SOUTHWICK C E PRIMARY SCHOOL

CALCULATION POLICY

Division

Reception Year

- Division is based on the concept of sharing. Reception age learners are encouraged to share in all sorts of situations.

Year 1

- Children learn about halving: 'What is half of these 6 eggs?', 'How much is half of 10p?'
- They use practical apparatus and coins and record in pictures: 'How many pairs will these 12 socks make?', 'Share these 15 pencils equally between 5 pots.'

Year 2

- Learners continue to use practical apparatus and coins, plus pictures to record: 'Place 14 dots equally on both sides of this ladybird':

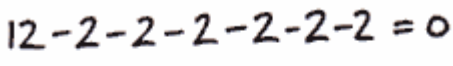
"There are seven dots on each side so half of 14 is 7."

'How could you share 20p between 4 people?':

"5p + 5p + 5p + 5p is 20p..."

"...so 20p divided by 4 is 5p."

- Solve simple division problems by repeated subtraction using counters:

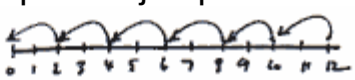


"I was able to take away 6 lots of 2, so..."

$12 \div 2 = 6$

- Learners record repeated jumps backwards on a number line:

$12 \div 2$



"6 hops of 2 from 12 back to 0, so the answer is 6."

Year 3

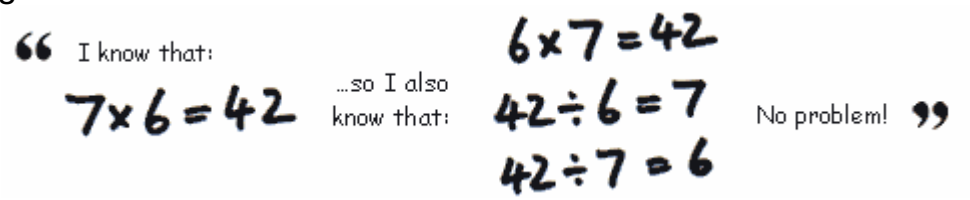
- Children begin to recognise that finding fractions of quantities involves

> “ $\frac{1}{4}$ of 20p is 20p ÷ 4 ”

- Learners use counters and number lines to solve division problems (perhaps involving a remainder): 'How many teams of 3 can be made with 14 people?'

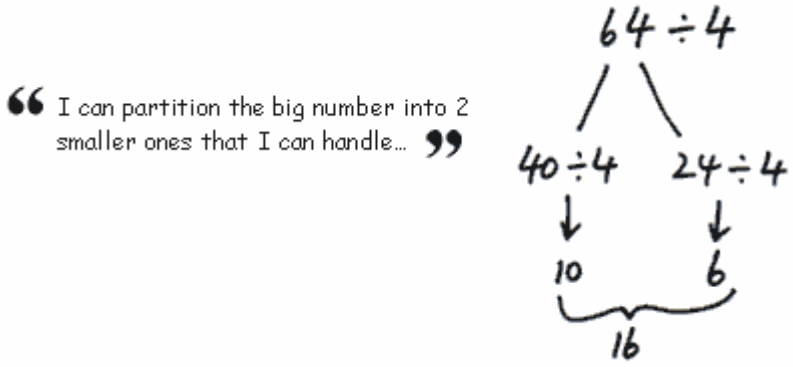
> “ 4 groups of 3 with 2 left over, so the answer is 4 full teams. ”

- The link between multiplication and division facts is made and emphasised: 'For every known multiplication ('times table') fact there are three 'free gifts'':



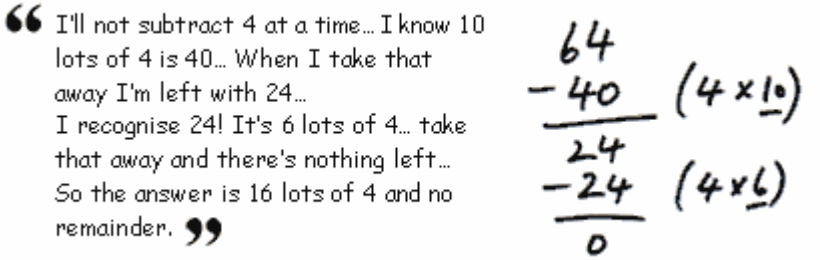
Year 4

- Children use known tables facts to partition (split up) numbers to divide:



(The style of recording this is not important: it's the ability to use known facts skillfully that is being encouraged.)

