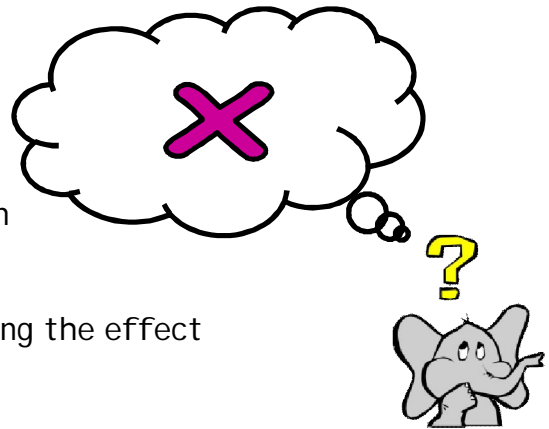


Progression in Teaching Multiplication

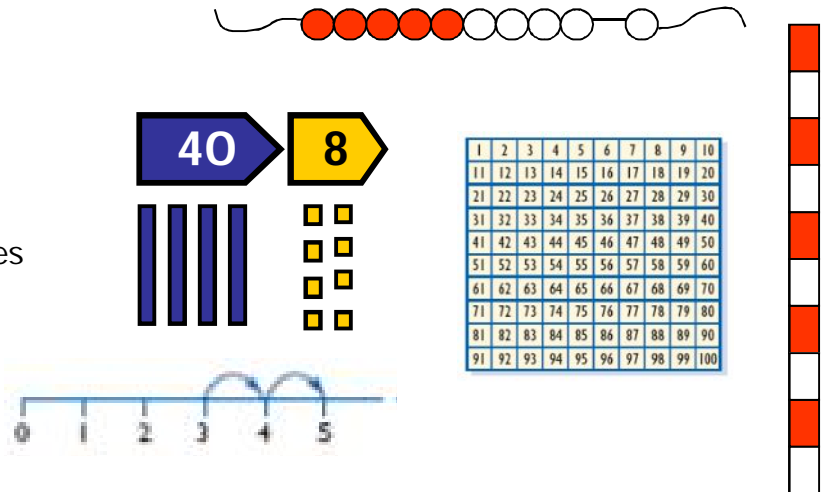
Mental Skills

- Recognise the size and position of numbers
- Count on in different steps 2s, 5s, 10s
- Double numbers 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



Equipment

- Place value apparatus
- Arrays
- 100 squares
- Number tracks
- Numbered number lines
- Marked but unnumbered lines
- Empty number lines.
- Multiplication squares
- Counting stick
- Bead strings

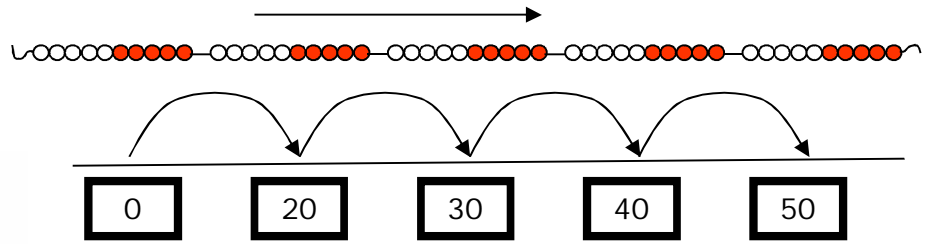


Vocabulary

- Lots of
- Groups of
- Times
- Multiply
- Multiplication
- Multiple
- Product
- Once, twice, three times
- Array, row, column
- Double
- Repeated addition

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

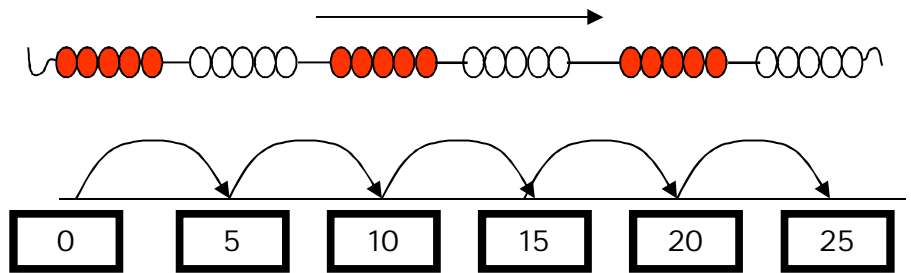
Count in tens from zero



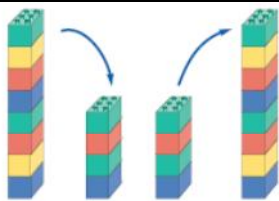
Count in twos from zero



Count in fives from zero



Know doubles and corresponding halves



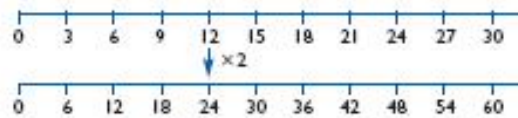
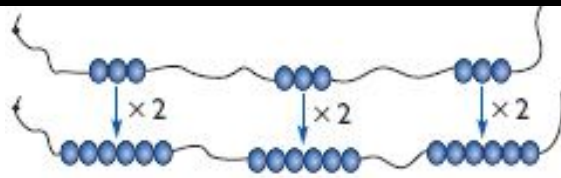
half of 8 is 4
 $8 \div 2 = 4$

