Building foundation maths skills using Numicon

Helpful YouTube channels:

Oxford Education (lots of Numicon instructional videos if you search)

JontyNumicon (featuring a young lady with Down Syndrome)

Resources

Numicon plates

Base boards

Bowls

Counters (ideally Numicon ones)

Number cards (including 0)

Firm Foundations

Feely bag

The basics

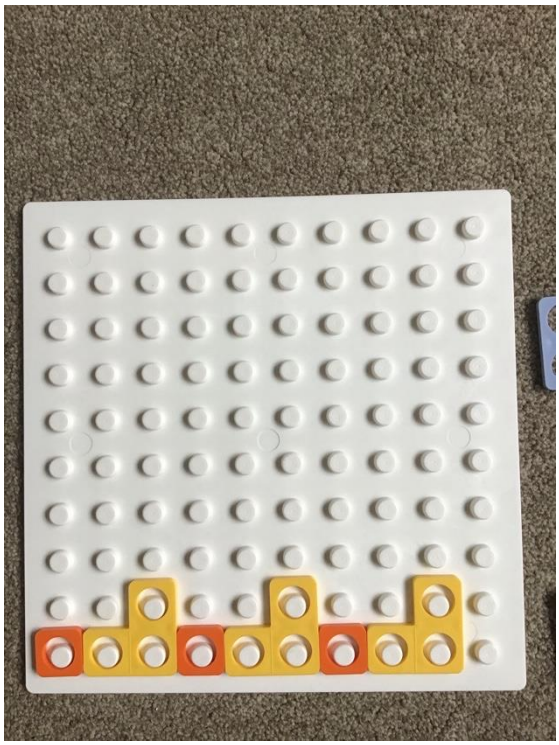
The Numicon Ladder – this is how Numicon plates are designed to be laid out. When placed correctly as shown below, they build a ladder to reinforce the idea that each plate is 'one more' than the last. Try to get into the habit of placing them in this way. When they are laid out you will notice even numbers are all cool colours and odds are warm colours. This helps to show the contrast and aids children to identify missing pieces.

Play games with a feely bag – can they describe the properties of the shape they are feeling?

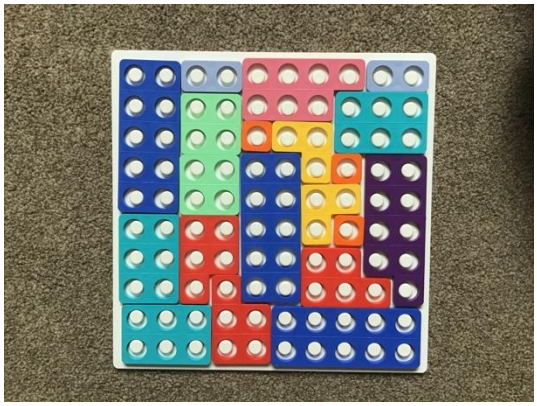
Sophie Cartwright

Developing visual spatial skills

Make repeating patterns for the child to copy



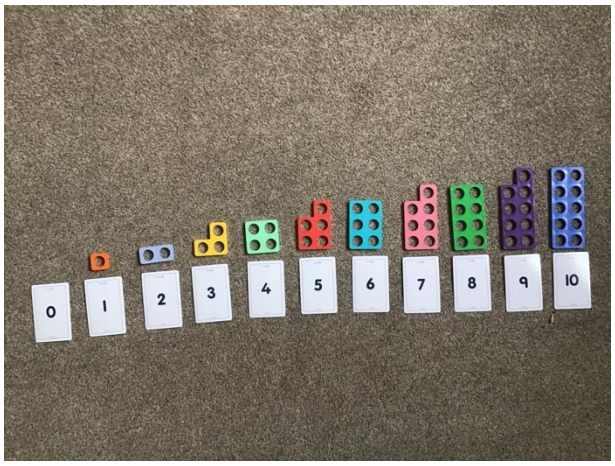
Place plates randomly on a baseboard for the child to fill in. they will begin to ‘see’ the shapes of the empty spaces and fill with the most appropriate plate.



