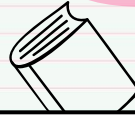


The background is a light pink lined paper with various colorful shapes and patterns. There are yellow and purple wavy shapes at the top, a light blue shape with a lightning bolt on the right, and a purple shape with a star at the bottom left. A pink shape with a star is at the bottom right. There are also small purple and yellow dots and wavy lines scattered throughout.

Parent/Carer Information Session

Maths - Number Skills
Friday 27th March

Mairi Dunn
Sophie Tanner and Danielle John



Developing strong number skills in primary school is essential for building a foundation in mathematics, logical thinking, and everyday numeracy.

Basic number skills are crucial for problem-solving, financial literacy, and navigating daily life.



"WHEN AM I EVER GOING TO USE MATH?"

There are many ways you will use math *throughout your life!*



COOL JOBS USE MATH

- Sports Announcer (Statistics)
- Fighter Pilot (Trigonometry)
- Game Designer (Coding)

... and that's just the tip of the iceberg!



MATH MAKES MONEY

- Big Purchases (Percentages)
- Budgeting (Arithmetic)
- Buying a House (Algebra)

... the smart money is on math!



MATH IN THE KITCHEN

- Measurements (Volume + Weight)
- Temperature (Calculations)
- Portions (Fractions)

... master math, master chef!



BUILD IT WITH MATH

- Electrical (Measurement)
- Carpentry (Geometry)
- Tiling (Area)

... what will you create?



STRONG MATH, STRONG BODY

- Calorie Counting (Mental Math)
- Weightlifting (Calculation)
- Cardio (Efficiency)

... use math to add to your health!



When do we use maths in real life?

Area	Potential Maths learning opportunities
Kitchen	Baking - weighing, counting, patterns Cleaning - counting sweeps, Washing up - counting cups / spoons Dinner - counting cutlery / plates Patterns - tiles - jumps
Bathroom	Bubbles in bath - counting Full/ empty
Living room	
Bedroom	Shadows - long / short Sorting toys / teddies
Outdoor - garden area	Talking about shapes Using a paint brush to paint with water - numbers / lines / shapes Draw round feet / hands / body
Outdoor - park Swings , slide,	Up / down Forward / back Fast / slow

When do we use maths in real life?

Outdoor - other areas	Patterns with natural items eg leaves, sticks Comparing length of outdoor objects Tall / big tree Using shadows - count number of foot prints
Language	All the language we have discussed can be used across all the areas above Big / small / bigger / smaller / biggest / smallest Long / short Colours Patterns More / less Numbers Full / empty Prepositions - on, under, over, in Now / next / after / later

What do we mean by 'basic skills' in maths?

Developing children's ability to have a secure understanding of strategies and calculations allowing them to work accurately and confidently.

We need to be clear about the skills and strategies children are expected to acquire in order to move their learning on.

Important note:

Every child grows and develops at their own pace, and so their developmental journey is unique. While most children follow a similar process of development from birth to adulthood, some master certain skills earlier than others and some take longer or need a bit more help and direction.

All progress should be celebrated!

▼ **Numeracy: Understanding the number system helps us to represent and compare relationships between numbers and quantities**

Progression step 1

Progression step 2

Progression step 3

The number system

I can count reliably, forwards and backwards, to beyond 10.

I can read, write and interpret numbers using figures and words up to at least 1000.

I can read and write numbers to 1 million and numbers to 3 decimal places.

I can notice, read and write numbers from 0 to beyond 10, and relate a number to its respective quantity.

I can use the terms square and square root.

I can compare and order numbers beyond 10.

I can compare, round and estimate with numbers up to 100.

I can estimate by rounding to the nearest 10, 100, 1000 or whole number.

I can demonstrate an understanding of one-to-one correspondence by matching pairs of objects or pictures.

I can count in different steps of uniform size, and recognise odd and even numbers.

I can use my visual sense of number to make estimates and comparisons.

I can check subtraction using addition.

I can explore estimates by using counting or measuring.

I can check halving using doubling.

