

The Flourish Federation—Knowledge Organiser

Brookfield Infant and Junior Schools



Subject Focus:

Maths

Year 2 - Term 1 & 2

Addition and Subtraction

What? (Key Knowledge)

Recall all number bonds to 10 and use these to reason and calculate bonds to 20 and other related bonds.

Derive and use related facts to 100.

Solve + and - problems using concrete objects, pictorial representations involving number, quantities and measures.

Increase knowledge of mental and written methods.

Add and subtract:
 > 2-digit number and ones
 > 2-digit number and tens
 > two 2-digit numbers
 > three 1-digit numbers

Know that addition is commutative and subtraction

Recognise and use the inverse to solve missing number problems and the check answers.

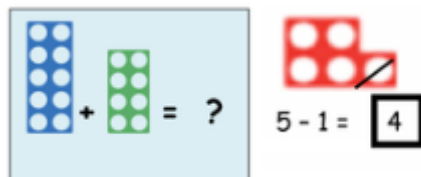
What? (Key Vocabulary)

Vocab	Comments
Subtract/take away/minus	Expose children to all
Equals	Shows that both sides of number sentence are balanced. Show the equals sign at 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
Commutative	Numbers can combined in any order and the answer is same.
Inverse	The opposite. + and - are the opposite. As well as X and ÷

Visuals/Diagrams

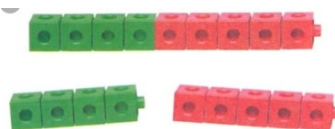
Children will use different manipulatives (counters, cubes, numicon, base ten, number line etc) and their own representations of number (maths pictures).

Numicon:

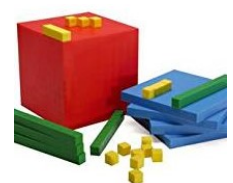


Cubes:

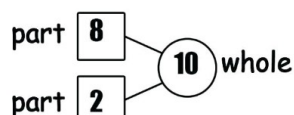
$$? = 4 + 5$$



Base Ten: (Chips and Peas)
 Chips = 1 stick is worth 10
 Peas = 1 pea is worth 1



Number Bond



Part-Part Whole Model:

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

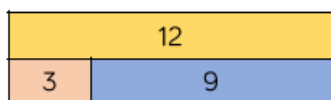
Children will move away from their own representations of addition/subtraction and will learn more formal methods:
 (See our Calculations Framework for more information about how methods progress).

$$14 + 23 = 37$$

$$32 - 11 = 21$$

Examples of Reasoning

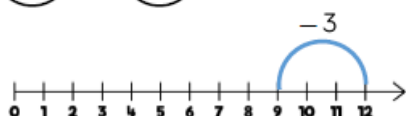
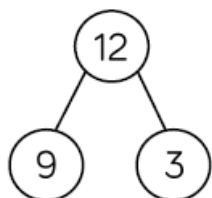
Which of the representations are equivalent to the bar model?



$$12 = 9 + 3$$

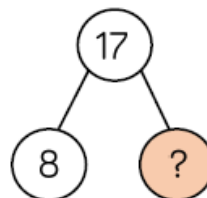
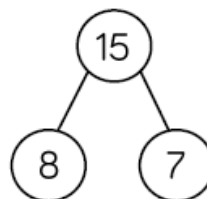
There are 9 cars in a car park, 3 cars leave.

$$9 - 3 = 12$$



The number line, the part-whole model and $12 = 9 + 3$

Rosie thinks she knows the missing number without calculating the answer.



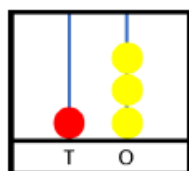
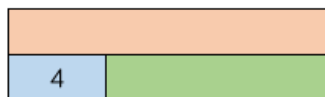
Can you explain how this could be possible?

17 is two more than 15, so the missing number must be two more than 7

The missing number must be 9

Examples of Problem Solving

Here is an incomplete bar model.
The total is greater than 10 but less than 20
What could the missing numbers be?
How many different combinations can you find?



Tommy has three spare red beads.

What numbers could he make?
Explain your answer.

7 and 11
8 and 12
9 and 13
10 and 14
11 and 15
12 and 16
13 and 17
14 and 18
15 and 19

23

33

43

He doesn't have to use all of the beads.

Both missing numbers are less than 10

$$7 + \square < 7 + \square$$

How many different possible answers can you find?

Lots of different combinations, the left number has to be smaller than the right.

Possible answers:

1 and 2
1 and 3
1 and 4
1 and 5
1 and 6
1 and 7
1 and 8
1 and 9
2 and 3
Etc.

ICT Opportunities

Purple Mash:

• https://www.purplemash.com/#tab/pm-home/maths/numbers/number_addition_subtraction

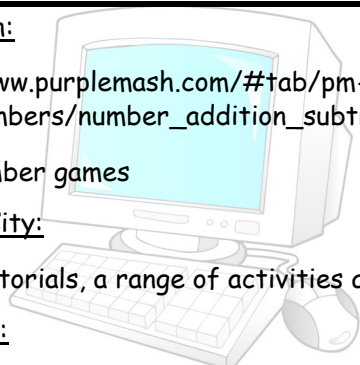
• Many Number games

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

