

Addition and subtraction facts

The full set of addition calculations that pupils need to be able to solve with automaticity are shown in the table below. Pupils must also be able to solve the corresponding subtraction calculations with automaticity.

+	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

Pupils must be fluent in these facts by the end of year 2, and should continue with regular practice through year 3 to secure and maintain fluency. It is essential that pupils have automatic recall of these facts before they learn the formal written methods of columnar addition and subtraction.

Multiplication and division facts

The full set of multiplication calculations that pupils need to be able to solve by automatic recall are shown in the table below. Pupils must also have automatic recall of the corresponding division facts.

1×1	1×2	1×3	1×4	1×5	1×6	1×7	1×8	1×9	1×10	1×11	1×12
2×1	2×2	2×3	2×4	2×5	2×6	2×7	2×8	2×9	2×10	2×11	2×12
3×1	3×2	3×3	3×4	3×5	3×6	3×7	3×8	3×9	3×10	3×11	3×12
4×1	4×2	4×3	4×4	4×5	4×6	4×7	4×8	4×9	4×10	4×11	4×12
5×1	5×2	5×3	5×4	5×5	5×6	5×7	5×8	5×9	5×10	5×11	5×12
6×1	6×2	6×3	6×4	6×5	6×6	6×7	6×8	6×9	6×10	6×11	6×12
7×1	7×2	7×3	7×4	7×5	7×6	7×7	7×8	7×9	7×10	7×11	7×12
8×1	8×2	8×3	8×4	8×5	8×6	8×7	8×8	8×9	8×10	8×11	8×12
9×1	9×2	9×3	9×4	9×5	9×6	9×7	9×8	9×9	9×10	9×11	9×12
10×1	10×2	10×3	10×4	10×5	10×6	10×7	10×8	10×9	10×10	10×11	10×12
11×1	11×2	11×3	11×4	11×5	11×6	11×7	11×8	11×9	11×10	11×11	11×12
12×1	12×2	12×3	12×4	12×5	12×6	12×7	12×8	12×9	12×10	12×11	12×12

Pupils must be fluent in these facts by the end of year 4, and this is assessed in the multiplication tables check. Pupils should continue with regular practice through year 5 to secure and maintain fluency.

The 36 most important facts are highlighted in the table. Fluency in these facts should be prioritised because, when coupled with an understanding of commutativity and fluency in the formal written method for multiplication, they enable pupils to multiply any pair of numbers.

Factual fluency progression

	Year 1	Year 2	Year 3	Year 4	Year 5
Additive factual fluency	Addition and subtraction within 10.	Addition and subtraction across 10.	Secure and maintain fluency in addition and subtraction within and across 10, through continued practice.		
Multiplicative factual fluency			Recall the 10 and 5 multiplication tables, and corresponding division facts.	Recall the 3, 6 and 9 multiplication tables, and corresponding division facts.	Secure and maintain fluency in all multiplication tables, and corresponding division facts, through continued practice.
			Recall the 2, 4 and 8 multiplication tables, and corresponding division facts.	Recall the 7 multiplication table, and corresponding division facts.	
				Recall the 11 and 12 multiplication tables, and corresponding division facts.	