BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Early Years Maths Meeting

What makes a good mathematician?

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Why is maths so important?

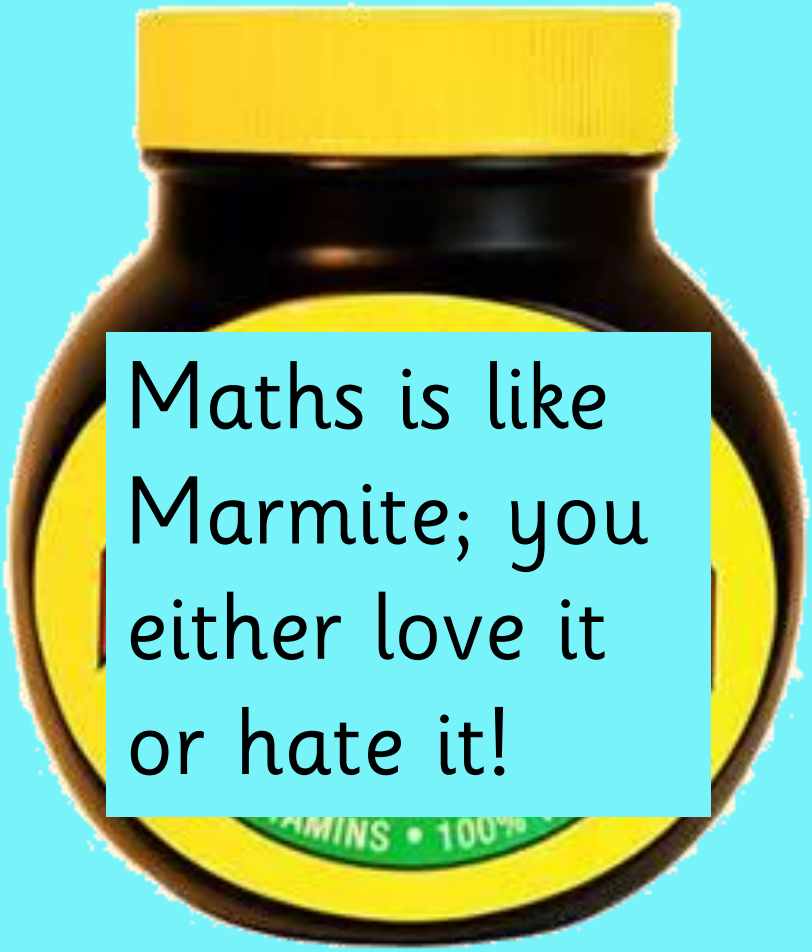
- Maths is everywhere
- We need to use maths in everyday life
- Maths enables children to think logically and become good problem solvers

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Therefore:

- It is vital to lay secure foundations in early mathematics
- We want children to engage with all areas of mathematics
- We must give children the tools to help them to develop a better understanding of the mathematical world in which they live

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL



BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

What makes a good mathematician?

- Number facts
- Using and applying skills and knowledge
- Reasoning
- Communicating
- Representing
- Enquiry
- Risk-taking and accepting challenges
- Vocabulary
- Problem solving
- Mental agility

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Dispositions and Attitudes

Curiosity

Questioning

Confidence

Perseverance

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Aims:

- To outline what children are expected to know by the end of the foundation stage
- To explain what mathematics teaching and learning looks like in Early Years at Broadwater
- To share key underpinning mathematical skills
- To inspire you to engage in **fun** practical maths with your child at home

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Early Learning Goal

ELG: Number - Children at the expected level of development will:

- 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.

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Early Learning Goal

ELG: Numerical Patterns

- Children at the expected level of development will:
- - 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 equally.

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

How is mathematical teaching and learning achieved in Early Years at Broadwater?