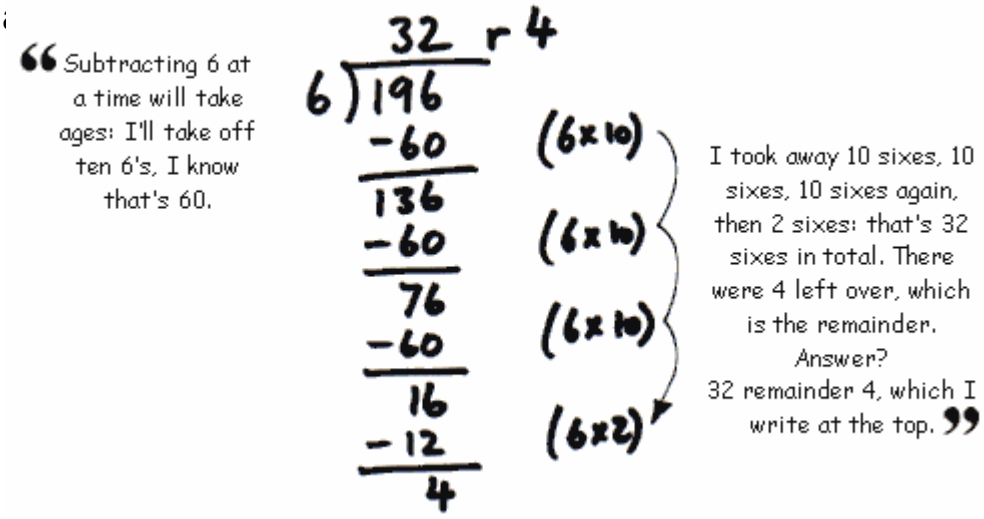
- The idea of 'chunking' is introduced: rather than hop backwards one step each time it is more efficient to jump back in larger, known, 'chunks':



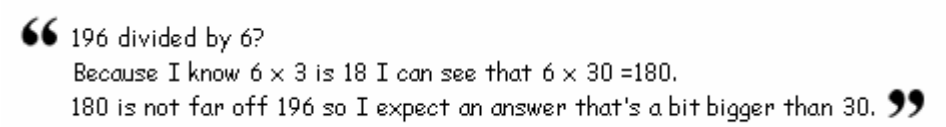
- The relationship between multiplication and division facts ('times tables') continues to be emphasised.

Year 5

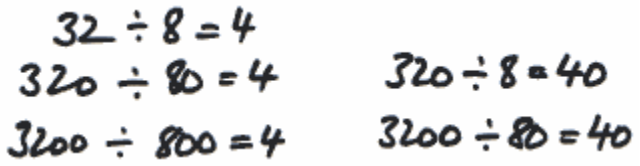
- Learners extend the use of chunking and record vertically. They take away multiples of what they're dividing by (chunks). These successive subtractions are recorded in columns. It's important to line things up



- Children are taught to estimate the answer beforehand to check if a calculated answer is likely:

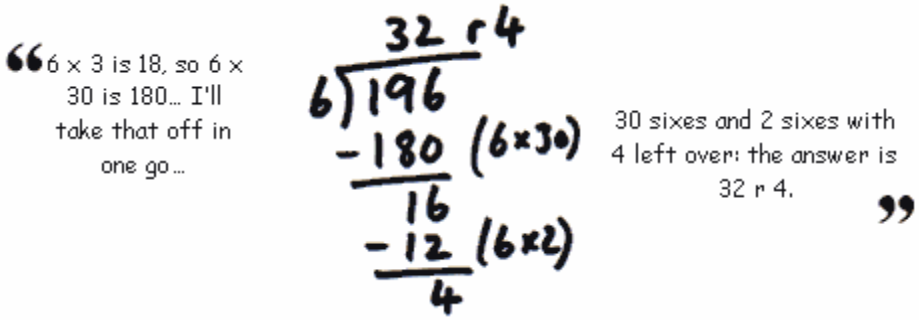


- Secure understanding of place value and recognition of patterns extends learners' knowledge effectively:

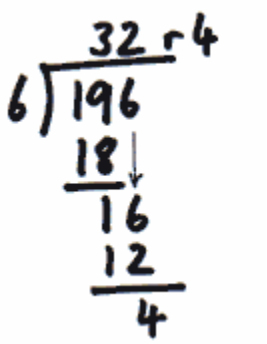


Year 6

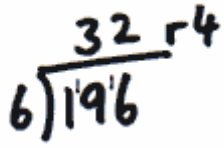
- With good 'times table' knowledge and an understanding of place value children can take away bigger chunks:



- An abbreviated method is used in upper Key Stage 2 (Y5 and Y6) (this is likely to be more familiar to parents). This method 'forgets' about the value of the digits. You 'work along' the starting number a column at a time. Everything must line up accurately, or an error is almost inevitable:



This can be abbreviated even further:



With this method calculations with bigger numbers and decimal numbers are not much more difficult.

- The need to estimate answers is emphasised. This is especially important when doing calculations using decimal values:

> 25.6 divided by 8?
> The closest multiple of 8 near to 25.6 is 24. This is 8 × 3 so an answer of 3 point something is what I expect.