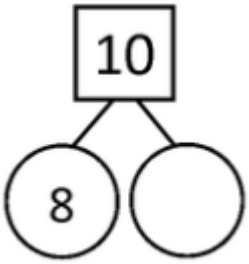
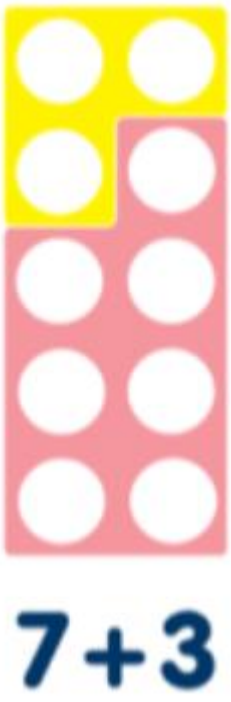
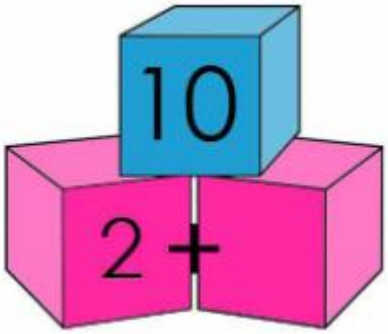
The Importance of Number Bonds to 10







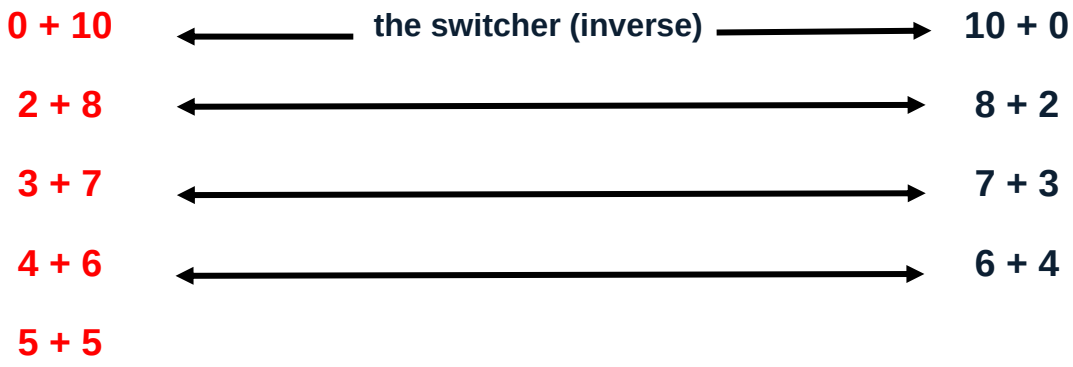
The Importance of Number Bonds to 10

Number bonds are pairs of numbers that can be added together to make another number, for example 4 + 6 = 10. They are some of the most basic and most important parts of maths for children to learn. By the end of Primary 1 pupils have been introduced to the number bonds to ten and it is important that they continue to practise them while continuing to learn more number bonds .e.g., to 20 and 100.

The idea of learning number bonds is to build up a mental picture of two quantities that together make the required number. This enables children to be able to do mental arithmetic. The number bonds to ten are particularly important for mental maths, as this links to place value and our base 10 number system. Knowing number bonds with confidence allows children to develop strategies for solving more complicated mental problems.

What are number bonds?

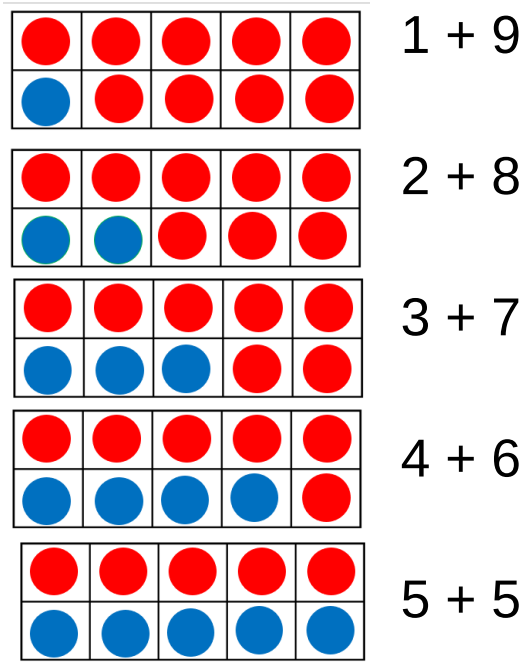
A number bond is a pair of numbers that always add together to make another, larger, number. Pupils are introduced to this concept through number bonds to 10.