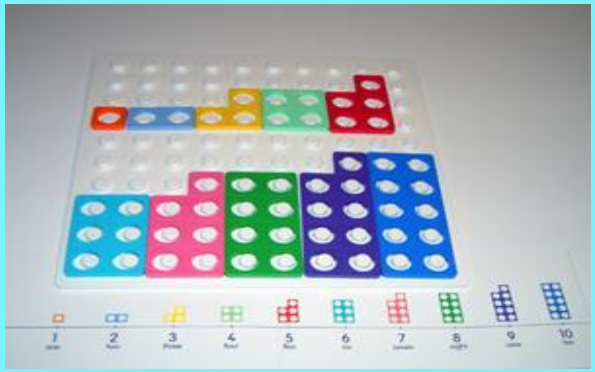
- Purposeful play and child-initiated learning
- Cross-curricular learning
- Whole-class teaching (15 – 20 mins per day)
- Small focus-group teaching
- Personalised learning

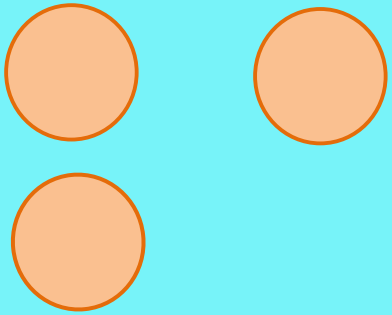
BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

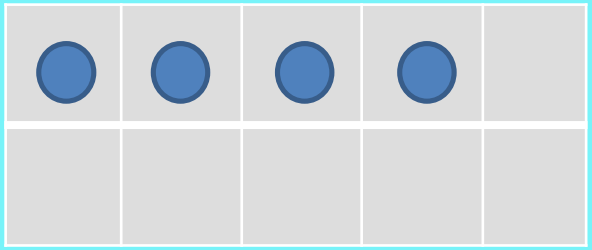
‘I hear and I forget. I see and I remember. I do and I understand.’

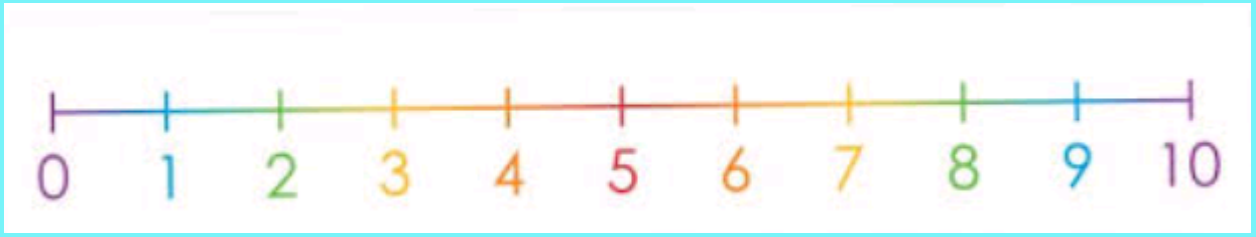
(A Chinese proverb)

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL









BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Purposeful play and Child-initiated maths activities

- Children choose their own mathematical learning and demonstrate their understanding
- Allows children to explore different approaches and reach conclusions themselves
- It allows them to practise skills and language in a safe and personal way
- Encourages critical thinking, problem solving and perseverance

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Whole class teaching

- Teachers plan together to introduce and teach key concepts consistently across the year group
- Children work together to develop not only their mathematics abilities, but general listening, attention and speaking skills
- This allows teachers to teach and model skills, concepts and language and assess where more support may be needed.
- Knowing the children and what they know means that the learning can be differentiated in the moment, adjusted and targeted to meet individual needs.

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Small focus group

- A practical activity linked to whole class teaching
- Either ability grouped or in mixed groups
- Allows adults to model mathematical skills and introduce concepts
- Adults can demonstrate and encourage the use of mathematical language
- Assess learning, address misconceptions and extend the learning

