

The Flourish Federation—Knowledge Organiser

Brookfield Infant and Junior Schools



Subject Focus: Maths **Year 1 - Term 1 & 3** **Addition and Subtraction**

What? (Key Knowledge)

Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.

Represent and use number bonds and related subtraction facts within 20.

Add and subtract 1-digit and 2-digit numbers to 20, including zero.

Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$

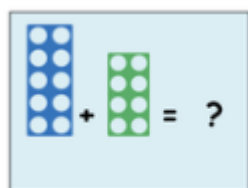
What? (Key Vocabulary)

Vocab	Comments
Add	Two or more numbers combined together
Subtract/take away/minus	Expose children to all
Equals	Shows that both sides of number sentence are balanced. Show the equals sign in different places (beginning and end).
Greater/less than	The answer/number will be greater when we add and less when we subtract
Digit	Any numeral from 0-9, even when part of a two-digit number
Tens and Ones	Children should know that the first digit is the number of tens and the second is the number of ones
Number Sentence	Or calculation. It is NOT a sum. Sum is used to describe the addition of two or more numbers

Visuals/Diagrams

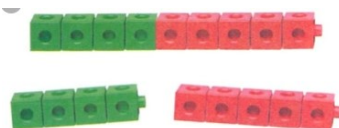
Children will use lots of real life objects and contexts as well as, different manipulatives (counters, cubes, numicon, number line etc) and their own representations of number (maths pictures).

Numicon:



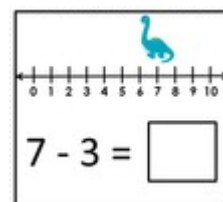
$$5 - 1 = \boxed{4}$$

Cubes:

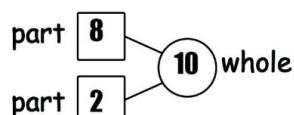


Number line: Children are expected to

physically use a number line, moving finger or object to count up or down.

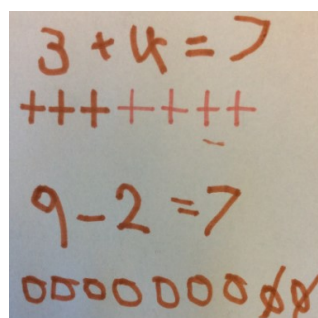


Number Bond



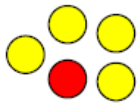
Part-Part Whole Model:

Knowing that a whole can be made from 2 or more parts.



Children will move away from needing to use real life objects and will draw their own representations of a number—we call these maths pictures.

Examples of Reasoning



$$\underline{\quad} + \underline{\quad} = 6$$

Which of the images could help to complete the number sentence? Explain why.

Can you think of a number sentence for each of the other two images?

The bead string as there are 6 beads in total, 5 red and 1 white, so
 $5 + 1 = 6$ or
 $1 + 5 = 6$

The cubes could represent
 $3 + 4 = 7$ or
 $4 + 3 = 7$

The counters could represent
 $4 + 1 = 5$ or
 $1 + 4 = 5$

Always, Sometimes, Never

Number bonds to 10 have two different numbers added together.

Amir and Whitney have both created their own number bonds.



My total is greater because I have a 5 and a 3

My total is greater because I have 9 altogether.



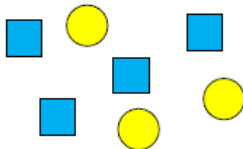
Who do you agree with? Explain your answer.

Sometimes, there is one case where it is two of the same number.
 $5 + 5 = 10$

Whitney is correct because 9 ones is greater than 3 ones and 5 ones (8 ones).

Examples of Problem Solving

Which sentence is correct?



A

5 is a part, 2 is a part and 7 is the whole.

B

4 is a part, 3 is a part and the whole is 8

C

4 is a part, 3 is a part and 7 is the whole.

What mistake has been made in the incorrect sentences?

A is wrong because the parts are not right.
 B is wrong because the whole is not 8
 C is correct.

Using the numbers 0 – 9, how many ways can you fill in the boxes to make the calculation correct?
 You can only use each number once.

$$\square + \square = \square$$

How many different calculations are there?

4 is the whole.
 How many **different** part-whole models can you draw to show this?
 Use different numbers for the parts every time.

Are any the same? Why?

4 and 0, 0 and 4
 1 and 3, 3 and 1
 2 and 2
 Children should recognise 4 and 0 and 0 and 4 being the same etc.

Examples may include:
 $5 + 1 = 6$
 $3 + 4 = 7$
 There are 32 in total.

Children should recognise that the parts can be swapped to create a difference number sentence. There should be a discussion as to why we haven't/can't include 0 in our calculations.

ICT Opportunities

Purple Mash:

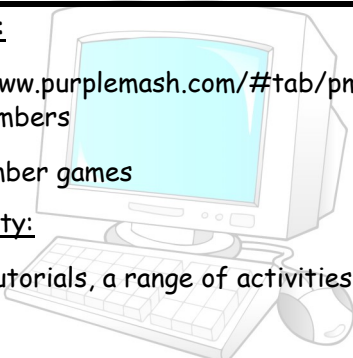
- <https://www.purplemash.com/#tab/pm-home/maths/numbers>
- Many Number games

Education City:

- Videos, tutorials, a range of activities and games

Manga High:

- A wealth of games, activities and competitions



Daily Maths

- Questioning during the register (How many people are absent? How many children are here? How many more children have school dinners than packed lunch).
- Lining up games - counting on/back, 2x, 5x and 10x table games
- Days of the week/months of the year

