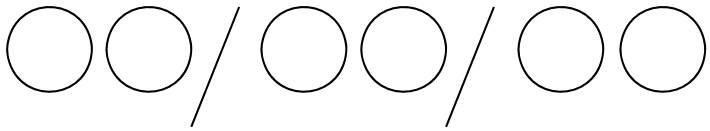
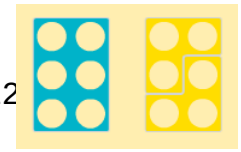
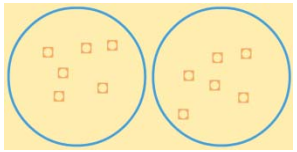
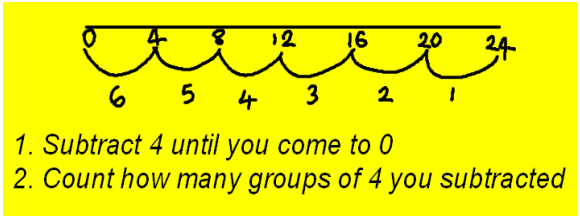
Calculation Strategy: Division

Progression	Exemplification	Guidance
Step 1 Division by sharing.	Early division is delivered through play and practical problem solving activities. Example: *Share 4 buttons between 2 teddies. How many buttons does each teddy have?*   *Our teddies need buttons, we have 4 buttons. Let's share them so each teddy has the same number of buttons..* Start by dividing into 2 equal groups to support understanding of halving. Begin with counting	*Children are taught to share objects into equal groups. *Children use jottings to support their understanding of division.
Step 2 Division as grouping (repeated subtraction) Introduce the division sign	*There are 6 sweets, how many people can have 2 sweets each?*   Children physically 'take away' lots of 2 and then count the groups / sets they have made. 12  Children have placed Numicon 3s over a 6 and counted how many groups of 3 there are  6 ÷ 3 = 2 12 ÷ 2 = 6	*To become more efficient, children need to develop an understanding of division as grouping * Children need to understand that the concept of division as repeated subtraction, it is the inverse of addition and is not commutative.

Step 3 Division by repeated subtraction using number lines.	 24 ÷ 4 = 6 Ensure children record how many groups were subtracted.	*When children are confident with this method, progress to using an empty number line.
Step 4 Division including remainders	To continue their learning, children need to understand that division c sometimes have remainders. 13 ÷ 4 = 3 r1 Start at 0 and jump on in steps of 4. How many jumps have you made? How many are  13 ÷ 4 = 3 r1	*Children need to know whether to round up or round down after division. *Children use empty numbers lines and other informal jottings to divide increasingly larger numbers.

Step 5 Short division

- 84 ÷ 4 =

$$4 \overline{)84} = 21$$

How many 4s are there in 8? 2. How many 4s are there in 4?

- 693 ÷ 3 =

$$3 \overline{)693} = 231$$

How many 3s are there in 6? 2. How many 3s are there in 9? 3 How many 3s are there in 3? 1

Short division with carrying

- 302 ÷ 2 =

$$2 \overline{)3^{1}02} = 151$$

How many 2s are there in 3? 1 with 1 remaining; carry over the remainder to the next column. How many 2s are there

- 845 ÷ 2 =

$$2 \overline{)845} = 422r1$$

How many 2s are there in 8? 4. How many 2s are there in 4? 2. How many 2s are there in 5? 2 with 1 left over

Short division with remainders

*For short division, start from the left and work right.

*Children use short division to progress to dividing decimals.

$$3 \overline{)4.^{1}5} = 1.5$$

How many times will 3 go into 4? Once remainder 1. How many 3s are there in

$$4 \overline{)3^{3}67} = 091r3$$

Division with carrying and remainders