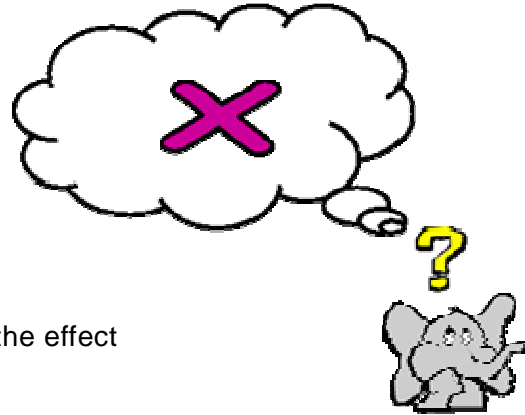


## Progression in Teaching Multiplication

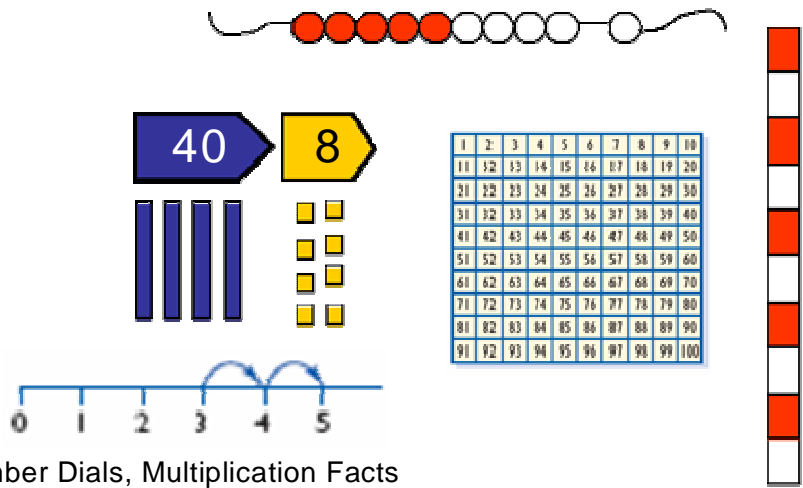
### Mental Skills

- Recognise the size and position of numbers
- Count on in different steps 2s, 5s, 10s
- Double numbers up to 10
- Recognise multiplication as repeated addition
- Quick recall of multiplication facts
- Use known facts to derive associated facts
- Multiplying by 10, 100, 1000 and understanding the effect
- Multiplying by multiples of 10



### Models and Images

- Counting apparatus
- Place value apparatus
- Arrays
- 100 squares
- Number tracks
- Numbered number lines
- Marked but unnumbered lines
- Empty number lines.
- Multiplication squares
- Counting stick
- Bead strings
- Models and Images charts
- ITPs – Multiplication grid, Number Dials, Multiplication Facts

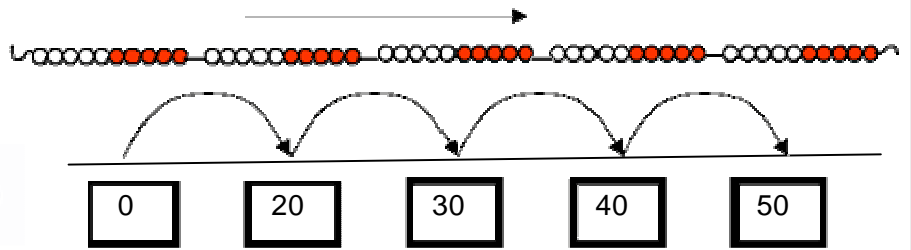


### Vocabulary

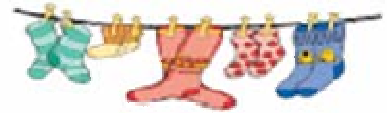
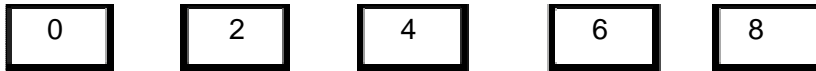
- lots of
- groups of
- times
- multiply
- multiplication
- multiple
- product
- once, twice, three times
- array, row, column
- double
- repeated addition