double 4 is 8
 $4 \times 2 = 8$

Know multiplication tables to 12 x 12

Tables spider

Use known facts to work out new ones



$12 \times 2 = 24$

Twice as many



$$2 + 2 + 2 + 2$$

Understand multiplication as repeated addition

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

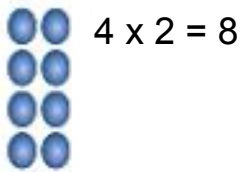
$$4 \times 2 = 8$$

2 multiplied by 4

4 lots of 2

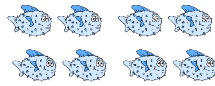


$$4 \times 2$$



$$4 \times 2 = 8$$

$$2 \times 4 = 8$$



$$2 \times 4$$

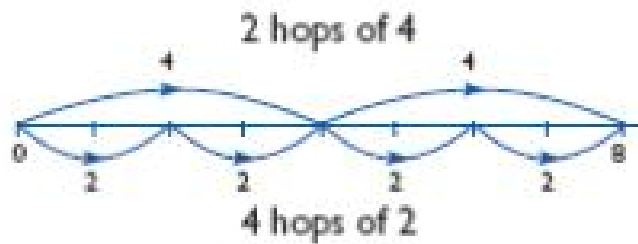


$$2 \times 4 = 8$$

$$4 \times 2 = 8$$

Understand multiplication as an array

Understand how to represent arrays on a number line



Understand that ...

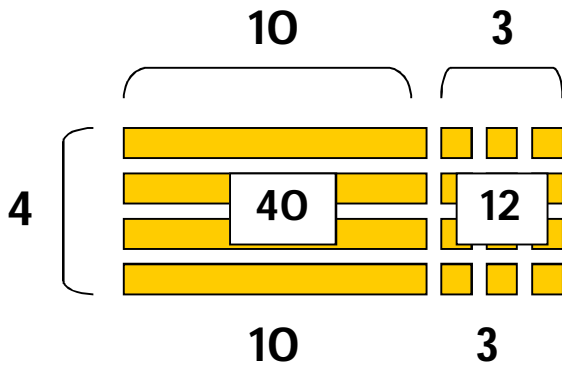
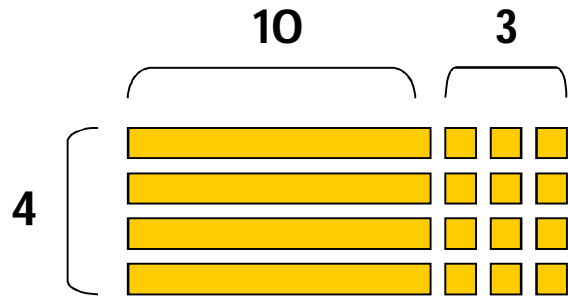
$$24 \times 20 = 24 \times 2 \times 10$$

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

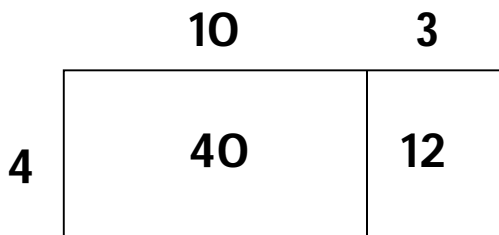
Use factors to multiply

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

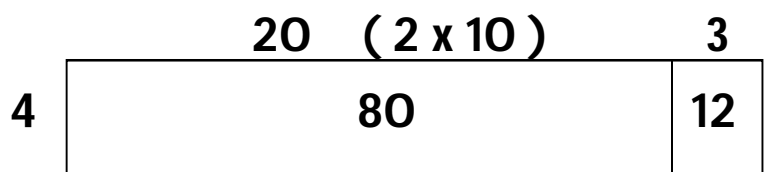
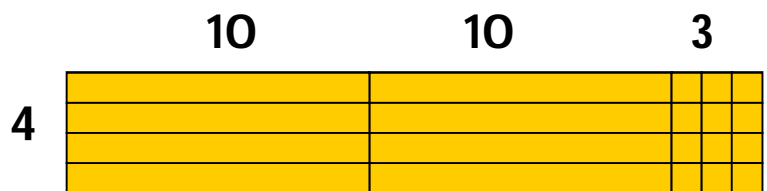


$$4 \times 13$$

$$40 + 12 = 52$$

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 x 33

	30	3	
10	300	30	= 330 +
4	120	12	= 132

462

300
120
30
+ 12
<u>462</u>

56	
× 27	
<u>1120</u>	(56 × 20)
392	(56 × 7)
<u>1512</u>	
1	

Standard written method