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Personalised Learning

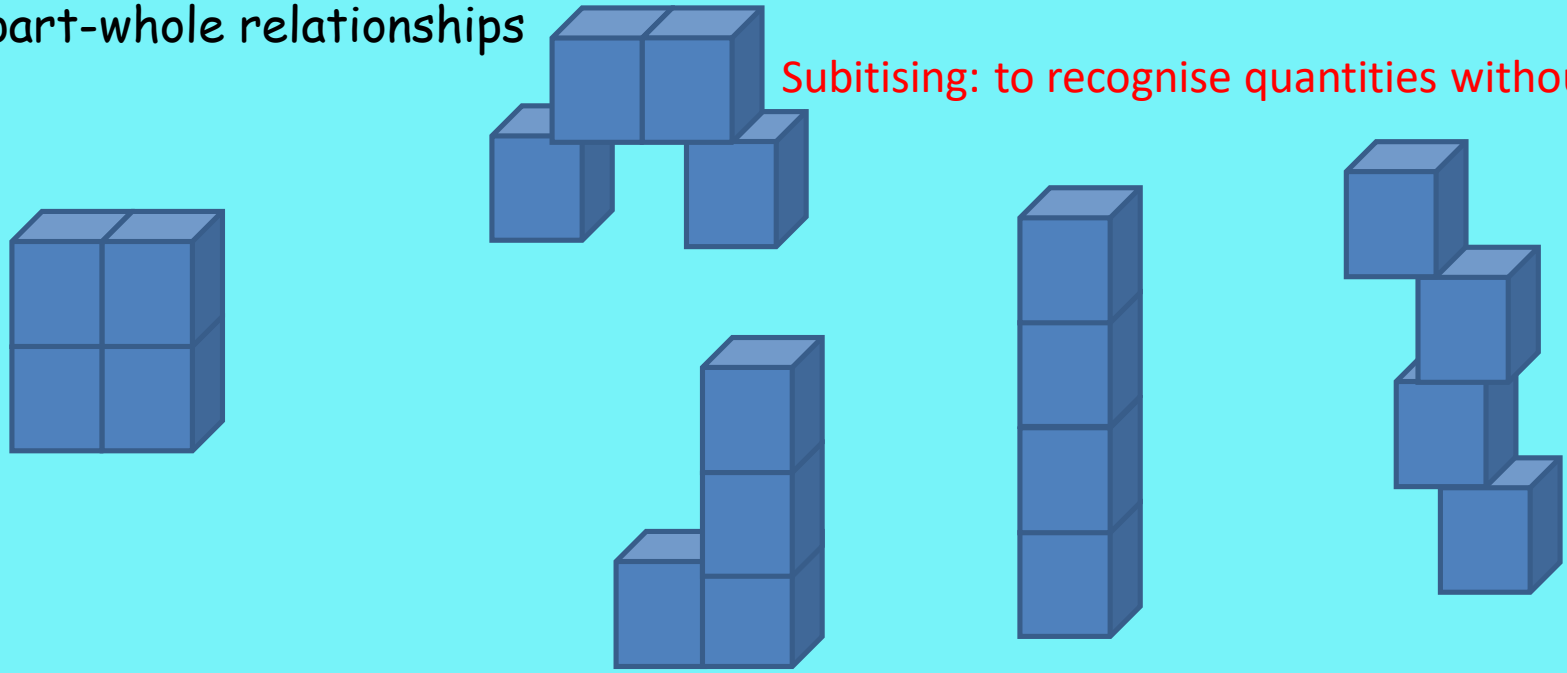
- Through observation teachers identify areas where a child may need more support/ practise e.g. recognising numbers to 10
- Regular practise takes place with adult support e.g. student helper, parent helper
- Parents will be included in this process and it might be suggested that a child could practise these skills at home.
- Assessment takes place regularly.

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Subitising and Number conservation/composition

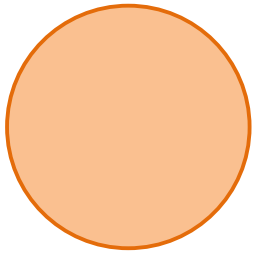
Visual recognition of quantity of items (without counting one by one) and part-part-whole relationships

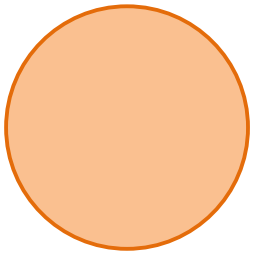
Subitising: to recognise quantities without counting

