

MULTIPLICATION STAGE 1

Progression

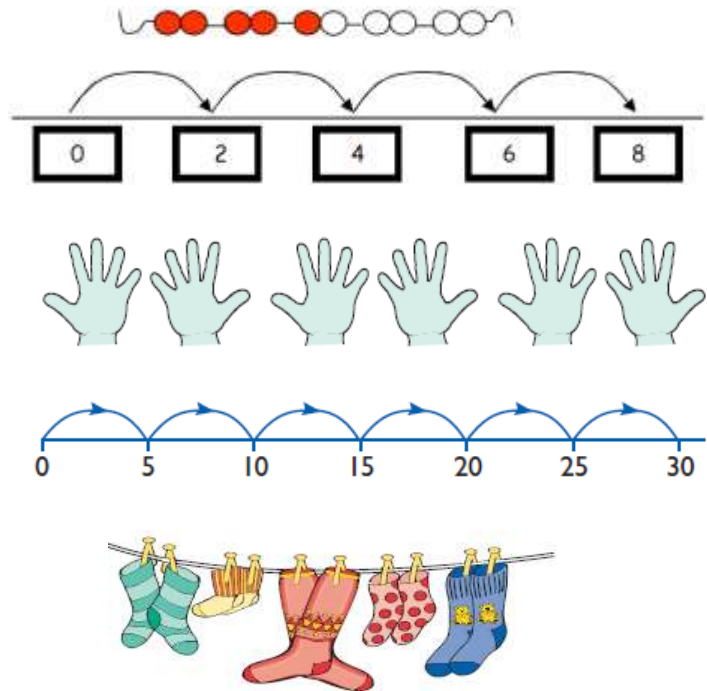
Count in repeated groups of the same size

Foundation Stage – 1s, 2s and 10s

Year 1 – 1s, 2s, 3s, 5s and 10s

Year 2 – 1s, 2s, 3s, 4s, 5s and 10s

Active Learning Through Models and Images:



Underlying skills

Count objects accurately using one to one correspondence matching a number name to each object

Number recognition 0-20

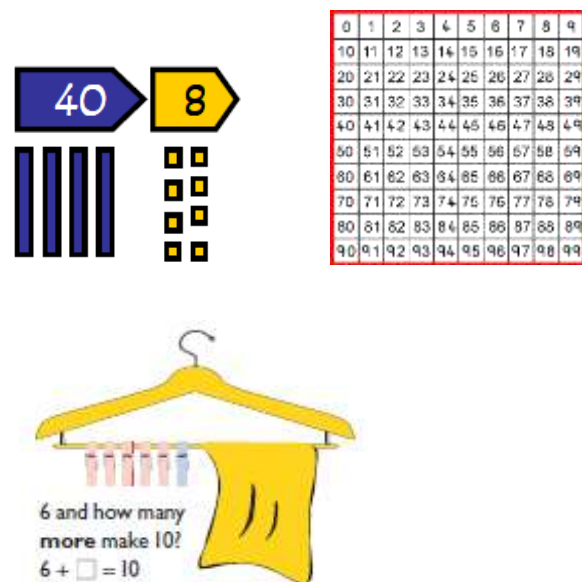
Count up to 20

Count in 2s, 5s and 10s as appropriate

Place value – order numbers 0-20 in size

Number bonds to 10

Active Learning Through Models and Images:



MULTIPLICATION STAGE 2

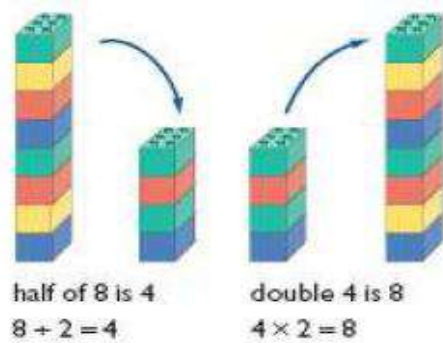
Progression

Learn doubles and corresponding halves

Year 1 – doubles and halves to 10

Year 2 – doubles and halves to 15

Active Learning Through Models and Images:



Half of 12 is 6
Double 6 is 12



Half of 7 is $3\frac{1}{2}$
Double $3\frac{1}{2}$ is 7

Underlying skills

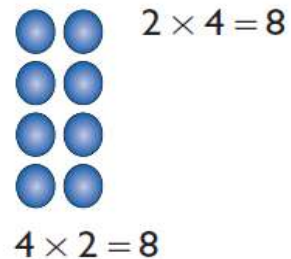
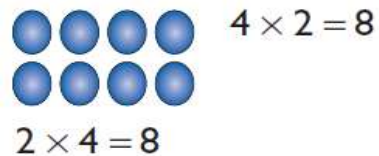
Understand that double means getting the same group twice

