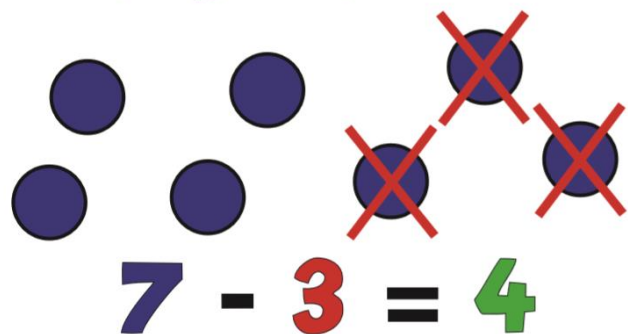
- Children need to understand that when we take away the number get smaller, we have less.
- Children are taught to think about which number comes first and using physical objects. If I have 5 oranges. Can I give 7 away?
- We play games such as bowling, looking at how many bowling pins have been knocked down and how many are left. Making towers and rolling the dice to see how many we need to take away, then counting how many are left.



SUBTRACTION

- Once children are confident practically taking away they will move to recording this.

Objects



"What do I get if I take 3 away from 7? Answer: 4"

$$7 - 3 =$$

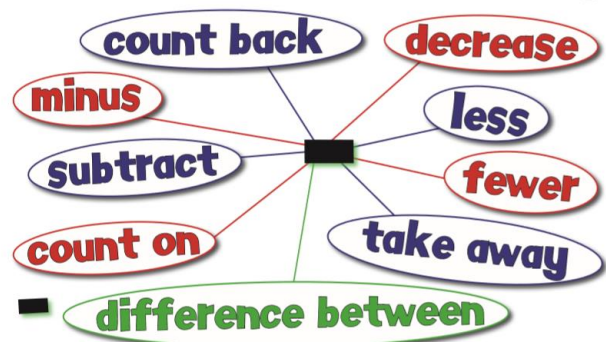
You will need to get 7 items/7 fingers/draw 7 dots.

Next take away 3/put down 3 fingers/cross out 3 dots.

Finally Count how many are left.

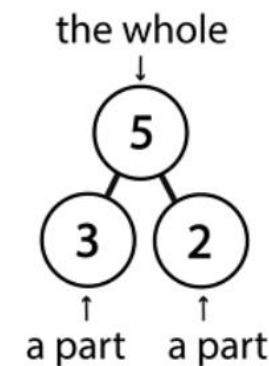
- Vocabulary

Subtraction Vocabulary



• It is important children gain an understanding of the composition of number first.

• Using the part part whole model helps children to see e.g. I know 3 and 2 is the same as 5 so 5 take away 3 must be 2.



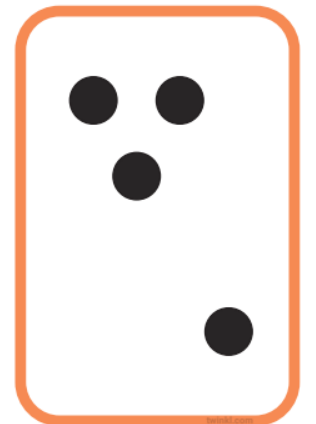
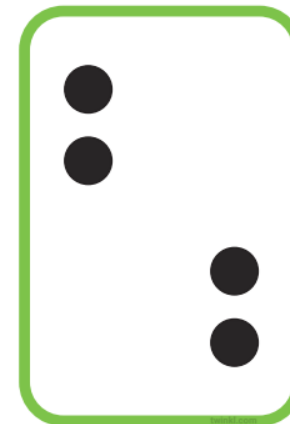
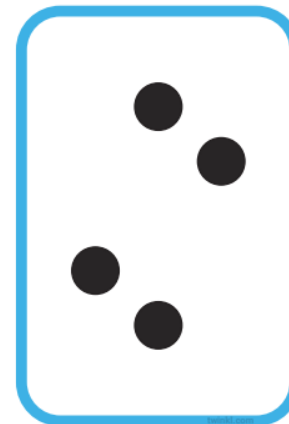
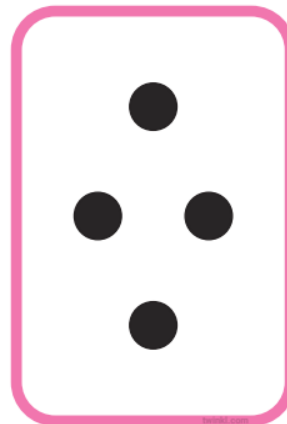
NUMBER- SUBITISE (RECOGNISE QUANTITIES WITHOUT COUNTING) UP TO 5



