Top-to-Bottom

mathsticks.com

This resource helps children to develop their skills of selecting and sorting numbers. They have to scan through the numbers on the grid and locate all of the numbers that match a particular criteria. These numbers will form a continuous path from the top to the bottom of the grid.

With the Multiples of 3 grid, for example, children could check each row, for numbers that are in the 3x table:

Once one number has been found, the next will be horizontally or vertically adjacent to it. When all numbers have been found they will form a complete path.

10	22	41	34	11	37	21	13
17	28	31	13	38	34	33	32
8	38	20	60	12	30	21	16
27	27	12	6	10	2	23	25
24	16	14	35	22	5	20	20
15	2	3	6	36	18	37	10
3	30	15	8	32	36	43	7
35	7	44	17	7	12	11	26

This maths resource was originally designed to be used as a 'challenge on arrival' task. However, it could equally be used as part of a mental and oral starter, as a plenary activity, as an independent (self-selected) puzzle activity, as homework or even as a main teaching activity.

If you are using it as a main activity the children could record the times tables facts for each of the numbers they find... but I think doing this just once is more than enough!

There is a grid for each of the multiplication tables from 2x to 10x. There are two grids per A4 page, designed to be uses as individual A5 activities. There is also a set of solutions on the very last page of this file.

We found children gained the most from this when working in pairs with one grid between them. They could work on paper copies, but the A5 sheets could be laminated and reused.

~~~

A note on Times Tables...

This is one of my favourite type of activities for reinforcing the multiplication tables. Children really have to look at the numbers, to think about them and to make decisions based on their mathematical knowledge and skills.
~~~

Top-to-Bottom

They are looking for multiples of 4 and see a set of numbers like this:

7	19	1	9	27	36	42	6

Now they have to think about the properties of the numbers.

Numbers in the 4x table are even, the only even numbers are at the end of the row.

- 6 can't be in the 4x table.
- 42 could be... think of 42 as 30 and 12; 12 is in the 4 times table, but 30 isn't because although you can halve 30, the result isn't even (15).
- The only other number left is 36... if they are not sure they can think of 36 as 20 and 16; 20 is in the 4x table... so is 16.

So 36 is the first number.

When written out, all this 'thinking' seems long-winded and counter productive... but we have found that it is usually more helpful to encourage children to use such strategies.

Got an idea?
If you've used this resource and found a different way to teach with it, or adapted it, please let me know. If you've spotted an error (it does happen), or found a way to improve this resource... please let me know. We love to hear from our mathsticks members and it would be great to add your thoughts to the site.

contact mathsticks.com

Got another idea?
If you have developed a maths teaching resource, activity or game that you think fits in with the mathsticks approach then please let me know. Our members rely on mathsticks to provide high quality, practical solutions... and yours could be a great addition to the site. We do pay for appropriate resources too.

contact mathsticks.com

Make a path from top to bottom

Multiples of 2

25	17	1	22	13	31	13	11
21	35	5	16	3	19	21	7
7	1	29	12	9	27	33	33
30	8	18	22	11	9	25	15
10	5	37	17	15	1	3	37
20	5	6	18	8	17	39	23
10	16	4	13	2	23	7	21
19	39	3	31	6	29	27	9

Make a path from top to bottom

Multiples of 3

8	27	13	40	19	11	4	8
31	21	24	27	16	35	35	4
20	11	2	9	12	36	6	12
32	17	37	14	14	20	10	24
16	28	30	3	18	30	22	21
38	15	60	29	2	36	28	6
1	12	23	5	14	3	33	18
32	9	34	40	7	26	17	5

mathsticks.com

Make a path from top to bottom

Multiples of 4

44	18	15	17	29	13	30	17
20	15	23	22	13	47	22	38
40	24	4	36	80	16	13	2
22	1	33	6	9	8	7	43
3	34	58	48	28	4	34	2
9	50	21	40	46	5	2	39
1	44	32	80	19	9	18	30
25	12	39	10	19	57	37	3

Make a path from top to bottom

Multiples of 5

17	11	31	31	55	21	4	3
7	10	15	25	30	16	39	2
26	50	34	6	1	2	1	13
24	60	7	40	25	35	11	36
4	45	38	45	19	20	28	3
17	15	5	10	28	40	19	32
17	12	23	33	21	30	35	20
29	27	9	16	13	13	23	5

mathsticks.com

Make a path from top to bottom

Multiples of 6

2	19	17	32	14	72	19	13
1	3	38	5	48	18	29	8
8	9	36	30	24	2	35	38
1	22	42	21	40	10	13	4
33	40	24	11	60	72	42	28
8	10	48	30	18	19	66	7
21	31	3	20	11	23	36	9
5	26	25	10	20	39	6	15

