

# Division Written Calculation Progression Y1 to Y6

- Y1**
- Use concrete objects
  - Contexts - sharing and grouping

Context based

Concrete → Pictorial

Link to fractions  $1/2$  of ... and  $\div 2$



- Y2**
- Solve problems involving division
  - Not commutative
  - Grouping and sharing contexts

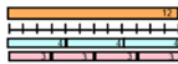
Context based

Concrete → Pictorial → Abstract

Link to fractions  $1/4$  of ... and  $\div 4$      $20 \div 4 = 5$



Arrays are useful to show how division and multiplication are linked



Bar models also show the connection between division and multiplication



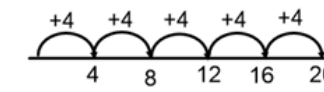
Number lines are good to show grouping

- Y3**
- 2 digit  $\div$  1 digit
  - Grouping and sharing contexts

Context based

Concrete → Pictorial → Abstract

Link to fractions  $1/3$  of ... and  $\div 3$      $18 \div 3 = 6$



Number lines are good to show grouping.  
Move towards larger jumps, using 'ten lots of ...'



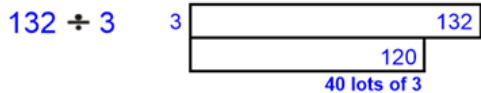
$72 \div 5 = 14 \text{ r}2$

- Y4**
- Up to 3 digits  $\div$  1 digit
  - Short division as written method

Context - grouping and sharing problems

Concrete → Pictorial → Abstract

Link to fractions  $1/6$  of ... and  $\div 6$      $126 \div 6 = 21$



40 lots of 3

The bar model is good for developing number sense and estimation.

$$\begin{array}{r} 44 \\ 3 \overline{) 132} \end{array}$$

Short division (bus stop) method

- Y5**
- Up to 4 digits  $\div$  1 digit
  - Short division as written method
  - Interpret the remainder

Context - grouping and sharing problems

Link to fractions  $1/7$  of ... and  $\div 7$      $1426 \div 7 = 203 \text{ r}5$

$$432 \div 5 \quad 5 \overline{) \quad \quad \quad 432}$$

What is 500 divided by 5?

Draw the bar model to estimate and discuss reasonable answers.

$$\begin{array}{r} 86 \text{ r}2 \\ 5 \overline{) 432} \end{array}$$

Interpret the remainder: use a context to decide how to interpret it

- Y6**
- Up to 4 digits  $\div$  2 digits
  - Short division or long division as appropriate
  - Interpret the remainder

Context - grouping and sharing problems

Link to fractions  $1/7$  of ... and  $\div 7$      $1426 \div 7 = 203 \text{ r}5$

$$1426 \div 7 \quad 7 \overline{) \quad \quad \quad 1426}$$

What if the calculation was 1400 divided by 7?

Draw the bar model to estimate and discuss reasonable answers.

$$\begin{array}{r} 203 \text{ r}5 \\ 15 \overline{) 1426} \\ \underline{30} \phantom{0} \\ 12 \phantom{0} \\ \underline{12} \phantom{0} \\ 0 \phantom{0} \\ \underline{0} \phantom{0} \\ 0 \phantom{0} \end{array}$$

Use times table ladders to help estimation

- 150 (15 x 10)
- 75 (15 x 5)
- 15 (15 x 1)