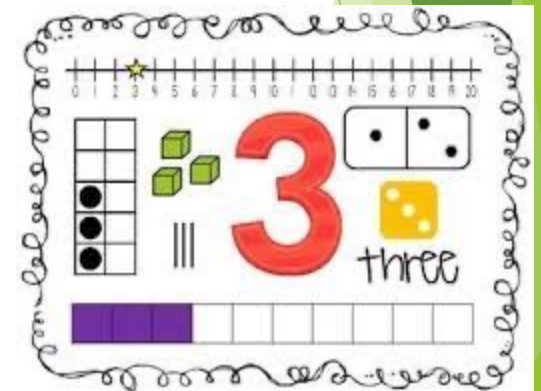


Maths Workshop for Parents 2024



End of Year Expectations

Number

- have a **deep** understanding of numbers 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 doubling facts.

Numerical Patterns

- 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 equally.

History - How the teaching of mathematics has changed over time

Children learn best through activities that are hands-on, practical, visual and through play. There is greater emphasis on understanding rather than rote learning of simple processes. Learning is not a race, everyone learns at different paces and in different ways. It is important that children are secure with the core number concepts with smaller numbers before rushing on to higher numbers.

Mastery Approach –

Children in the early years develop the concept of maths mastery through maths talk, practicing the skills they've learned during play, and developing number sense. The key is to keep activities fun and part of the daily routine. The more learners explore maths through play, the more engaged they become.

NCETM Mastering Number project

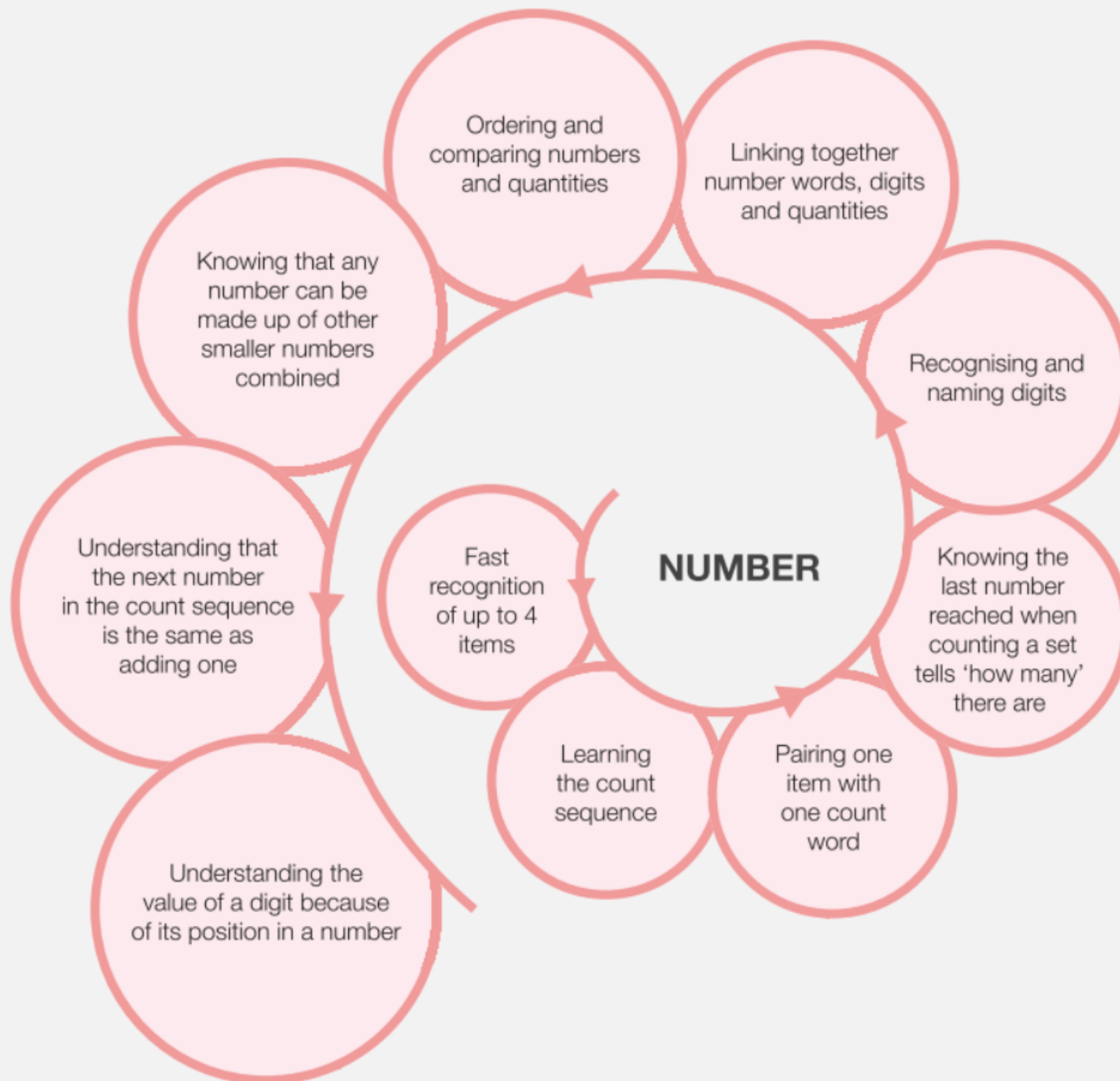
- To support the teaching of basic maths skills in our school.
- This project aims to secure firm foundations in the development of good number sense for all.
- The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention has been given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