Number bonds

Counting in multiples of ten

Understanding doubling using an array

Active Learning Through Models and Images:



MULTIPLICATION STAGE 3

Progression

Understand multiplication as repeated addition

Understand multiplication as an array

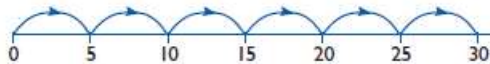
Active Learning Through Models and Images:



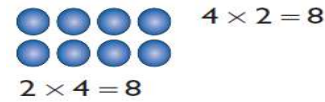
$2 + 2 + 2 + 2 + 2 = 10$
 $2 \times 5 = 10$
 2 multiplied by 5
 5 pairs
 5 hops of 2



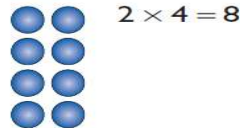
$5 + 5 + 5 + 5 + 5 + 5 = 30$
 $5 \times 6 = 30$
 5 multiplied by 6
 6 groups of 5
 6 hops of 5



$10p + 10p + 10p + 10p + 10p = 50p$
 $10p \times 5 = 50p$
 5 hops of 10



$2 \times 4 = 8$

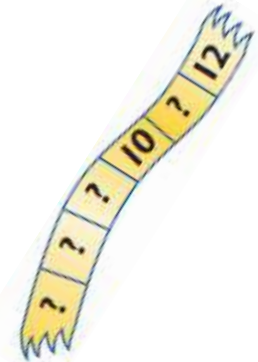
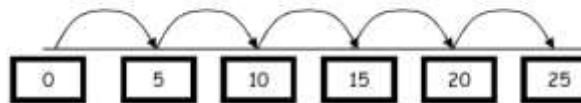
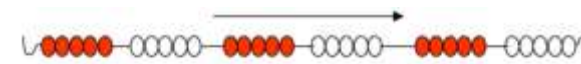
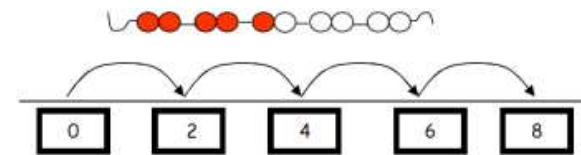


$4 \times 2 = 8$

Underlying skills

Count forwards in steps of different single digit numbers accurately

Active Learning Through Models and Images:



MULTIPLICATION STAGE 4

Progression

Use place value apparatus in an array to **support** the multiplication of U x TU alongside the grid method

$$4 \times 13$$

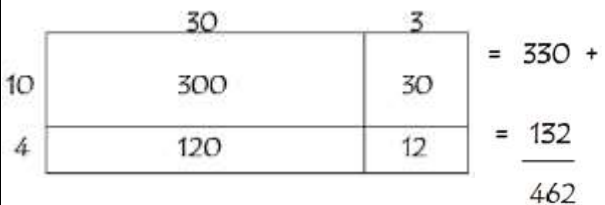
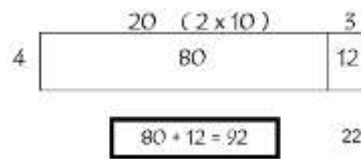
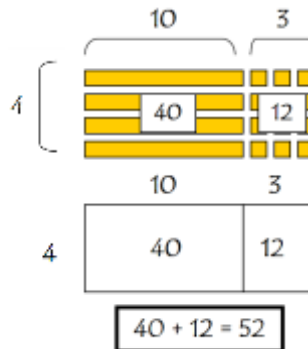
Use the expanded grid method to multiply U x TU

$$4 \times 23$$

Use the expanded grid method to multiply TU x TU

$$14 \times 33$$

Active Learning Through Models and Images:



Underlying skills

Learn by heart multiplication facts

Year 2

- 2 and 10 times tables
- begin to know 5 times table

Year 3

- 2, 5 and 10 times tables
- begin to know 3 and 4 times tables

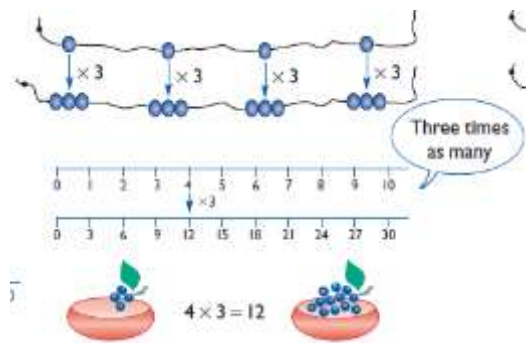
Year 4

- 2, 3, 4, 5 and 10 times tables
- begin to know 6, 7, 8 and 9 times tables

Year 5

- consolidate all multiplication
- facts up to 12x12
- Partitioning
- Scaling

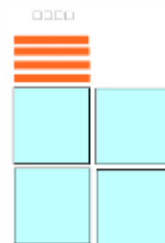
Active Learning Through Models and Images:



$$4 \times 1 = 4$$

$$4 \times 10 = 40$$

$$4 \times 100 = 400$$



MULTIPLICATION STAGE 5

Progression

Use the compact grid method to multiply bigger numbers

56×27

X	20	7		
50	1000	350		1350
6	120	42		+ 162
				= 1512

372×25

X	300	70	2	
20	6000	1400	40	7440
5	1500	350	10	+ 1860
				= 9300

Active Learning Through Models and Images:

Underlying skills

Partition numbers appropriately

Recall appropriate multiplication facts

Multiply numbers by 10, 100, 1000

Multiply multiples of 10

Add together 2, 3 or 4 digit numbers

Active Learning Through Models and Images:

$56 = 50 + 6$

$27 = 20 + 7$

$5 \times 2 = 10$

$50 \times 2 = 100$

$5 \times 20 = 100$

$50 \times 20 = 1000$

$6 \times 1 = 6$

$6 \times 10 = 60$

$6 \times 100 = 600$

$6 \times 1000 = 6000$

$6 \times 1 = 6 \quad 6 \times 10 = 60 \quad 6 \times 100 = 600$

$6 \times 2 = 12 \quad 6 \times 20 = 120 \quad 6 \times 200 = 1200$

$6 \times 3 = 18 \quad 6 \times 30 = 180 \quad 6 \times 300 = 1800$

$6 \times 4 = 24 \quad 6 \times 40 = 240 \quad 6 \times 400 = 2400$

$1350 + 162 =$

$1000 + 300 + 50 = 1350$

$100 + 60 + 2 = 162$

$1000 + 400 + 110 + 2 = 1512$

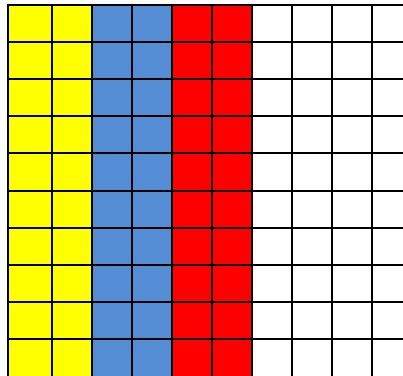
MULTIPLICATION STAGE 6

Progression

Multiply single digit numbers by decimals

$$3 \times 0.2 =$$

Active Learning Through Models and Images:



Shaded is 3 groups of 0.2 (0.2 is the same as 20 out of 100) 0.6 of the whole is shaded (0.6 is the same as 60 out of 100)

$$34.2 \times 8 =$$

X	30	4	0.2	
8	240	32	1.6	= 273.6

Using knowledge of $8 \times 2 = 16$ to work out $8 \times 0.2 = 1.6$

$$0.4 \times 0.5 = 0.2$$

Using fact box skills:

$$4 \times 5 = 20$$

$$0.4 \times 5 = 2$$

$$4 \times 0.5 = 2$$

$$0.4 \times 0.5 = 0.2$$

Multiplying decimals together understanding place value

Alternative strategy for multiplying decimals

$$1.8 \times 3 =$$

Make 1.8 ten times bigger

$$1.8 \times 10 = 18$$

$$18 \times 3 = 54$$

Then make 54 ten times smaller = 5.4

Underlying skills

- Partition numbers appropriately
- Recall appropriate multiplication facts
- Multiply numbers by 10, 100, 1000
- Multiply and divide multiples of 10
- Multiply decimals understanding place value
- Add together 2, 3 or 4 digit numbers

Active Learning Through Models and Images:

$$1 \times 5 = 5$$

$$10 \times 5 = 50$$

$$100 \times 5 = 500$$

$$5 \div 1 = 5$$

$$50 \div 10 = 5$$

$$500 \div 100 = 5$$

