

Multiplication Tables

Below you can see a multiplication table square. This shows all the times tables from 1 to 12. If you look carefully at the square, you can see many patterns. Your task is to find as many patterns as you can. Remember to look horizontally (left to right), vertically (up and down), and diagonally.

	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

- Look at the 2 times table. What patterns can you find?
- Look at the 9 times table. What patterns can you find?
- Look at the 11 times table. What patterns can you find?
- Look at the even numbers and the odd numbers in the grid. Are they arranged in a certain way? Why do you think this is?
- Look for square numbers in the grid. A square number is made by multiplying a number by itself:
 $1 \times 1 = 1$
 $2 \times 2 = 4$
 $3 \times 3 = 9$
 $4 \times 4 = 16$
[1, 4, 9 and 16 are all square numbers. What others can you find?]
Are the square numbers arranged in a certain way? Why do you think this is?