Understanding of numbers to 10

You may feel that your child can already count to 10 and beyond and therefore needs to work on bigger numbers.

But have you considered:

- They may just know the numbers by rote?
- They may not have grasped the 5 ness of 5?
- They may not understand the numbers within numbers i.e. that 5 is made up of 3 and 2, 4 and 1?



one count
word

Choose from a
range or combination
of strategies to solve a
problem (e.g. counting,
using objects, recalling
facts or combining facts
to get the answer)

Understanding
the meaning of
mathematical
symbols
(e.g. $+$, $-$, $=$, $<$, $>$)

Understanding
that operations are
related to each other
(e.g. adding and then
removing items means
that the amount
is the same)

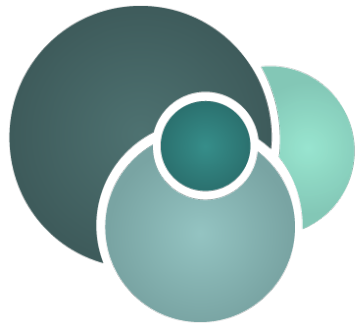
Use counting to
share and
group objects

Adding
and subtracting
by counting
without objects,
either out loud or
in their heads

Adding
and subtracting
with objects, using
count all then count
on, or take away,
strategies

Use
language to
describe the
relationship between
quantities (e.g.
'more than, less
than')

OPERATIONS



NCETM

NATIONAL CENTRE FOR EXCELLENCE
IN THE TEACHING OF MATHEMATICS

Maths mastery program moves away from counting as a strategy.

For children who struggle with maths later on, they often have an overreliance on counting which isn't an effective strategy with larger numbers.

Eg. $26 + 22 + 24 =$

We encourage children to use number facts and other things that they **know** to find the answer more quickly and in a simpler way.

Six Key Areas of Early Maths Learning



Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents



Comparison

Understanding that comparing numbers involves knowing which numbers are worth more or less than each other



Composition

Understanding that one number can be made up from (composed from) two or more smaller numbers



Pattern



Shape and Space



Measures

Cardinality:



Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents



Understanding number

Eg. the 3ness of 3.

- Rote learning in correct order
- 1:1 correspondence - 1 number for each object counted
- Knowing the last number counted is the total
- Recognising numerals and matching these with a number of things.
- **SUBITISING:**
 - - recognising, WITHOUT counting, when 3 is being shown. (game)
- The organisation and patterns are key - helps with conceptual subitising patterns for larger numbers
- **COMMON ERRORS:**
 - Missing an object or counting the same thing twice
 - Carrying on counting past the final number.
 - Difficulties recognising patterns or arrangements of objects and needing to count rather than subitise

Comparison:



Comparison

Understanding that comparing numbers involves knowing which numbers are worth more or less than each other

Knowing which numbers are worth more or less than each other

- More than/less than
- Recognising groups with the same number of items. Equal and unequal.
- Comparing actual numbers and reasoning with known number facts.
- Compare numbers that are far apart and close together. Eg. knowing that 10 is a lot bigger than 2 but 3 is only a little bigger.
- 1 more/1 less than between sequential numbers
- **COMMON ERRORS:**
- Comparing based on size rather than value.
- Giving a response that doesn't match the context e.g. *There are 7 cars in a garage and then 2 more go in.' The child guesses there are 4 cars in total inside.*

Composition:



