

Explore algorithms, patterns and learn the 9 times table

A long, lost animal pixel puzzle

Colour in the numbers in the small grid that are in the 9-times table. Can you see any patterns in the numbers that are these multiples of 9? Fill in the answers to the multiplications and see if you can work out anything special, any patterns, in the numbers in the 9 times table. Then find and colour in all the multiples of 9 in the big grid to uncover a picture of a long, lost animal.

How many different ways to follow (algorithms) can you think up to complete the picture?

Does any pattern or rule about the multiples of 9 you saw lead to a slightly easier algorithm to follow?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

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|----------|----------------------|----------|----------------------|
| 1 x 9 = | <input type="text"/> | 9 x 1 = | <input type="text"/> |
| 2 x 9 = | <input type="text"/> | 9 x 2 = | <input type="text"/> |
| 3 x 9 = | <input type="text"/> | 9 x 3 = | <input type="text"/> |
| 4 x 9 = | <input type="text"/> | 9 x 4 = | <input type="text"/> |
| 5 x 9 = | <input type="text"/> | 9 x 5 = | <input type="text"/> |
| 6 x 9 = | <input type="text"/> | 9 x 6 = | <input type="text"/> |
| 7 x 9 = | <input type="text"/> | 9 x 7 = | <input type="text"/> |
| 8 x 9 = | <input type="text"/> | 9 x 8 = | <input type="text"/> |
| 9 x 9 = | <input type="text"/> | 9 x 9 = | <input type="text"/> |
| 10 x 9 = | <input type="text"/> | 9 x 10 = | <input type="text"/> |
| 11 x 9 = | <input type="text"/> | 9 x 11 = | <input type="text"/> |
| 12 x 9 = | <input type="text"/> | 9 x 12 = | <input type="text"/> |

8	33	67	12	19	21	66	30	20	12	11	31	92	41	14	10	17	74	53	56	20	14	16	91	55	16	14	44	14	21	71	33	37	92	93	101	108	99	99	20
107	22	78	11	35	41	62	67	42	10	75	41	7	13	4	12	16	11	41	92	22	12	43	75	47	77	12	82	19	42	65	21	17	72	81	90	63	63	90	81
17	21	91	16	41	16	5	64	11	89	41	37	15	4	98	37	71	19	37	88	13	28	57	68	12	19	91	16	71	37	61	54	63	54	45	54	63	72	81	90
41	23	32	16	57	19	55	82	71	98	14	43	12	128	75	46	44	28	1	3	91	101	89	17	8	55	29	71	64	15	45	54	27	36	43	35	46	49	39	41
5	17	24	4	48	51	44	19	67	82	28	16	32	64	19	37	28	9	27	108	9	36	45	72	100	71	20	64	3	36	45	18	92	44	76	56	66	5	78	24
19	3	101	2	16	82	29	110	107	17	17	71	2	11	81	18	9	72	108	99	18	27	54	63	81	98	14	110	27	36	45	71	12	25	84	32	70	87	40	89
11	6	102	100	101	87	17	60	42	16	19	91	13	9	81	45	18	27	99	90	81	72	63	54	90	72	9	18	27	36	91	3	75	92	29	74	93	85	33	42
9	18	103	104	3	67	20	3	5	19	64	16	81	18	72	54	81	9	18	9	18	27	36	45	99	54	81	9	27	36	91	3	75	92	29	74	93	85	33	42
64	27	18	27	45	9	10	88	16	14	71	9	90	54	45	36	18	90	81	9	90	9	90	9	108	36	45	81	27	19	62	46	15	38	79	11	75	83	91	19
43	2	9	36	18	54	63	72	90	108	18	72	72	36	45	63	81	45	45	81	18	81	18	81	99	45	90	81	17	2	17	109	64	22	44	59	2	53	34	86
22	16	80	8	16	54	72	81	99	90	18	54	36	63	45	36	27	54	63	27	72	27	72	27	81	27	18	82	29	13	21	87	51	63	65	12	76	43	67	35
21	17	19	59	2	55	2	83	19	72	27	36	18	72	99	63	72	54	63	36	63	36	63	36	72	9	18	12	16	52	102	16	37	82	14	71	65	7	13	52
19	73	29	57	6	77	19	50	14	21	32	63	27	81	90	63	27	72	72	45	45	54	45	45	63	18	14	56	17	55	16	46	16	47	57	62	23	15	60	25
29	71	39	29	19	88	40	11	35	77	79	36	9	8	102	74	56	17	19	111	16	46	53	66	54	27	29	47	64	41	28	71	21	30	55	2	17	80	13	75
98	62	93	92	47	1	61	58	2	17	22	27	18	17	1	2	77	5	6	44	3	7	64	28	45	36	38	28	66	35	11	62	6	88	28	61	26	6	68	51

This activity is inspired by the wonderful Multiplication Tables Colouring Book series by Hilary McElderry, Tarquin Books (<https://www.tarquingroup.com/>). Buy them for more multiplication colour-by-number puzzles.