✓ **Numeracy: Understanding the number system helps us to represent and compare relationships between numbers and quantities**

Progression step 1

Progression step 2

Progression step 3



Calculation

I can understand and use the concept of 'one more' in my play.

I can find differences within at least 100.

I can use mental strategies to recall multiplication tables up to 10×10 and use to solve division problems.

I can understand and use the concept of 'one less' in my play.

I can use mental strategies to add and subtract at least 2-digit numbers.

I can multiply numbers and decimals by a multiple of 10, e.g. 15×30 , $1.4\text{cm} \times 20$.

I can combine two groups of objects to find 'how many altogether?'.

I can use partitioning to double and halve 2-digit numbers.

I can halve 3-digit numbers in the context of number, money and measures.

I can take away objects to find 'how many are left?'.

I can use mental strategies to recall number facts within 20.

I can calculate a percentage, fraction and decimal of any quantity with a calculator where appropriate.

I can find and use number facts to compose a number (up to 10) in different ways.

I can recall 2, 3, 4, 5 and 10 multiplication tables and use to solve multiplication and division problems.

I can use ratio and proportion to calculate quantities.

I can multiply numbers by 10.

I can calculate percentage quantities based on 10%, e.g. 20%, 5%, 15%.

I can check multiplication using repeated addition.

I can add and subtract numbers using whole numbers and decimals.

Children need to understand our number system, starting with counting numbers, building an understanding of how our numbers work and fit together. This includes exploring place value and comparing and ordering numbers then applying this understanding in different contexts.



How do we achieve this?

- When you ask a child how they know the answer, they may well say 'Because I know it!' or 'I just do!'
- Mental recall and strategies don't just happen - we need to put the building blocks in place through PRACTICAL EXPERIENCES.
- To teach children effectively, we need to provide them with a rich and varied diet of practical activities that allow them to become confident and proficient when working in maths.

Concrete, Pictorial, Abstract



Concrete

Includes manipulatives, measuring tools, things children can handle.

Modelling, extending, refreshing, supporting, illustrating, explaining, proving

Pictorial

Includes drawings, diagrams, numberlines, things children can relate back to concrete objects

Abstract

Symbolic representation such as numbers, letters, fractions, procedures and algorithms





Rogerstone's Maths Progression Grid



I have explored forming a quantity in different ways, using combinations of objects or quantities.

I can find and use number facts to compose a number (up to 10) in different ways.

- Show finger patterns to 5 on one hand
- Explore number facts up to 5 practically

I can find and use number facts to compose a number (up to 10) in different ways.

- Show finger patterns to 5 using two hands
- Show finger patterns to 10, anchoring on 5
- Use number facts up to 4
- Use number facts up to 5
- Partition numbers up to 10 in different ways using objects in meaningful contexts (i.e. stories of 6 - 10)

I can find and use number facts to compose a number (up to 10) in different ways.

- Use number facts within 10 - bonds of 10
- Partition and recombine pairs of numbers within 10 (6, 7, 8, 9) using frames, and grids, anchoring on 5
- Partition and recombine pairs of numbers within 10 (6, 7, 8, 9) using frames, and grids, not anchoring on 5
- Demonstrate an understanding of place value
- Know what each digit represents in a teen number
- Understand the relationship between tens and units i.e. 10 units is 1 ten, 20 units is 2 tens

- Demonstrate an understanding of place value up to at least 100
- Partition 2-digit numbers and know the value of each digit
- Use mental recall of number facts to 10 and derive other facts

use number facts up to 5 ❖

- use number facts within 10, i.e.:
- doubling and halving, e.g. $4 + 4$
 - bonds of 10, e.g. $6 + 4$

use mental recall of number facts to 10 to derive other facts, i.e.:

- doubling and halving, e.g. derive $40 + 40$ from knowing $4 + 4$
- bonds of 10, e.g. derive $60 + 40$ from knowing $6 + 4$



Suki Squirrel's Acorn

Can you help Suki Squirrel find out how many acorns she has?