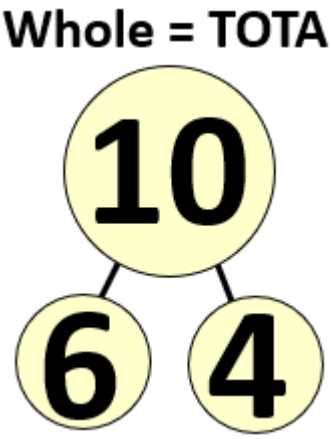
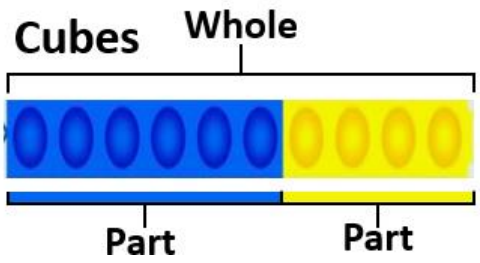
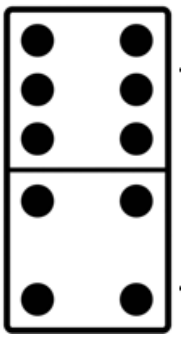


These are the foundations of many other key number bonds – if children can fluently recall their number bonds to 10, they will be able to calculate number bonds to other multiples of 10. For example, 300 + 700 = 1000 and even decimal number bonds e.g., 0.3 + 0.7 = 1. Also, if they know that 4 + 6 = 10, they should know that 34 + 6 = 40 and 174 + 6 = 10.

A variety of concrete materials are used to help build the numbers bonds, then we can move into the pictorial form and finally abstract.

Number bonds to 10 using a Ten Frame

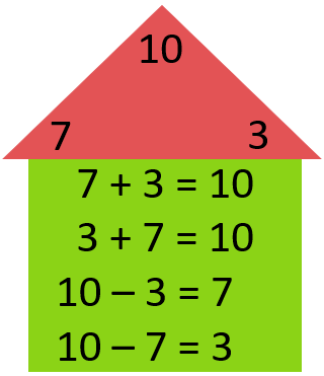


Part-Part-Whole	Cubes	Domino Patterns
		

Children should also be able to calculate the corresponding subtraction facts for these number bonds, e.g. if 1 + 9 = 10, then 10 – 1 = 9 and 10 – 9 = 1.

Fact Families

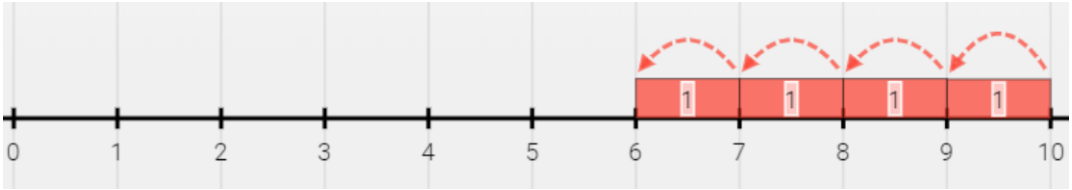
- Fact families are a group of related numbers.
- 3 numbers give you 4 different calculations (2 addition and 2 subtraction)
- Use all 3 numbers in every equation.
- Use the largest number first in the subtraction equations.
- Use the switcher to give you two facts .e.g. 3 + 7 = 7 + 3



Addition and Subtraction Strategies

- **Counting On:** They would use the counting on strategy when the known number is closer to the target. For example, if asked what is added to 7 to make 10, they could count on from 7 to get to 10.

