# A helpful guide to addition and subtraction at Church Aston Infant School

It is important we develop our children's mental calculation fluency through a consistent and carefully sequenced learning journey. An important part of this is understanding the basic number facts, and having a rapid recall of basic number bonds to 10 and then 20. At Church Aston Infant School we aim to give our children an opportunity to practise these facts daily. This we year we are taking in a national project which aims to help our children with their understanding of number and fluency of facts.

## Magic 10

To help develop our children's fluency in mental calculation it is important they have a number of strategies and know all their number bonds within 10. The facts are all contained in this grid and although it only shows addition calculations it can also be used for subtraction. The number bonds can then be applied to calculations with the sum over ten.
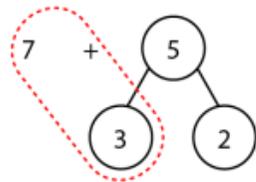
| + | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|----|
| **0** | 0 + 0 | 0 + 1 | 0 + 2 | 0 + 3 | 0 + 4 | 0 + 5 | 0 + 6 | 0 + 7 | 0 + 8 | 0 + 9 | 0 + 10 |
| **1** | 1 + 0 | 1 + 1 | 1 + 2 | 1 + 3 | 1 + 4 | 1 + 5 | 1 + 6 | 1 + 7 | 1 + 8 | 1 + 9 | 1 + 10 |
| **2** | 2 + 0 | 2 + 1 | 2 + 2 | 2 + 3 | 2 + 4 | 2 + 5 | 2 + 6 | 2 + 7 | 2 + 8 | 2 + 9 | 2 + 10 |
| **3** | 3 + 0 | 3 + 1 | 3 + 2 | 3 + 3 | 3 + 4 | 3 + 5 | 3 + 6 | 3 + 7 | 3 + 8 | 3 + 9 | 3 + 10 |
| **4** | 4 + 0 | 4 + 1 | 4 + 2 | 4 + 3 | 4 + 4 | 4 + 5 | 4 + 6 | 4 + 7 | 4 + 8 | 4 + 9 | 4 + 10 |
| **5** | 5 + 0 | 5 + 1 | 5 + 2 | 5 + 3 | 5 + 4 | 5 + 5 | 5 + 6 | 5 + 7 | 5 + 8 | 5 + 9 | 5 + 10 |
| **6** | 6 + 0 | 6 + 1 | 6 + 2 | 6 + 3 | 6 + 4 | 6 + 5 | 6 + 6 | 6 + 7 | 6 + 8 | 6 + 9 | 6 + 10 |
| **7** | 7 + 0 | 7 + 1 | 7 + 2 | 7 + 3 | 7 + 4 | 7 + 5 | 7 + 6 | 7 + 7 | 7 + 8 | 7 + 9 | 7 + 10 |
| **8** | 8 + 0 | 8 + 1 | 8 + 2 | 8 + 3 | 8 + 4 | 8 + 5 | 8 + 6 | 8 + 7 | 8 + 8 | 8 + 9 | 8 + 10 |
| **9** | 9 + 0 | 9 + 1 | 9 + 2 | 9 + 3 | 9 + 4 | 9 + 5 | 9 + 6 | 9 + 7 | 9 + 8 | 9 + 9 | 9 + 10 |
| **10** | 10 + 0 | 10 + 1 | 10 + 2 | 10 + 3 | 10 + 4 | 10 + 5 | 10 + 6 | 10 + 7 | 10 + 8 | 10 + 9 | 10 + 10 |



$$7 + 3 = 10$$
$$10 + 2 = 12$$

$9+6=9+1=10+5=15$

**Different representations** It is Important that the children see that mathematics can be presented in different ways and connections between the operations can be recognised. The different representations share the same calculations but are shown in a variety of ways which helps the children to secure their understanding.



6 + 4 = 10
4 + 6 = 10
10 – 4 = 6
10 – 6 = 4

**Tens Frame**



6 + 4 = 10
4 + 6 = 10
10 – 4 = 6
10 – 6 = 4

**Part Whole Model**

| 10 | |
|---|---|
| 6 | 4 |

6 + 4 = 10
4 + 6 = 10
10 – 4 = 6
10 – 6 = 4

**Bar Model**