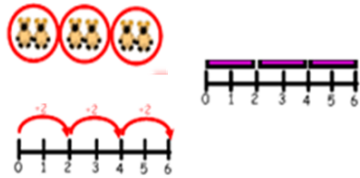


Multiplication Written Calculation Progression Y1 to Y6

- Y1**
- Use concrete objects to show repeated addition
 - Commutative property

Context based

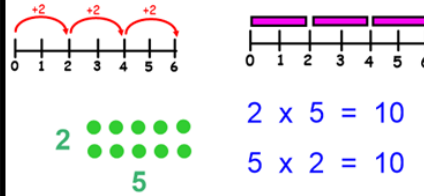
Concrete → Pictorial



- Y2**
- 2, 5 and 10 times tables
 - Use concrete objects to show repeated addition including numicon and unifix bars
 - Arrays - Commutative property

Context based

Concrete → Pictorial → Abstract



- Y3**
- 3, 4 and 8 times tables
 - 2 digit x 1 digit
 - Arrays - Commutative property

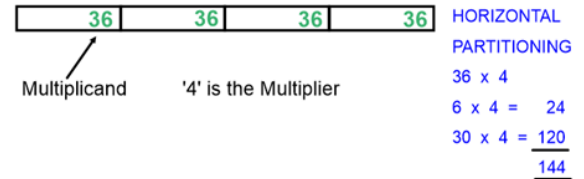


Context based

Concrete → Pictorial → Abstract

Bar model to show the multiplicand and repeated addition

Connect x 10 with x 5



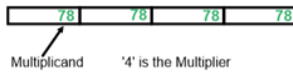
- Y4**
- Multiplication facts up to 12 x 12
 - Multiply by 0 and 1
 - Use terms multiplicand and multiplier
 - Commutative property (6 x 4 = 4 x 6) and distributive property 6 x (3 + 1) = 6 x 3 + 6 x 1
 - 1 digit x 1 digit x 1 digit
 - 2 digit x 1 digit
 - 3 digit x 1 digit

Context based

Concrete → Pictorial → Abstract

Connect x 10 with x 5

Bar model to show the multiplicand and repeated addition



HORIZONTAL PARTITIONING

$$\begin{array}{r} 78 \times 4 \\ 8 \times 4 = 32 + \\ 70 \times 4 = \underline{280} \\ \underline{312} \end{array}$$

EXPANDED COLUMN

(Short time only)

$$\begin{array}{r} 78 \\ \times 4 \\ \hline 32 \quad (8 \times 4) \\ 280 \quad (70 \times 4) \\ \hline 312 \end{array}$$

COMPACT METHOD

$$\begin{array}{r} 3 \\ +3 \\ \hline 78 \\ \times 4 \\ \hline 312 \end{array}$$

Carried figure at the top

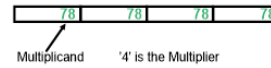
- Y5**
- Multiplication facts up to 12 x 12
 - Multiply by 0 and 1
 - Use terms multiplicand and multiplier
 - Commutative property (6 x 4 = 4 x 6) and distributive property 6 x (3 + 1) = 6 x 3 + 6 x 1
 - 1 digit x 1 digit x 1 digit
 - 3 digit x 1 digit
 - 4 digit x 2 digit

Context based

Concrete → Pictorial → Abstract

Connect x 10 with x 5

Bar model to show the multiplicand and repeated addition



COMPACT METHOD

$$\begin{array}{r} 5 \\ +5 \\ \hline 376 \\ \times 17 \\ \hline 2632 \\ \underline{3760} \\ \underline{6392} \end{array}$$

Carried figure at the top

HORIZONTAL PARTITIONING

$$\begin{array}{r} 376 \times 17 \\ 376 \times 7 = 2632 + \\ 376 \times 10 = \underline{3760} \\ \underline{6392} \end{array}$$

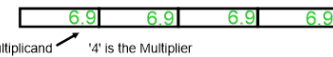
- Y6**
- Multiplication facts up to 12 x 12
 - Multiply decimals
 - Use terms multiplicand and multiplier
 - Commutative property (6 x 4 = 4 x 6) and distributive property 6 x (3 + 1) = 6 x 3 + 6 x 1
 - 1 digit x 1 digit x 1 digit
 - 3 digit x 1 digit
 - 4 digit x 2 digit

Context based

Concrete → Pictorial → Abstract

Connect x 10 with x 5

Bar model good for estimation



COMPACT METHOD

$$\begin{array}{r} 1 \\ +1 \\ \hline 4308 \\ \times 24 \\ \hline 17232 \\ \underline{86160} \\ \underline{103392} \end{array}$$

Carried figure at the top

HORIZONTAL PARTITIONING

$$\begin{array}{r} 4308 \times 24 \\ 4308 \times 4 = 17232 + \\ 4308 \times 10 = \underline{43080} \\ 4308 \times 10 = \underline{43080} \\ \underline{103392} \end{array}$$