Composition

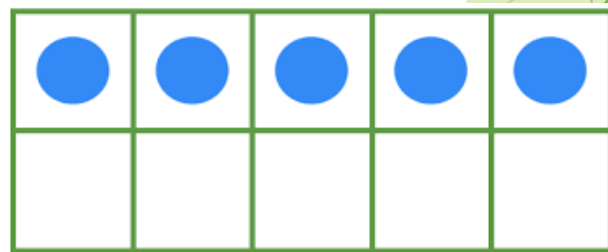
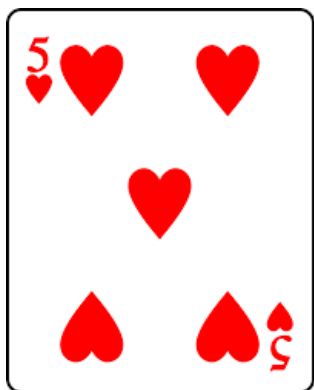
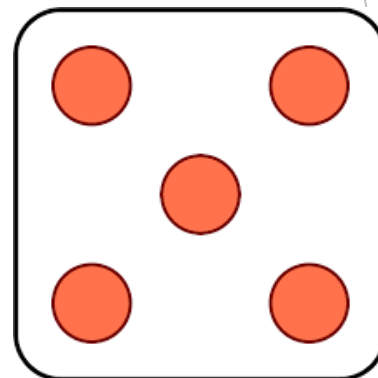
Understanding that one number can be made up from (composed from) two or more smaller numbers



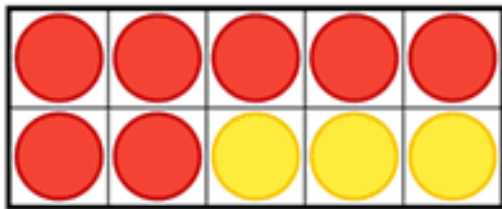
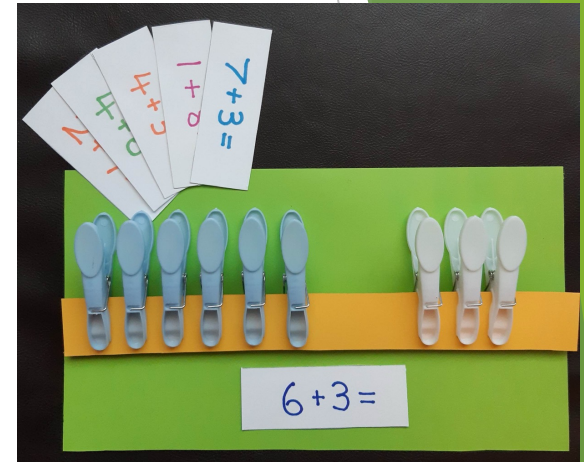
Understanding that one number can be made up from (composed from) two or more smaller numbers

- Part/whole understanding of numbers - finding smaller patterns of number within bigger numbers
- Inverse operations - knowing that $3 + 2 = 5$ therefore $2 + 3 = 5$ | $5 - 3 = 2$ | $5 - 2 = 3$
- Partitioning - knowing a number can be split up into smaller numbers
- Number bonds - knowing which pairs make a given number. Eg. $4 + 6 = 10$
- **COMMON ERRORS:**
- children suggesting that a larger number than the total are hidden.

Understanding the concept of number (physical, pictorial, abstract)