<b>multiplication</b>	<b>product</b>
<b>once, twice, three times</b>	<b>groups of</b>
<b>double</b>	<b>lots of</b>
<b>repeated addition</b>	<b>multiply</b>
<b>array, row, column</b>	<b>multiple</b>
<b>times</b>	

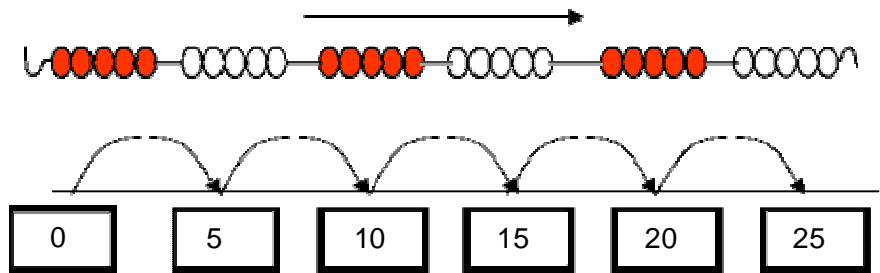
Count in tens from zero



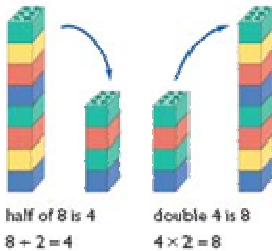
Count in twos from zero



Count in fives from zero



Know doubles and corresponding halves



Know multiplication tables to 10 x 10

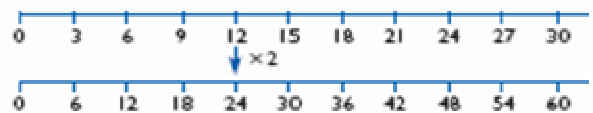
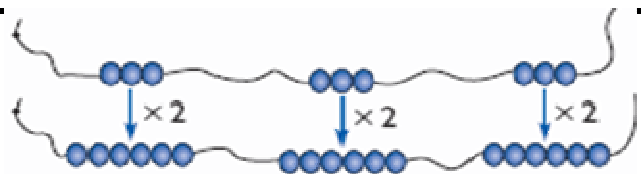
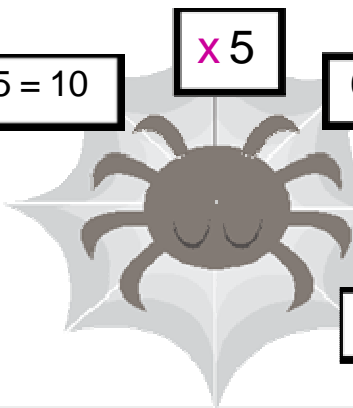
$2 \times 5 = 10$

$\times 5$

$6 \times 5 = 30$

$3 \times 5 = 15$

$8 \times 5 = 40$



$12 \times 2 = 24$

Twice as many

Use known facts to work out new ones

Understand that ...

$$24 \times 20 = 24 \times 2 \times 10$$

$$24 \times 50 = 24 \times 5 \times 10$$

Use factors to multiply



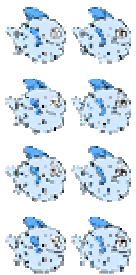
Understand multiplication as repeated addition