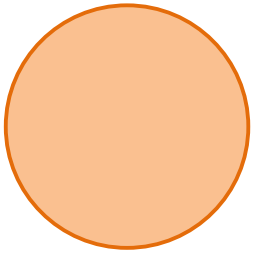


Conservation of number

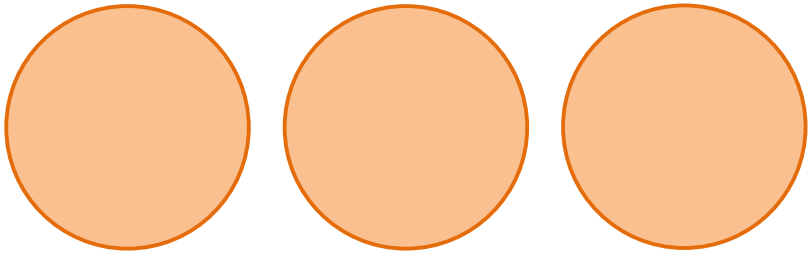
Conservation of number is knowing that no matter what order or arrangement of amounts, the total remains the same if nothing has been added or taken away



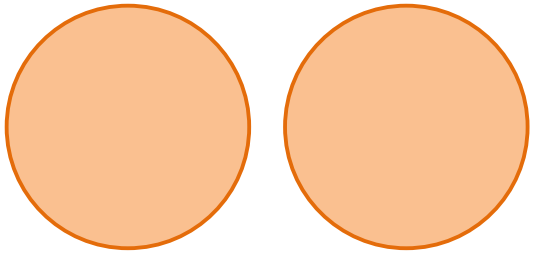


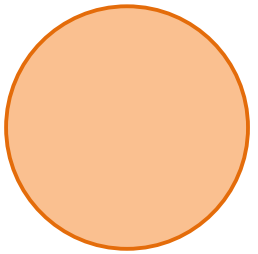


show dots



show dots





show dots

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Counting includes…

- Daily verbal Rote count (from any given number) forwards and backwards
- Correctly accurately 1:1
- Cardinality Last number counted represents how many are in the set.
- Strategies – in a line, Numicon pattern
- Counting on
- -teen and –ty pronunciation

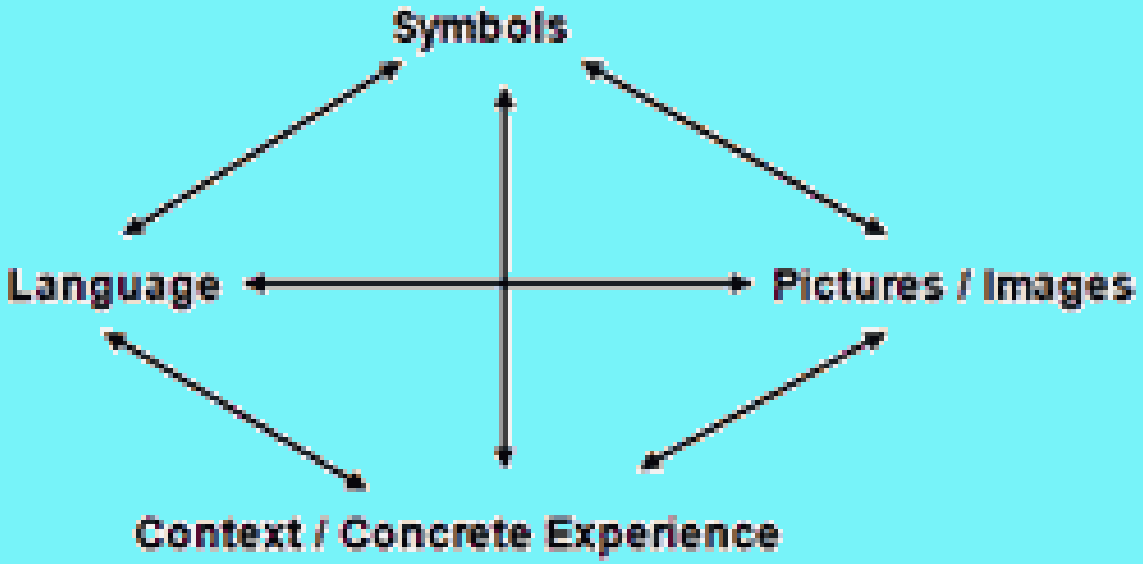
BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Place Value