Make a path from top to bottom

Multiples of 7

6	42	17	32	36	4	18	29
40	56	14	28	84	30	32	3
5	34	12	18	70	19	26	12
2	33	5	14	63	10	15	20
26	31	23	49	30	11	29	20
4	2	22	7	35	42	84	3
16	19	9	16	4	16	28	56
5	38	23	22	13	22	25	21

mathsticks.com

Make a path from top to bottom

Multiples of 8

25	23	18	10	96	14	51	60
50	26	10	5	40	16	8	32
18	17	35	54	1	25	11	48
6	7	12	39	5	45	16	72
13	23	8	24	88	32	48	55
37	11	24	34	30	33	15	17
12	10	72	80	48	15	20	6
36	41	28	12	56	4	18	2

Make a path from top to bottom

Multiples of 9

14	33	11	35	54	1	3	15
24	18	27	90	99	12	40	16
34	36	11	104	58	53	28	115
23	108	48	81	27	81	9	54
17	45	9	63	25	51	8	108
1	35	93	86	33	9	45	72
30	4	55	4	30	90	47	49
41	10	7	39	21	36	22	32

mathsticks.com

Make a path from top to bottom

Multiples of 10

9	14	8	11	42	2	30	16
57	36	37	18	15	25	20	6
10	30	40	80	40	26	80	14
100	11	13	33	10	110	70	11
50	70	3	16	29	18	17	49
3	60	20	30	1	4	39	38
25	12	37	90	100	50	120	35
7	27	21	18	43	28	90	13

Thank you for downloading this mathsticks teaching resource.

mathsticks+ members can access a further set of these "Top-to-Bottom" number activities. These include:

Further grids for the 2x to 10x tables, plus a set for the 11x and 12x tables.

The mathsticks+ file also includes grids for the 20x, 25x and 50x multiplication facts and a set of additional grids for odd, prime, square, triangular, and Fibonacci numbers!

mathsticks.com

Answers

2x

25	17	1	22	13	31	13	11
21	35	5	16	3	19	21	7
7	1	29	12	9	27	33	33
30	8	18	22	11	9	25	15
10	5	37	17	15	1	3	37
20	5	6	18	8	17	39	23
10	16	4	13	2	23	7	21
19	39	3	31	6	29	27	9

3x

8	27	13	40	19	11	4	8
31	21	24	27	16	35	35	4
20	11	2	9	12	36	6	12
32	17	37	14	14	20	10	24
16	28	30	3	18	30	22	21
38	15	60	29	2	36	28	6
1	12	23	5	14	3	33	18
32	9	34	40	7	26	17	5

4x

44	18	15	17	29	13	30	17
20	15	23	22	13	47	22	38
40	24	4	36	80	16	13	2
22	1	33	6	9	8	7	43
3	34	58	48	28	4	34	2
9	50	21	40	46	5	2	39
1	44	32	80	19	9	18	30
25	12	39	10	19	57	37	3

5x

17	11	31	31	55	21	4	3
7	10	15	25	30	16	39	2
26	50	34	6	1	2	1	13
24	60	7	40	25	35	11	36
4	45	38	45	19	20	28	3
17	15	5	10	28	40	19	32
17	12	23	33	21	30	35	20
29	27	9	16	13	13	23	5

6x

2	19	17	32	14	72	19	13
1	3	38	5	48	18	29	8
8	9	36	30	24	2	35	38
1	22	42	21	40	10	13	4
33	40	24	11	60	72	42	28
8	10	48	30	18	19	66	7
21	31	3	20	11	23	36	9
5	26	25	10	20	39	6	15

7x

6	42	17	32	36	4	18	29
40	56	14	28	84	30	32	3
5	34	12	18	70	19	26	12
2	33	5	14	63	10	15	20
26	31	23	49	30	11	29	20
4	2	22	7	35	42	84	3
16	19	9	16	4	16	28	56
5	38	23	22	13	22	25	21

8x

25	23	18	10	96	14	51	60
50	26	10	5	40	16	8	32
18	17	35	54	1	25	11	48
6	7	12	39	5	45	16	72
13	23	8	24	88	32	48	55
37	11	24	34	30	33	15	17
12	10	72	80	48	15	20	6
36	41	28	12	56	4	18	2

9x

14	33	11	35	54	1	3	15
24	18	27	90	99	12	40	16
34	36	11	104	58	53	28	115
23	108	48	81	27	81	9	54
17	45	9	63	25	51	8	108
1	35	93	86	33	9	45	72
30	4	55	4	30	90	47	49
41	10	7	39	21	36	22	32

10x

9	14	8	11	42	2	30	16
57	36	37	18	15	25	20	6
10	30	40	80	40	26	80	14
100	11	13	33	10	110	70	11
50	70	3	16	29	18	17	49
3	60	20	30	1	4	39	38
25	12	37	90	100	50	120	35
7	27	21	18	43	28	90	13