$$2 + 2 + 2 + 2 = 8$$

$$4 \times 2 = 10$$

2 multiplied by 4

4 lots of 2

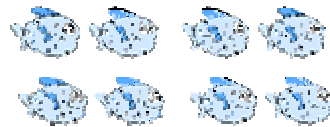


$$2 \times 4$$

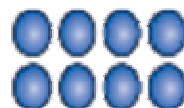


$$4 \times 2 = 8$$

$$2 \times 4 = 8$$



$$4 \times 2$$

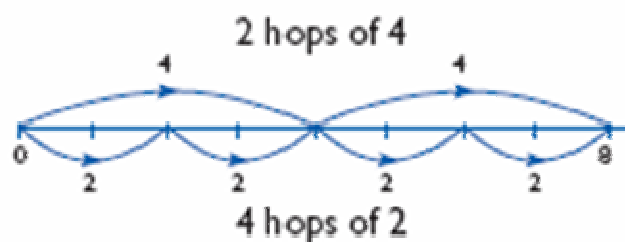


$$2 \times 4 = 8$$

$$4 \times 2 = 8$$

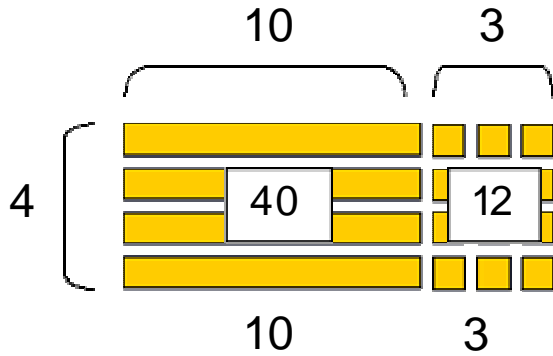
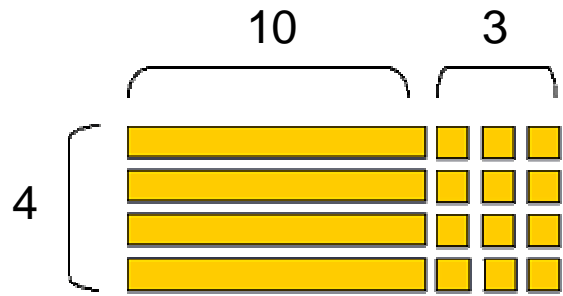
Understand multiplication as an array

Understand how to represent arrays on a number line

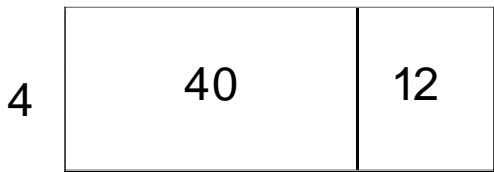


Use place value apparatus to support the multiplication of U x TU

$$4 \times 13$$



Use place value apparatus to support the multiplication of U x TU alongside the grid method

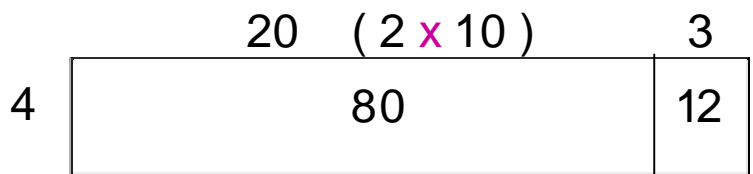
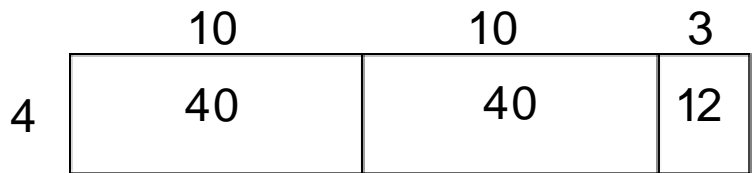
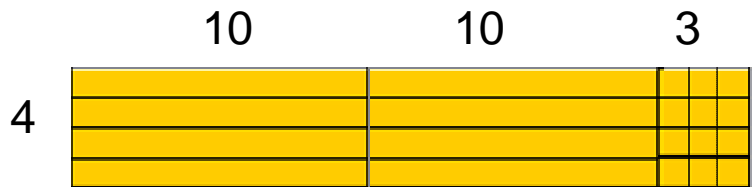


$$4 \times 13$$

$$40 + 12 = 52$$

Use place value apparatus to represent the multiplication of U x TU alongside the grid method

$$4 \times 23$$



$$80 + 12 = 92$$

Multiplying TU x TU

$$14 \times 33$$

	30	3	
10	300	30	= 330 +
4	120	12	= <u>132</u>

462

300
120
30
+ 12
<hr/>
462

56
$\times 27$
1120 (56 $\times$ 20)
<u>392</u> (56 $\times$ 7)
1512
<hr/>
1

Standard written method

