

Using Numicon at KS2

- **Addition facts** - shapes can be used as multiples of 10 or 100 (or more).

$$\text{3} + \text{4} =$$

$$300 + 400 =$$

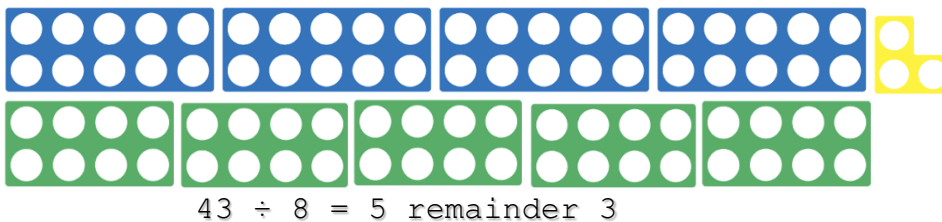
- **Subtraction facts** - shapes can again be used as multiples of 10 or 100 (or more). Lay the smaller number over the larger one and find the difference.
- **Formal column methods of addition and subtraction:**
Set out calculations using shapes. Physically exchange 10 ones for a ten and vice versa.
- **Multiplication:**
2 digit x single digit: 32×4 - lay out 32 in shapes four times
Develop recording as numerals, partitioning and then the grid method.

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- **Halving** - Shapes are particularly useful for halving odd numbers. Using three 10 shapes show how to find half by changing one of the shapes for two 5 shapes, link this to using the shape as base 10 (holding up a 3 shape). This can then be used to help halve 300, 3,000 etc
- **Division** - Lay out the number to be divided as a number line. Place the number to be divided on top. How many will fit into? Are there any left over?



- **Division** can also be done with decimals or money
 'I have £2.00. How many drinks for 40p can I buy?'
 Lay out 2 ten shapes where each hole represents 10p.
 Place the 4 shapes on top, representing 40p.
- **Decimals:**
 The orange shape becomes 1/10 or 0.1 and the blue shape becomes 10/10 or 1 whole. It is now much easier to see that $0.9 + 0.1 = 1$
 The orange shape can also become 1/100 or 0.01 and the blue shape becomes 1/10 or 0.1 and 10 blue shapes are 1.
 (The base board can be really useful to show this)
- **Factors** - Place shapes on top of another number to see which fit exactly and are therefore factors of that number. This can also be useful for showing prime numbers.
- **Ratio** - There is one 3 shape for every four 2 shapes. How many 2 shapes will there be if I have four 3 shapes?