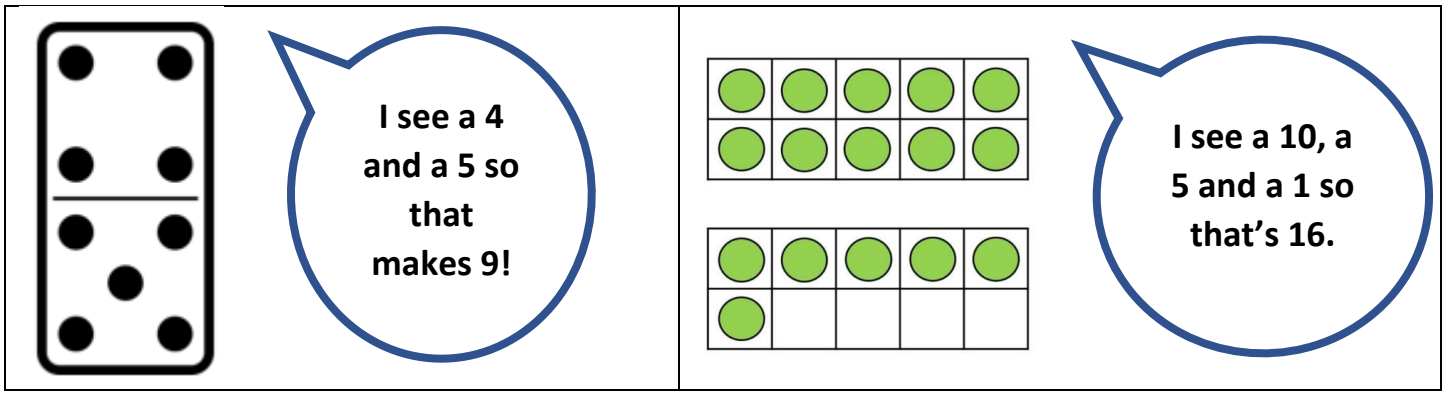
- **Counting Back**: They would use the counting back strategy when the known number is further away from the target. For example, if asked what is added to 4 to make 10, they could count back 4 jumps from 10.



Quick Activities to Practice and Develop Number Bonds Within and To Ten

- **Finger Patterns**: From Primary 1, pupils are taught to show a number in a specific way. First they grow the number (counting from one) and then they can show the number without counting the fingers. Ask your child to show you 8 fingers, can they show you a different way? They may have shown you 5 fingers on one hand and 3 on the other but can they think of other number bonds to 8? For example, 4 + 4.

- **Subitising**: Subitising is when you are able to look at a group of objects and realise how many there are without counting. You are only able to subitise with a small group of numbers. Pupils are introduced to numbers in many ways; quantities of objects, counters, ten frames, patterns on dice or dominoes, random dot patterns, tally marks, finger patterns, cubes, etc. By using patterns of dots or counters, pupils can subitise and explain how they saw the number. YouTube has many fun songs: search for 'Jack Hartman subitising'.



- **Dice, dominoes and playing cards:** Using dice and dominoes encourages children to subitise and count without thinking. Add the numbers on two dice/dominoes. Remove the 'royal' cards from the deck and explain the ace is a one. Turn over the cards and say the number pair to ten. Or turn over two cards at once to be added.

Websites for Number Bonds within and up to 10

- **Hit the button (Up to 10)** https://www.topmarks.co.uk/maths-games/hit-the-button
- **Fact Families (Addition and Subtraction)** https://www.topmarks.co.uk/number-facts/number-fact-families
- **Subtraction to 10** https://www.topmarks.co.uk/subtraction/subtraction-to-10
- **Funky Mummy** https://ictgames.com/mobilePage/funkyMummy/index.html
- **Number Fact Fighter** https://www.ictgames.com/mobilePage/numFactF/index.html
- **How many more to 10?** https://pbskids.org/curiousgeorge/busyday/ten/
- https://www.teachwire.net/news/8-of-the-best-number-bonds-to-10-games-to-play-online