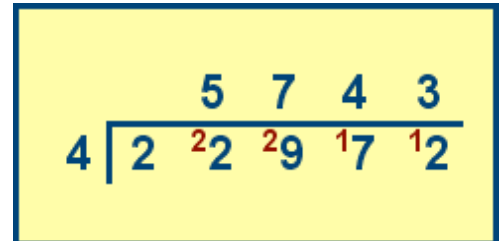


Spacesaver division

Spacesaver division is long division without all the written bits.

With this method you're doing a written division calculation, but you are also doing mental multiplication and subtraction. You can use it when dividing by both one digit and two digit numbers.

Have a look at the calculation: $22,972 \div 4$.



$$\begin{array}{r} 5 \ 7 \ 4 \ 3 \\ 4 \overline{) 2 \ 2 \ 9 \ 7 \ 2} \end{array}$$

Step 1: 4 into 2 won't go - so **carry 2** (this is actually 20,000 so you now have 22 in the thousands column).

Step 2: 4 into 22 goes 5 times ($5 \times 4 = 20$) - so **carry the remainder 2** (you now have 29 in the hundreds column).

Step 3: 4 into 29 goes 7 times ($7 \times 4 = 28$) - so **carry the remainder 1** (you now have 17 in the tens column).

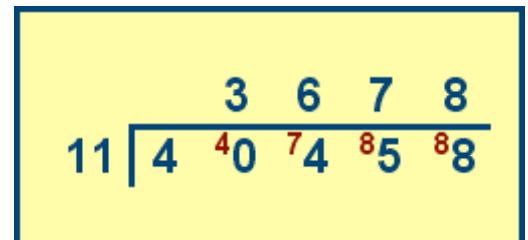
Step 4: 4 into 17 goes 4 times ($4 \times 4 = 16$) - so **carry the remainder 1**.

Step 5: 4 into 12 goes exactly 3 times.

$$22,972 \div 4 = 5,743$$

This method also works when dividing by 2 digit numbers.

Have a look at the sum $40,458 \div 11$.



$$\begin{array}{r} 3 \ 6 \ 7 \ 8 \\ 11 \overline{) 4 \ 40 \ 4 \ 5 \ 8} \end{array}$$

Step 1: 11 into 4 won't go - so **carry the remainder 4**.

Step 2: 11 into 40 goes 3 times ($3 \times 11 = 33$) - so **carry the remainder 7**.

Step 3: 11 into 74 goes 6 times ($6 \times 11 = 66$) - so **carry the remainder 8**.

Step 4: 11 into 85 goes 7 times ($7 \times 11 = 77$) - so **carry the remainder 8**.

Step 5: 11 into 88, goes exactly 8 times ($8 \times 11 = 88$).

$$40,458 \div 11 = 3,678 \text{ - check this is correct by multiplying } 11 \text{ by } 3,678 \text{ to get } 40,458.$$

If you need some help with times tables, have a look at the **Times tables** module www.bbc.co.uk/skillswise/numbers/wholenumbers/multiplication/timestables