

## **L.O - To multiply 2 digit by 1 digit using written method with exchanging.**

### **success criteria**

- To use my knowledge of place value in my written method.
- To use my times tables knowledge to solve calculations using written method.
- To understand what happens when exchanging when using the written method.
- To problem solve and reason using the written method.

Key vocabulary: exchanging, tens, ones, multiplication, repeated addition

We have been using column method to multiply over the past few days but we have not been exchanging. today we are going to learn this method.

Why would we need to exchange for the following multiplication?

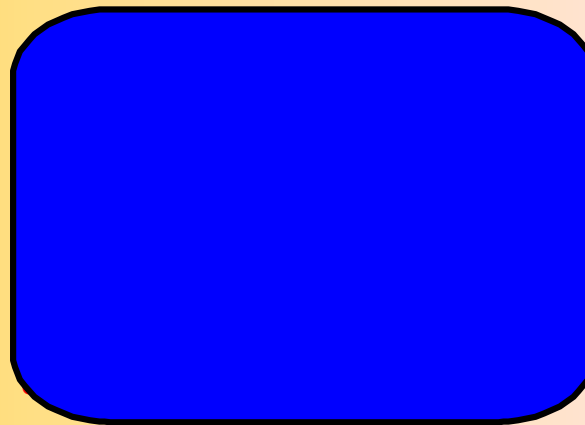
$$16 \times 2 =$$

$$\begin{array}{r} 16 \\ \times 2 \\ \hline \\ \hline \end{array}$$



$$16 \times 2 =$$

$$\begin{array}{r} \phantom{x} \phantom{1} \phantom{6} \\ \phantom{x} \phantom{1} 6 \\ \times \phantom{1} 2 \\ \hline \\ \hline \end{array}$$



Now that I have worked out 6 X 2, using your knowledge of place value what is my next step?

Now that I have worked out  $6 \times 2 = 12$ , We need to place it into our multiplication column.

$$\begin{array}{r} 1 \text{ (circled)} \\ 6 \\ \times \\ \hline 2 \\ \hline 1 \end{array}$$

So I know that 12 has 2 ones and 1 ten.

Therefore I placed 2 in the ones column and I exchanged my 1 into the tens column under the answer, just like I would with addition.

And finally I need to multiply the number of tens by two. My calculation  $2 \times 1$ .

$$\begin{array}{r} \phantom{x} \phantom{1} 6 \\ \phantom{x} \phantom{1} 2 \\ \hline \phantom{x} 3 2 \\ \hline \cancel{1} \end{array}$$

$2 \times 1 = 2$   
therefore I need  
to place that  
into the tens  
column ... BUT!

REMEMBER TO ADD THE EXTRA TEN THAT YOU EXCHANGED EARLIER TO YOUR ANSWER!

Use this video link to help you with the method

<https://www.youtube.com/watch?v=cBe3RYJRODk>

Lets have a go ourselves

$23 \times 4 =$

$$\begin{array}{r} 23 \\ \times 4 \\ \hline \\ \hline \end{array}$$

Lets have a go ourselves

$$23 \times 4 = 92$$

$$\begin{array}{r} 23 \\ \times 4 \\ \hline 92 \end{array}$$

$$3 \times 4 = 12$$

$$4 \times 2 = 8$$

8+1=





Some times we may have more than 9 tens and therefore we will have to exchange them into the hundreds column.

Lets see how we can do this using ten sticks.

$$35 \times 5 =$$

$$31 \times 5 =$$

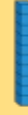
Hundreds



Tens



Ones



Total



Here we have 15 tens, what do we need to do now?

We only have 5 ones so we don't need to exchange these into tens.

Have a go at

$$31 \times 5$$

yourself using  
column multiplication.

It needs to be set out correctly!

## **Fluency**

1.  $1.16 \times 5$

2.  $2.22 \times 4$

3.  $3.36 \times 5$

4.  $4.55 \times 2$

5.  $47 \times 3$

## **Fluency answers**

1.  $16 \times 5 = 80$

2.  $22 \times 4 = 88$

3.  $36 \times 5 = 180$

4.  $55 \times 2 = 110$

5.  $47 \times 3 = 141$