6

The connective model of learning mathematics

Six

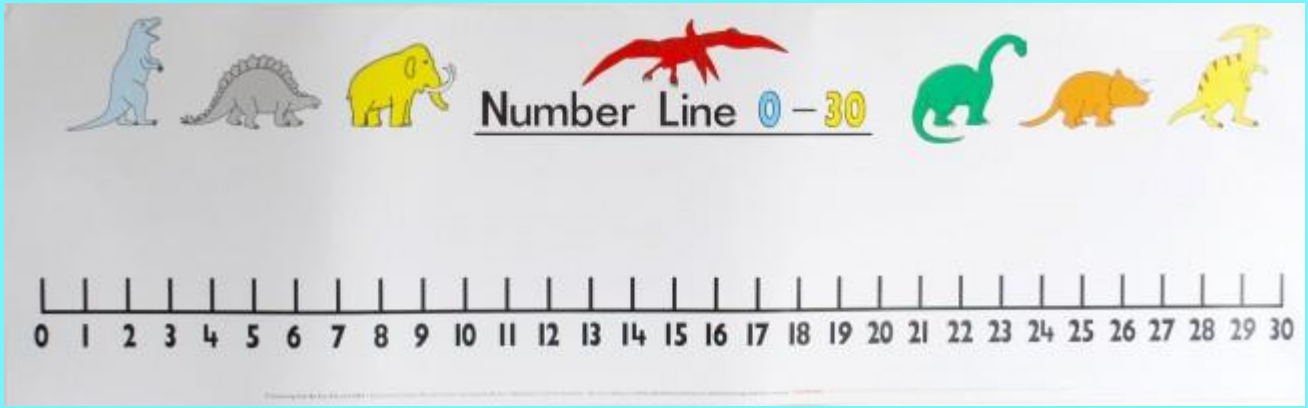


Haylock and Cockburn (1997)

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

More and less - Comparing

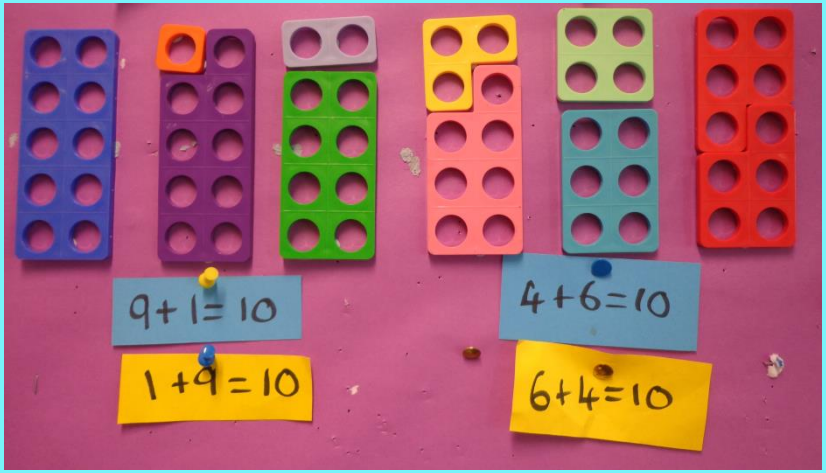
Comparison of quantities by identifying more and less



BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Number Bonds

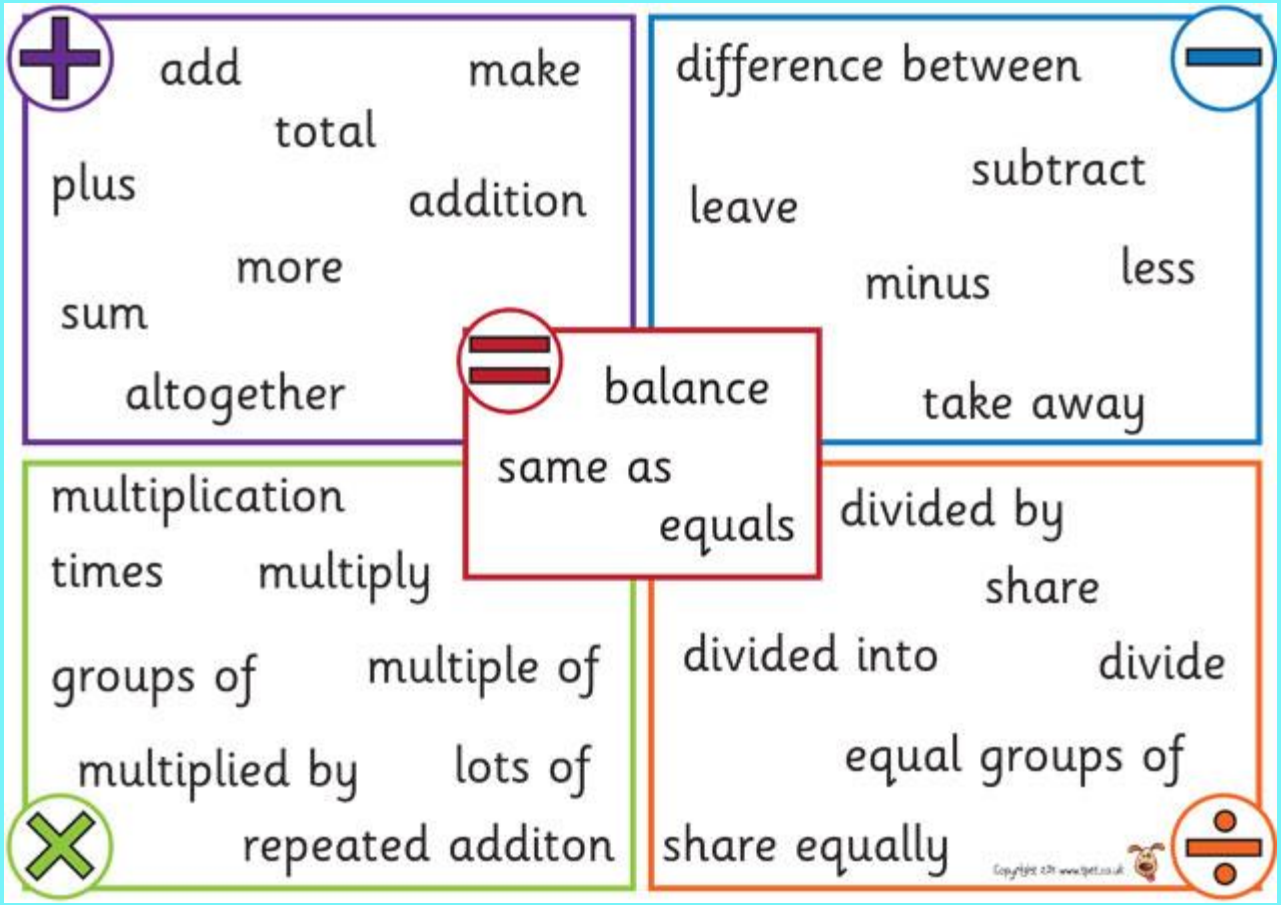
- What are number bonds?
- Use the resources on your table to demonstrate this



BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Mathematical Language

- Always use the correct terminology



BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Solve this problem

A chicken lays brown and white eggs. How many different ways could the farmer put the eggs into an egg box?

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Share ideas: how can you make maths fun at home?

- Numbers in our environment – on doors, car registration plates, telephone numbers and price tickets. Why not encourage your child to look out for numbers around them and try to help them identify which numbers are which?
- Count anything and everything!
- Sorting cutlery and then put it away!
- Sorting beads/buttons/counters by colour, shape, size
- Using mathematical language when looking at books, e.g. how many people can you see in the picture?

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Measure, shape, spatial awareness and patterns

- Playing with sand and water with a variety of different sized containers (e.g. in the bath)
- Helping you weigh ingredients when cooking
- Handling money, e.g. sorting coins by colour, value, put in order of value
- Learning positional language through hearing it used as often as possible – 'Can you put the cups **IN** the cupboard?' and by their relative position
- Learning number rhymes and finger games
- Playing games which involve counting e.g. snakes and ladders
- Comparing length – 'Which is longest?' 'Who is tallest?' etc. e.g. shoe size, hair, clothing, toys

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Website links

www.ictgames.co.uk

www.crickweb.co.uk

www.topmarks.co.uk

www.nrich.maths.org

http://www.primaryinteractive.co.uk/maths.htm

www.cbeebies.co.uk - use the search icon 'maths'

http://www.maths-games.org/

BROADWATER
CHURCH OF ENGLAND
PRIMARY SCHOOL

Last thought...

We want our children to change their thinking from 'I can't do this' to 'I can't do this yet'. We want them to be learners with a 'can do' attitude. This attitude will help our children to feel comfortable when they get stuck and need to persevere in their learning.