Draw 1 More Acorn

use number facts up to 5 ❖

use number facts within 10, i.e.:

- doubling and halving, e.g. $4 + 4$
- bonds of 10, e.g. $6 + 4$

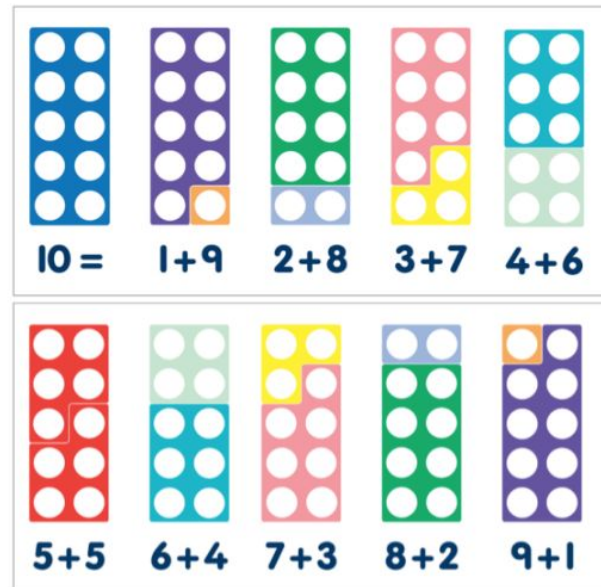
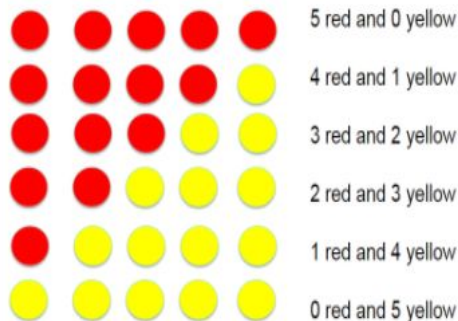
use mental recall of number facts to 10 to derive other facts, i.e.:

- doubling and halving, e.g. *derive $40 + 40$ from knowing $4 + 4$*
- bonds of 10, e.g. *derive $60 + 40$ from knowing $6 + 4$*

- It is important that children recognise number bonds, different pairs of numbers with the same total and that they are fluent in this.
- Children need to be secure on bonds to 10 by the end of Year 1.



How many ways to make 5?



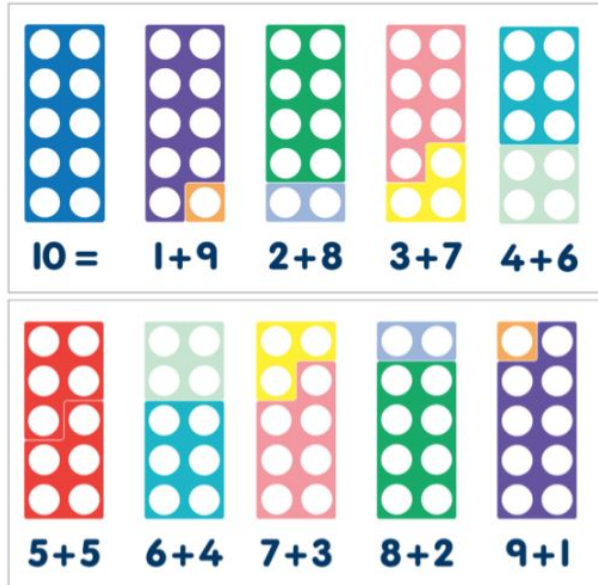
use number facts up to 5 ❖

use number facts within 10, i.e.:

- doubling and halving, e.g. $4 + 4$
- bonds of 10, e.g. $6 + 4$

use mental recall of number facts to 10 to derive other facts, i.e.:

- doubling and halving, e.g. *derive $40 + 40$ from knowing $4 + 4$*
- bonds of 10, e.g. *derive $60 + 40$ from knowing $6 + 4$*

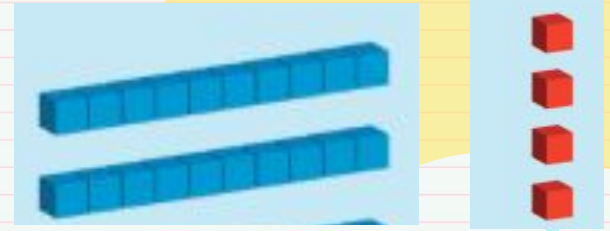


If I know that $9 + 1 = 10$
Then I know that $90 + 10 = 100$

If I know that $7 + 3 = 10$
Then I know that $70 + 30 = 100$

Place value - What is 24? Is it $2 + 4$?

