

### Stage 1

Counting in twos. Using objects to group and count in twos. Number rhymes in twos such as 2,4,6,8. Hopping in twos.

### Stage 2

Counting on or back in 2,5 and 10. Grouping practical objects or pictures in 2s, 5s and 10s. Counting in 2s, 5s and 10s. Using hundred squares to see patterns.

### Stage 3

*Understanding multiplication as repeated addition*

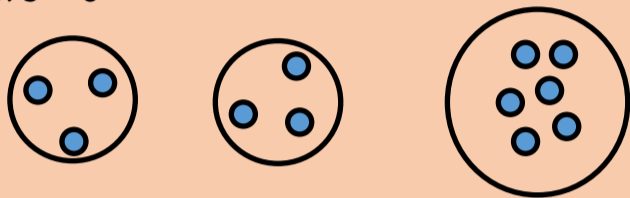
Eg.  $3 \times 3 = 9$  or  $3 + 3 + 3 = 9$

With pictures:

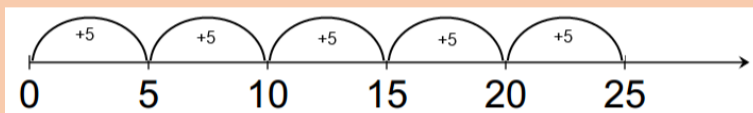


*Understand multiplication as groups*

Eg.  $2 \times 3 = 6$



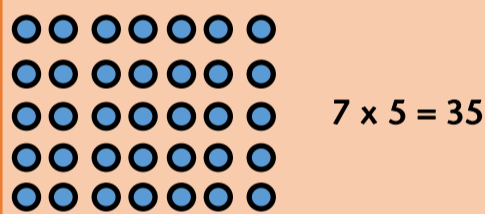
$5 \times 5 = 5 + 5 + 5 + 5 + 5$



### Stage 4

*Must know 2,5 and 10 multiplication facts. Understand multiplication as Arrays.*

E.g.  $7 \times 5 =$



$5 \times 7 = 35$

### Stage 5 - Know all multiplication facts 1-10

*Partitioning with brackets*

E.g.  $7 \times 283 = 1981$

$(7 \times 200) + (7 \times 80) + (7 \times 3)$

1400      560      21

**Grid Method**

x	200	80	3
7	1400	560	21

1400  
560  
+ 21  
1981

Begin to mentally know multiples of 10  
E.g.  $30 \times 7 = 210$

### Stage 6

*Grid method HTU x U*

x	200	50	3
6	1200	300	18

1200  
300  
+ 18  
1518

*Grid method TU x TU*

x	20	4
30	600	120
5	100	20

600  
100  
120  
+ 20  
840

# Multiplication

### Stage 7

*Multiplying a decimal*

E.g.  $5 \times 0.5 = 2.5$

$5 \times 0.5$  Move the decimal 1 place

$5 \times 5 = 25$  Put the decimal back in 2.5

### Stage 8

*Partition of decimals to 1 decimal place*

E.g.  $2.7 \times 3 = 8.1$

x	2	0.7
3	6	2.1

6  
+ 2.1  
8.1

*Partition of decimals to 2 decimal places*

E.g.  $2.73 \times 3 = 8.19$

x	2	0.7	0.03
3	6	2.1	0.09

$6 + 2.1 + 0.09 = 8.19$

### Stage 9

Develops the grid method of Stage 6 to ThHTU x U and HTU x TU

### Stage 10

*Standard written method*

*Short multiplication of TU x U*

E.g.  $34 \times 6 = 204$

34  
X 6  
24  
+180  
204

*Apply the same method for multiplying TU x TU*

*Leading to HTU x U*

E.g.  $836 \times 4 = 3344$

836  
X 4  
24  
120  
+3200  
3344

### Stage 11

*Short multiplication of decimals (building on Stage 7)*

E.g.  $8.6 \times 8 = 68.8$

$8.6$  remove decimal 86

86
X 8
48
+ 640
688

688 replace decimal 68.8

### Stage 12

*Long multiplication of TU x TU*

E.g.  $36 \times 47 = 1692$

36  
X 47  
252  
+ 1440  
1692

The carry digits in the partial products of  $36 \times 7$  and  $36 \times 40$  are usually carried out mentally.

### Stage 13

*Multiplication of decimals*

E.g.  $1.6 \times 2.3 = 3.68$

Follow procedure for Stage 7 & 11

1.6  
X 2.3

16  
X 23  
368

3.68

Put the decimals back using the same number of bounces used to take it out.