Subitising is saying how many there are without counting.

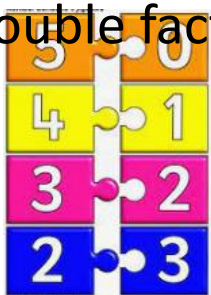
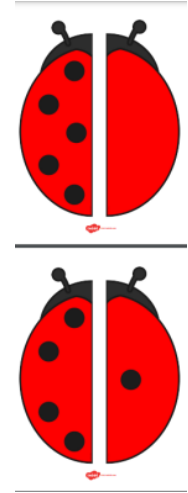
Playing games with a dice is a great start to recognising how many dots there are without having to count them.
Children will be able to say how many dots there are up to 5.

We encourage children to talk about what they see and how they see it.



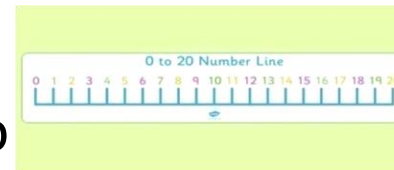
NUMBER- AUTOMATICALLY RECALL NUMBER BONDS UP TO 5 (INCLUDING SOME SUBTRACTION FACTS AND SOME NUMBER BONDS TO 10 INCLUDING DOUBLE FACTS.

- As children develop their understanding of numbers to 10 they will be able to recall number bonds to 5 and some to 10.
- They first need to understand the composition of numbers before they can recall their number bonds to 5 and 10.
- Children need to be able to say their number bonds to 5 and doubles facts. This is done though songs, chants and rehearsing number facts.
- We explore number bonds to 5 and 10 using practical resource. Then play quick fire recall games to support the recall of these number bonds and double facts.

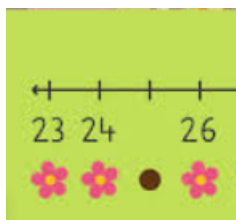


NUMERICAL PATTERNS- COUNT BEYOND 20 RECOGNISING THE PATTERN OF THE NUMBER SYSTEM

- Lots of counting at school and at home will support this.
- Singing counting songs to 20 or 100.
- Children need to understand which number comes next when they are counting up the number system, especially after a number with 9 as the last digit e.g.. 19, 29, 39.
- Start counting from any given number. It is important children know we don't always start with 0 or 1.
- Encourage children to count backwards too, start from a smaller number and get higher as they become more confident.
- Look at number lines and hundred squares to see where numbers are and find numbers on them.
- Playing games such as missing numbers. Which number is missing? How do you know?

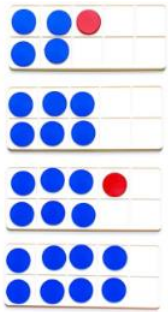


1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

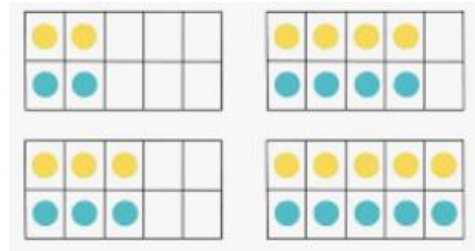


NUMERICAL PATTERNS- EXPLORE AND REPRESENT PATTERNS WITHIN NUMBERS UP TO 10, INCLUDING EVENS AND ODDS, DOUBLE FACTS AND HOW QUANTITIES CAN BE DISTRIBUTED EQUALLY

- We use practical resources and visual representations to explore different patterns.



