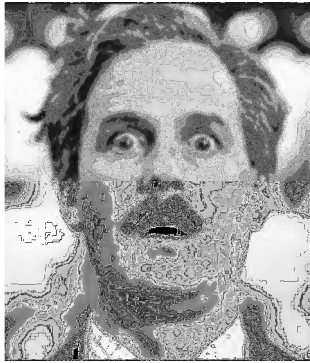# The nine times table. *Stg 6b x/÷*    Name: _____

# 9

...And now for something completely different. Learning your 9 times-table by heart is still the best way, however if you get a bit stuck, there is a **cool trick** you can use that will get you out of trouble every time! But first, here are some awesome 9 x table facts:

| | |
|---|---|
| 0 | 9 |
| 1 | 8 |
| 2 | 7 |
| 3 | 6 |
| 4 | 5 |
| 5 | 4 |
| 6 | 3 |
| 7 | 2 |
| 8 | 1 |
| 9 | 0 |

- Every multiple of 9's digits adds up to **9** or **18** (until you get to huge numbers, when they still add up to other multiples of 9) E.g. 1+8 = 9, 2+7=9, 5+4=9, 9+9=18 and so on.
- If you line up the 9 x tables up to 10, it's a bit like a palindrome – it works backwards too! Check it:

### 09,18,27,36,45,54,63,72,81,90

- If you stack up the multiples of 9, you get 0 to 9 on the left and 9 to 0 on the right. ⟶

We can use these groovy little patterns to help us know the 9 x tables!

Here's how to use your own hands to show the 9x table answers. Put your hands out in front of you on a table. Hold down the finger of the number you need to multiply by 9. On the left side it will have the amount of tens and on the right side the ones. Have a look at these:
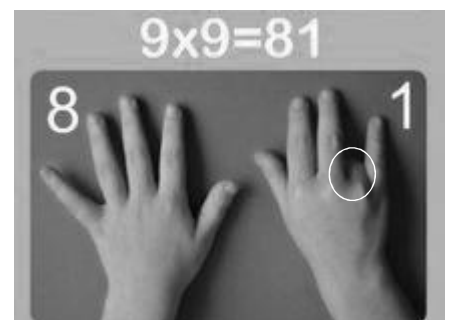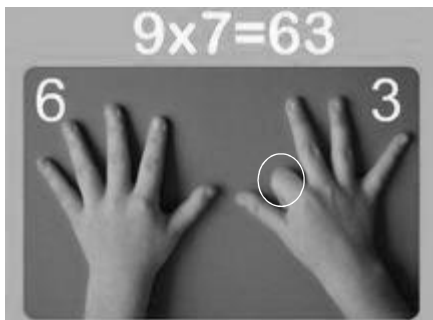
So, now try some for yourself:

1.  9 x 7 = _____  Put your 7$^{th}$ finger down.   I have __ tens and __ ones.

2.  9 x 4 = _____  Put your 4$^{th}$ finger down.   I have __ tens and __ ones.

3.  9 x 6 = _____  Put your 6$^{th}$ finger down.   I have __ tens and __ ones.

4.  9 x 8 = _____  Put your 8$^{th}$ finger down.   I have __ tens and __ ones.

5.  9 x 3 = _____  Put your 3$^{rd}$ finger down.   I have __ tens and __ ones.

6.  9 x 5 = _____  Put your 5$^{th}$ finger down.   I have __ tens and __ ones.

7.  9 x 10 = _____ Put your 10$^{th}$ finger down.  I have __ tens and __ ones.

*Dave Moran 2015*

Stage 6: **What about harder ones?** Sometimes there are questions that don't fit on your hands. For example **14 x 9 = ???** No worries! There's a handy way to do these ones too! First think of the 10 x table (super mega-easy) : 14 x 10 = 140. Then take away one 14:

**140 – 14 = 126.** All of these 9 x table tricks work because 9 = 10 - 1. Now, double check. Do all the digits in 126 add up to 9? (1 +2 + 6 = **9**) Yep! Multiplati confirmed. Alright, now have a go for yourself:

1. 9 x 16 = ☐   Think: 10 x 16 = _____ minus 16 = _____

2. 9 x 24 = ☐   Think: 10 x 24 = _____ takeaway 24 = _____

3. 9 x 22 = ☐   Think: 10 x 22 = _____ subtract 22 = _____

4. 9 x 17 = ☐   Think: 10 x 17 = _____ remove 17 = _____

5. 9 x 19 = ☐   Think: 10 x 19 = _____ less 19 = _____

Alright, but what about *really* nasty ones? Use an old fashioned method and your basic facts knowledge to stack-em up! – Try:

(Remember to 'keep your columns' – place value is crucial. You can pop the zeros in first)

E.g.  45      52      63      48      23
     _X 9    X 9     X 9     X 9     X 9
      45
    +360
    =405

Take your time with these ones, you'll need to add them up carefully!

532      345      765      378      258      357
X 9      X 9      X 9      X 9      X 9      X 9