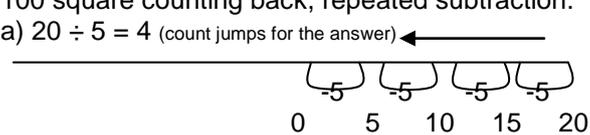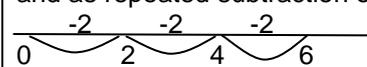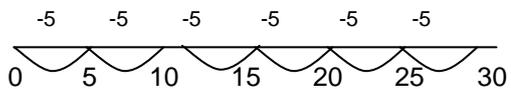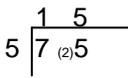# Progression in Maths – **Division**

Please note; methods are taught progressively so that children's conceptual understanding of how and, importantly, why a 'method' works is continually developed. Having a range of strategies for children to select from enables every child to be able to succeed when faced with a division question/problem.

Year	What will division look like?	Notes
R	Sharing objects equally, such as 10 biscuits on two plates.	Sharing and grouping
1	100 square counting back, repeated subtraction. a) $20 \div 5 = 4$ (count jumps for the answer) -5 -5 -5 -5 0 5 10 15 20	Counting back in ones, twos and fives. Sharing and grouping Introduce the $\div$ symbol
2	Record using the correct division symbols. Understand division as sharing $6 \div 2 = 3$ and as repeated subtraction on a number line -2 -2 -2 0 2 4 6 Use know multiplication facts to work out the missing numbers $20 \div \square = 2$ $\square \div 5 = 3$	Begin to understand division as repeated subtraction. Table facts (see multiplication) Division facts corresponding to the 2, 5 and 10 times tables Use x and $\div$ signs
3	Use known multiplication facts to work out $25 \div 5 =$ Use the halving strategy to work out: $32 \div 2 =$ $54 \div 2 =$ $28 \div 4 =$ Repeated subtraction along a number line $30 \div 5 = 6$ -5 -5 -5 -5 -5 -5 0 5 10 15 20 25 30	Understand division as grouping, repeated subtraction. Known table facts, 2, 5, 10, begin 3 and 9, inverse for division Know what each digit represents
4	Understand remainders Use known multiplication facts to work out: $27 \div 5 = 5\ r\ 2$ *because (5 x 5) + 2 = 27* Use short division method (bus shelter) for larger numbers $75 \div 5 = 15$ $\frac{1\ \ 5}{5\ )\ 7\ _{(2)}5}$	Know by heart multiplication facts up to 12 X 12 Divide any integer up to 1000 by 10 Begin to use short division method (bus shelter) to find answers to TU $\div$ U = questions. • Approximate answer first
5	Recognise that division is non-commutative. i.e. $10 \div 2$ is not equal to $2 \div 10$ Use 'bus shelter' $\overline{\ )\ }$ $85 \div 6 = 14\ r\ 1$ $194 \div 7 = 27\ r\ 5$ $\quad\quad\quad 14r1 \quad\quad\quad\quad\quad\quad\quad 27r5$ $\quad\quad\quad 6)\overline{85} \quad\quad\quad\quad\quad\quad\quad 7)\overline{194}$ Check answers with inverse	Know all multiplication facts to 12 x 12 Use the relationship between multiplication and division Dividing up to 10,000 by 10 / 100 • Check with inverse operation. • Use of calculator

6	Continue to use bus shelter method with larger numbers

$256 \div 7 = 36$ r 4
Estimate first

$$\begin{array}{r} 36 \text{ r } 4 \\ 7)\overline{256} \end{array}$$

Commentary: *"7 into 2 doesn't work so we'll try 7 into 25 which does work and gives us 3 with 4 remaining. We'll put the 4 in front of the 6 to make 46 and 7s into 46 go 6 times with 4 remaining making the answer 36r4."*

and check answer with inverse

$977 \div 36 = 27$ r 5
Estimate first

$$\begin{array}{r} 27 \text{ r } 5 \\ 36)\overline{977} \end{array}$$

and check answer with inverse

$$\begin{array}{r} 2\ 8 \text{ r12} \\ \overline{} \end{array}$$

Extend to long division: 15)432 (How many 15s go into 43? 2 with 13 remaining)
  $432 \div 15 =$ 132 (bring the remaining 13 down and bring down the 2)
       12 (How many 15s go into 132? 8 with 12 remaining)
       (Record remainder at bottom and next to answer) | Explain the effect of dividing by 1000
Extend bus shelter method to include HTU by TU
Use same method for decimals

Use long division method for calculating with larger numbers. |