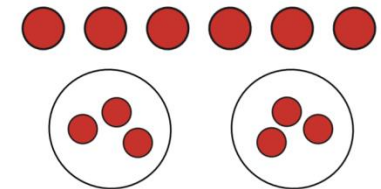
odd and even numbers



doubles



Sharing (Concept)



"If I share 6 into 2 equal amounts, how many in each group?" Answer: 3

- We teach halving and sharing as a practical activity.
"I have something and I want to share it with my friend."

Children should be able to suggest 'cutting it in half' if there are 2 people and this is possible, or, sharing something equally using 'one for me, one for you' until all of the items have been shared out.

Children should count to check that both people have the same number of items for it to be equal and fair.

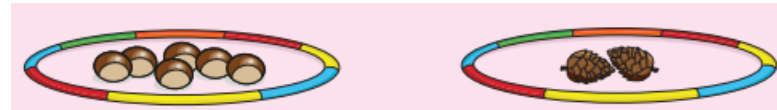
- This is how we begin to identify odd and even numbers- by seeing if a number can be shared fairly between two.

NUMERICAL PATTERNS- COMPARE QUANTITIES UP TO 10 IN DIFFERENT CONTEXTS, RECOGNISING WHEN A QUANTITY IS GREATER THAN, LESS THAN OR THE SAME AS ANOTHER QUANTITY

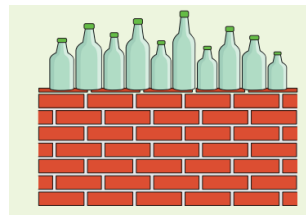
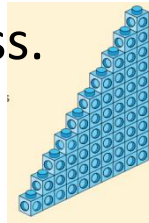
- We start off by sorting and grouping objects. Looking at what is different and what is the same. Can you explain how the objects are the same and how they are different?



- When we move to numbers, children first focus on more than/ greater than, less than/fewer than and the same as. They will be able to use and understand these concepts.



- Children then learn how to identify one more and one less than a given number. At first this is done practically by getting one more object or taking one away. Children also explore the pattern of one more or one less.



- By the end of the year children will be able to say one more or one less than a given number.



MATHS IS EVERYWHERE!

Maths is best practically to gain a good understanding and in real life situations, there is no need for a work book or lots of written sums. The best way to help is to keep involving your child in lots of every day maths and talking about what they notice. Can they notice numbers, amount, patterns, shapes?

Can you count out 12 potatoes for tea? If you get me one more, how many will I have then?

What number is on that door?

Here is a bag of chocolate buttons, can you share them with your friend/sister/brother fairly so that you both get the same?

Which is heavier?
How do you know?

Which carrot is shorter? Can you find me a longer carrot?





Numbots is an online maths game that can be played at home and we can play in school. Your child will be given their own login details to play with. The game will progress with your child's learning it moves through the games.

Game Types

1. Story Mode – the emphasis is on learning the ideas and concepts behind addition and subtraction so it features more diagrams, shapes and question styles.
2. Challenge Mode – the emphasis is more on speed of recall of key facts, like number bonds to 10, doubling small numbers or adding & taking away in your head.

- Children create their own robot and can buy things to enhance their robot as they earn coins.
- It gets progressively harder, please support your child but do not give them the answers as it will progress to harder questions.
- We will be sending home log in details soon 😊
- We share the highest coin earners during SMILE assembly each week.



TAPESTRY

Each Friday a 'Tapestry Challenge' will be set. You can upload photos or videos of your child doing their Tapestry challenge at home. The task will usually be related to what we have been learning that week in school. It could be linked to maths or any other area of learning.

Here is an example of a Tapestry challenge:



Tapestry Challenge

W.B. _____



This week we have been working on grouping, matching and pairing items in maths.

How many pairs of items can your child find in your house? They may like to help with the laundry and pair the socks together for you? Or collect up pairs of things to match and count.

If you have a matching memory game at home you might like to play this with your child. We have been working on:



ANY QUESTIONS?



THANK YOU FOR COMING!

