

Mathematics

Securing multiplication facts: The nine times table Worksheet

Mr Ward



Warm up - Multiple Mystery!

Can you use your knowledge of the 3x multiplication table to identify the multiples of 3

366

64

23

45

940

201

53

74

452

525

6

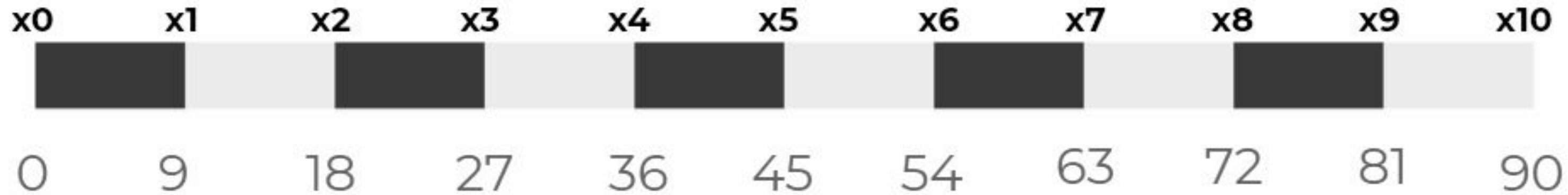
12

738



Exploring patterns in the 9x table

Always, sometimes, never



$$1 + 8 = 9$$

$$2 + 7 = 9$$

$$3 + 6 = 9$$

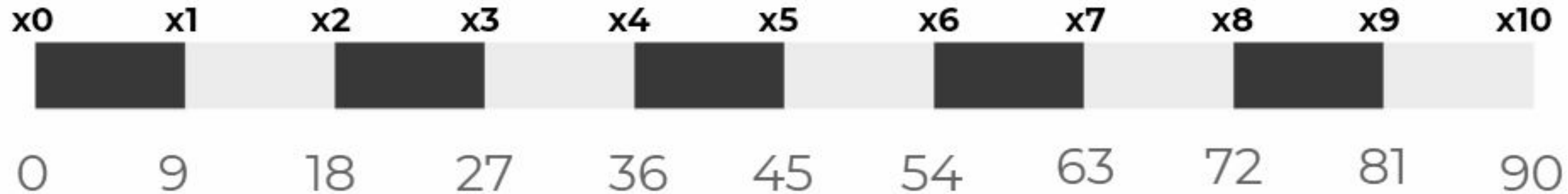
9....18....27.... If a number is a multiple of nine, all the digits will add together to make nine.

Is Greg correct?



Exploring patterns in the 9x table

Always, sometimes, never



$$2 \times 9$$

$$(2 \times 10) - 2$$

$$20 - 2 = 18$$

Another way to multiply by nine is to multiply by 10 and subtract one group.

Is Greg right this time?



Multiplication mischief - Swap the digits!

1. Each equation is incorrect because two digits have swapped position.
2. Identify which two digits need to be swapped to create a correct multiplication equation.
3. Use a one of the different tricks and strategies shown to check answer is right!

For example $6 \times 9 = 73$ I need to swap the 6 and the 7.

$6 \times 9 = 73 \rightarrow 7 \times 9 = 63$

$9 \times 1 = 89$

$37 = 2 \times 9$

$90 \div 1 = 90$

$3 \times 9 = 67$

$28 \div 9 = 1$

$28 = 1 \times 9$

$9 = 91 \div 91$

$46 = 9 \times 3$

$55 \div 4 = 9$

$59 = 6 \times 4$

$78 \div 9 = 2$

$82 \times 9 = 101$



Supporting resources

| <u>Nine times table</u> | |
|-------------------------|-------------------|
| $0 \times 9 = 0$ | $9 \div 9 = 0$ |
| $1 \times 9 = 9$ | $9 \div 9 = 1$ |
| $2 \times 9 = 18$ | $18 \div 9 = 2$ |
| $3 \times 9 = 27$ | $27 \div 9 = 3$ |
| $4 \times 9 = 36$ | $36 \div 9 = 4$ |
| $5 \times 9 = 45$ | $45 \div 9 = 5$ |
| $6 \times 9 = 54$ | $54 \div 9 = 6$ |
| $7 \times 9 = 63$ | $63 \div 9 = 7$ |
| $8 \times 9 = 72$ | $72 \div 9 = 8$ |
| $9 \times 9 = 81$ | $81 \div 9 = 9$ |
| $10 \times 9 = 90$ | $90 \div 9 = 10$ |
| $11 \times 9 = 99$ | $99 \div 9 = 11$ |
| $12 \times 9 = 108$ | $108 \div 9 = 12$ |

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 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 |



Challenge Slide

Jenna has put the nine times table in order in a line

09182736455463728190

What do you notice? Discuss this with someone.

(There are two patterns I noticed...can you see?)