Apparatus

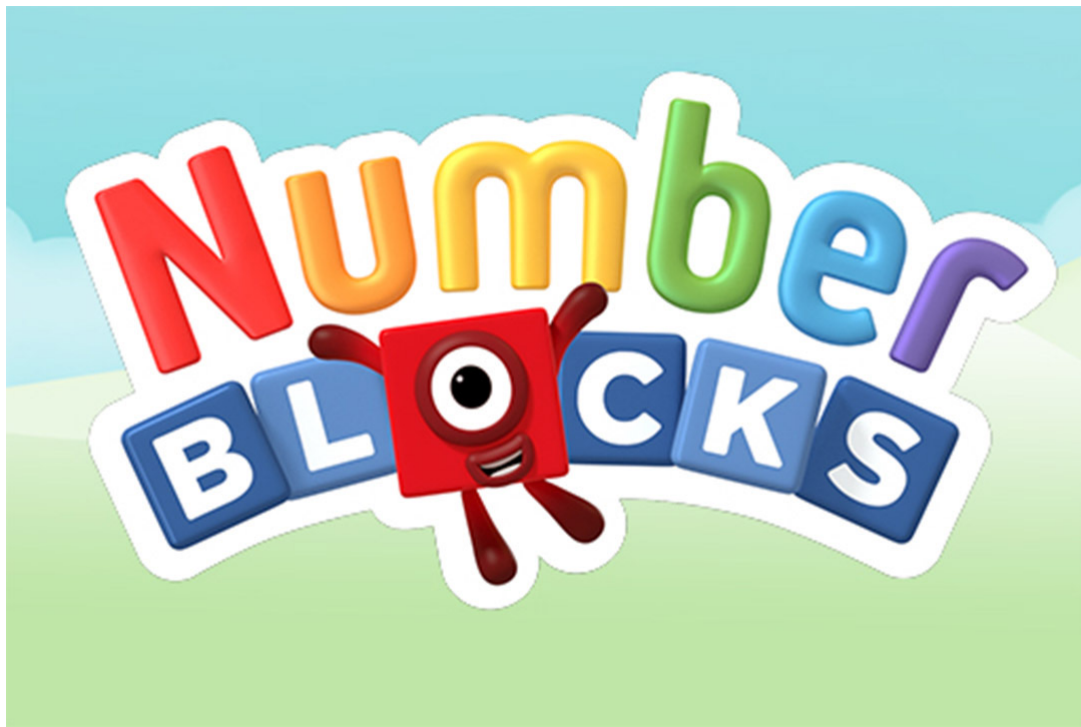


Mathematical vocabulary

Number and place value	Addition and subtraction
subitise count order compare forwards backwards numerals digit one more one less equal to more than less than fewer	add plus altogether total makes equals take away subtract minus less part whole

STEM sentences

Week 1		Week 14	
Week 2		Week 15	_____ has more than _____; _____ has fewer than _____.
Week 3	1 and another 1 is 2. 1 and 1 and 1 makes 3.	Week 16	5 and 1 more makes 6 altogether. 5 and 2 more makes 7 altogether. 5 and 1 more makes 6 altogether. 5 is 1 more than 4; 5 is 1 less than 6; 4 is 1 less than 5; 6 is 1 more than 5.
Week 4		Week 17	5 is more than _____. _____ is more than _____.
Week 5	_____ has more _____ than _____. _____ has fewer than _____.	Week 18	My _____ is a part of me and the whole of me is [name]. 7 is made of 5 and 2.
Week 6	There are 5 fingers on my hand. There are 5 spots on my die pattern. 5 and 5 makes 10 altogether.	Week 19	This is a double because ____ is a part and ____ is a part. ____ is made of ____ and ____; ____ and ____ make ____.
Week 7		Week 20	____ is made of ____ and ____; ____ and ____ make ____. Even numbers CAN be made of 2 parts that are the same.
Week 8	My [...] is a part of me and the whole of me is [name].	Week 21	
Week 9	_____ and _____ make 5 altogether.	Week 22	_____ is made of _____ and _____; _____ and _____ make _____.
Week 10		Week 23	There are 5 fingers on my hand. 5 is made of _____ and _____; _____ and _____ make 5.
Week 11		Week 24	_____ is made of 5 and _____; 5 and _____ make _____. _____ needs _____ to make 10; 10 is made of _____ and _____. 10 is made of _____ and _____; _____ and _____ make 10.
Week 12		Week 25	
Week 13	5 is made from 4 and 1. 5 is made from 3 and 2. 5 is made from 2 and 3.	Week 26	<i>The following weeks are recap weeks therefore there are no new stem sentences.</i>



Used to demonstrate some of the key maths concepts using clear visuals and key vocabulary.



Maths Monkey



Used to allow the children to 'help' the monkey when he gets things wrong, developing explanations and reasoning skills. Also builds up resilience, showing that it's ok to make mistakes and we can learn from them.

Maths monkey is also taken home where children can do a maths activity with them.

Game ideas:

Pairing socks and seeing if there are any odd ones out
Playing higher or lower with a set of cards

Comparing how much juice is in each persons' cup - who has more/less?

Rolling a dice, subitising the number, then counting out that number of toys. etc

How to spot number sense

Children develop number sense gradually over time and at different rates through exploring numbers, visualising them in a variety of contexts, and relating them in ways that are not limited by formal written methods.

You can track their progress by checking for the following:

1. An awareness of the relationship between number and quantity
2. An understanding of number symbols, vocabulary, and meaning
3. The ability to engage in systematic counting — including notions of cardinality and ordinality
4. An awareness of magnitude and comparisons between different magnitudes
5. An understanding of different representations of number
6. Competence with simple mathematical operations
7. An awareness of number patterns including recognising missing numbers

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