Year 3 multiplication and division

Prior Knowledge (from Y2)
• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • Show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot • Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

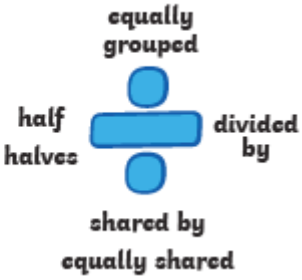
multiplication and division		Working Towards	Within	Expected	Above
× ÷	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables				
	Write and calculate mathematical statements for multiplication and division using known multiplication tables, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods				
	Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.				

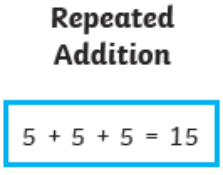
Highlights: _____

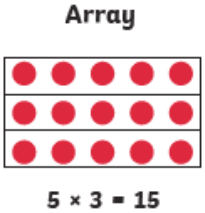
_____

Glossary

vocabulary	word class	definition
multiplication	noun	the process of combining matrices, vectors, or other quantities under specific rules to obtain their product
division	noun	the process of dividing a matrix, vector, or other quantity by another under specific rules to obtain a quotient
calculating	verb	determine (the amount or number of something) mathematically
arrays	noun	an arrangement of quantities or symbols in rows and columns; a matrix
integer	*noun*	*a number which is not a fraction; a whole number*

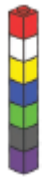




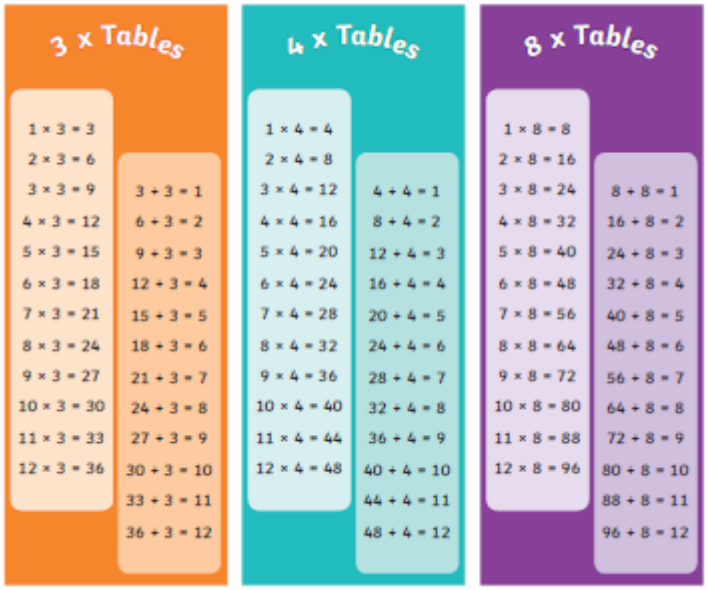


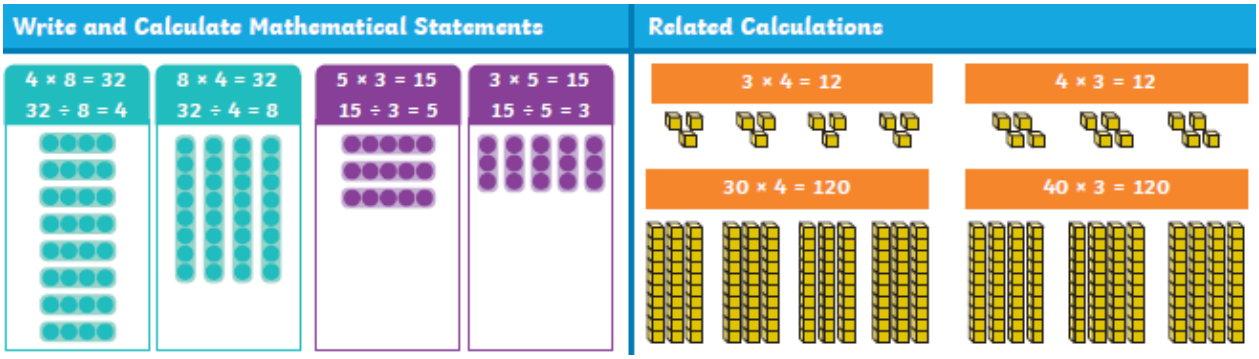
Resources

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

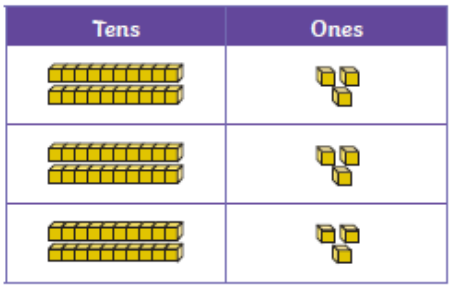


x	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144





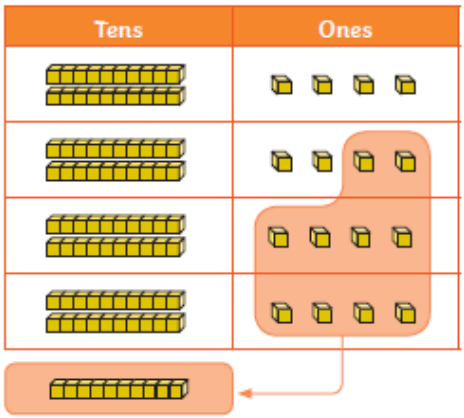
Written Multiplication Methods - No Regrouping



23 × 3 = 69

	T	O
	2	3
×		3
	6	9

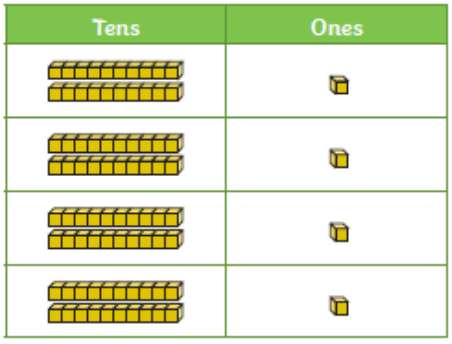
Written Multiplication Methods - With Regrouping



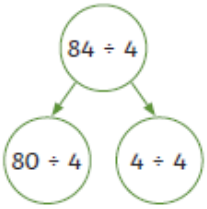
24 × 4 = 96

	T	O
	2	4
×		4
	9	6
	1	

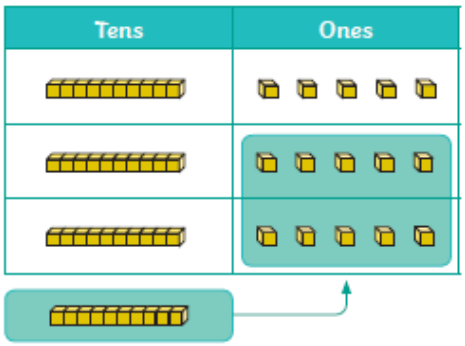
Written Division Methods - No Regrouping



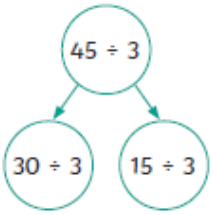
	2	1
4	8	4



Written Division Methods - With Regrouping



	1	5
3	4	15



Future Learning

Year 4
• Recall multiplication and division facts for multiplication tables up to 12 × 12 • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers • Recognise and use factor pairs and commutativity in mental calculations • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Year 6
• Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context