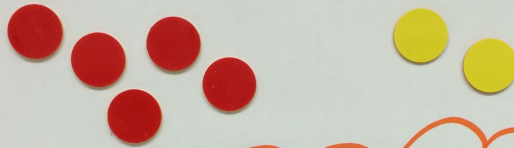
- Place value is at the heart of the number system. All digits have a value and a secure understanding of this will enable children to use and understand different calculation methods.
- We constantly ask our children to tell us what each digit in a number represents.
- E.g. 24 – The 2 represents 2 tens, the 4 represents 4 ones.



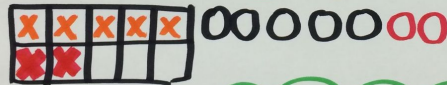
$$20 + 4$$

3 Steps to Learn Math

Tools & Touch



Drawings & Pictures



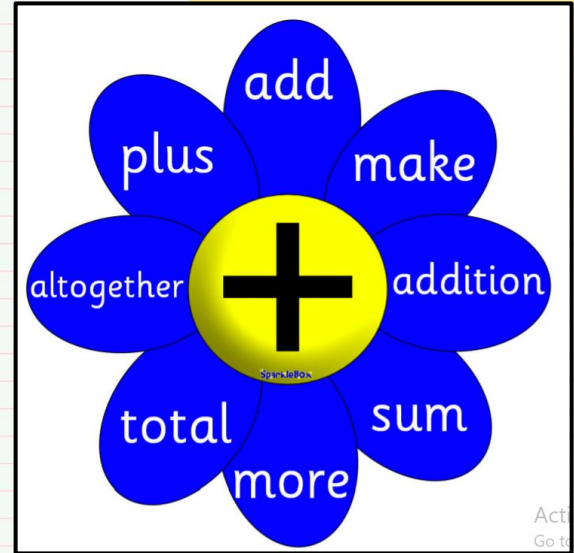
Symbols & Numbers

$$5 + 2 = 7$$

Addition

How does addition differ as a child progresses in their skills and knowledge and throughout the school?

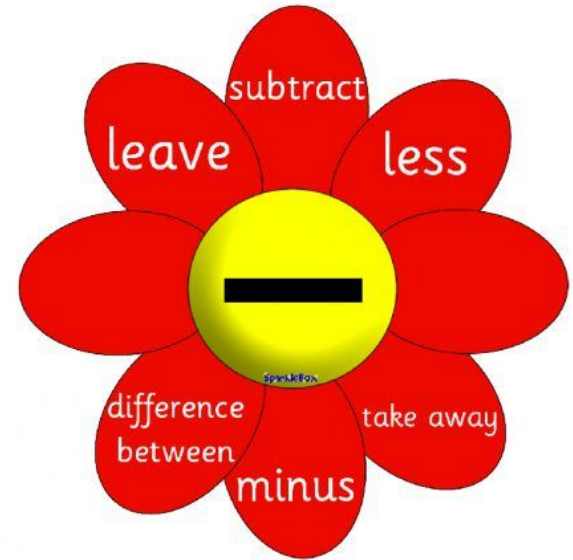
- Visuals - combining groups of objects
- Fingers
- Numicon
- Number lines
- Hundred square
- Place value cards
- Dienes blocks
- Doubles/near doubles
- Bigger number in head and counting on
- Partitioning and expanded
- Compact column addition



Subtraction

How does addition differ as a child progresses in their skills and knowledge and throughout the school?

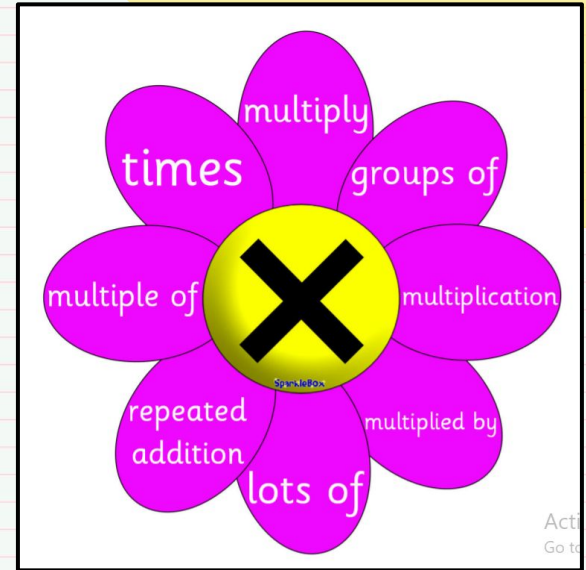
- Visuals - groups of objects
- Fingers
- Number lines
- Hundred square
- Place value cards
- Bigger number in head and counting back
- Partitioning and expanded
- Compact column subtraction



Multiplication

How does multiplication differ as a child progresses in their skills and knowledge and throughout the school?

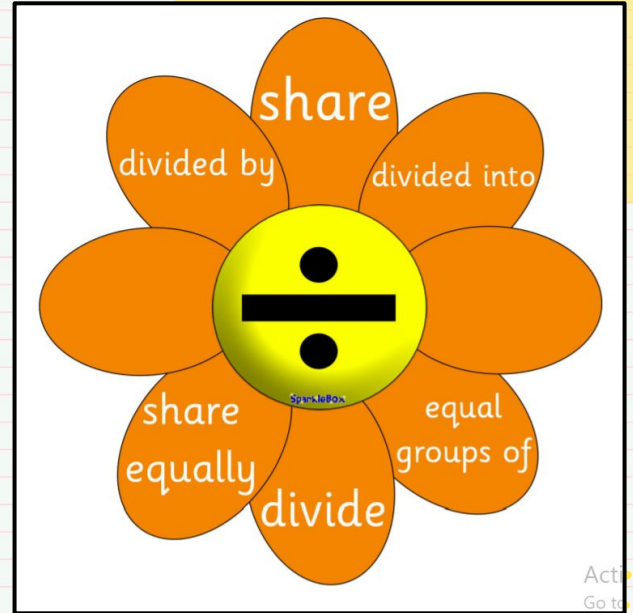
- Groups of/lots of - using groups of objects to count
- Counting in 2s/10s etc (counting stick) (toblerone)
- Repeated addition
- Arrays
- Grid method
- TT Rockstars
- Column multiplication - expanded and compact

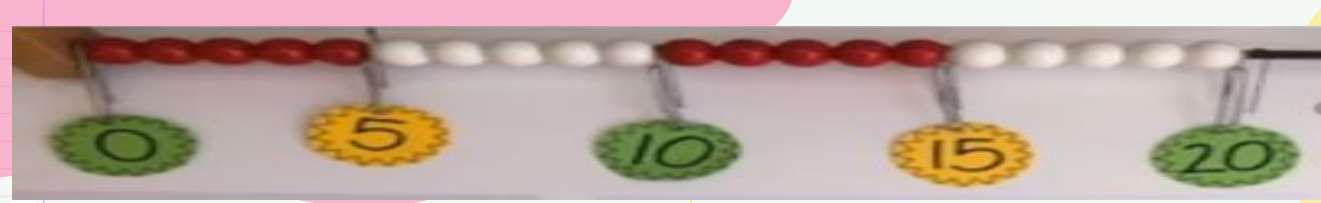


Division

How does division differ as a child progresses in their skills and knowledge and throughout the school?

- Sharing - within play/ groups of objects
- Halves
- Cookie method
- Number line
- Chunking
- Bus stop - long and short





Let's explore some resources!