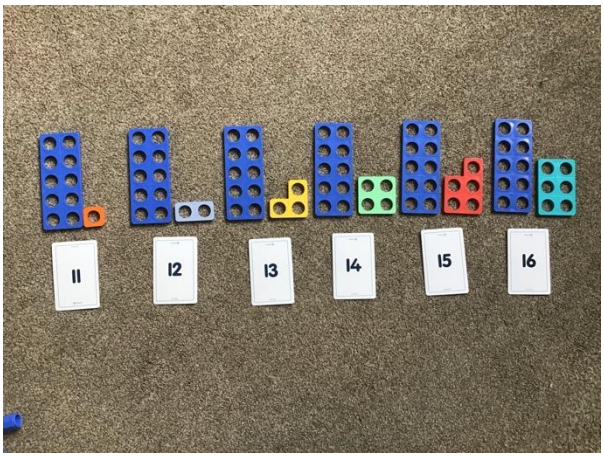
Counting

Numicon is designed to support subitising so the holes are not designed to be counted. Counting should be done using counters. The counters are placed in the holes to reinforce 1:1 correspondence. The plates should always be filled from the bottom up. When counting objects e.g. counters, always estimate first (this helps build an understanding of magnitude of number) and count items into something – a pot or bowl etc. then find the correct Numicon piece and numeral.

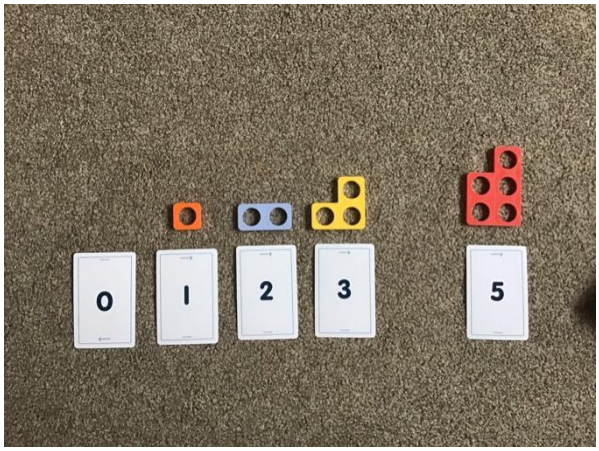
When counting with Numicon plates always match to a numeral and always include zero to support the concept of zero being nothing. You can then begin to add quantities. Try to use all the same colour to make it visually clearer and place them in the same configuration as the Numicon plates.



Counting over 10 follows the same pattern but with the ten plate first to reinforce place value.



It is helpful to have opportunities for children to find the missing piece. You can begin by leaving in the numeral as a clue and then just with a blank space



Addition and subtraction towers

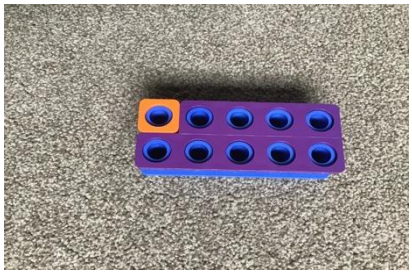
Addition and subtraction should begin with the answer e.g. 7 = 3+4. Using Numicon plate and counters you can build towers (shown below). Place the 5 plate down and count placing the counters (starting from the bottom), then find plates to fit e.g. 3 plus 2 equals 5.

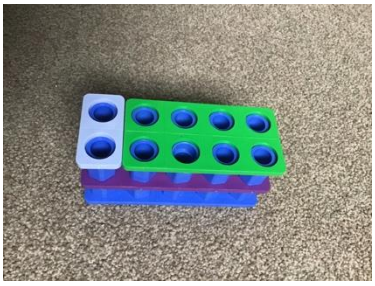
As they are deconstructed you do the reverse.

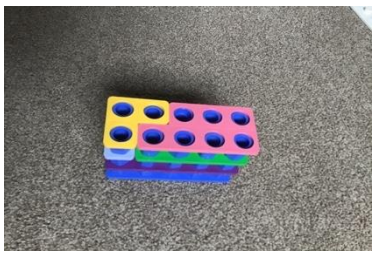
7 take away 4 equals 3.

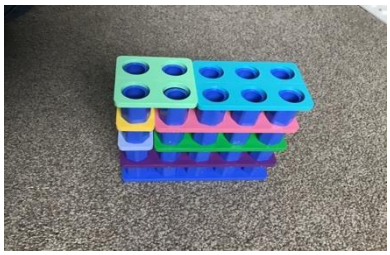
Number bonds

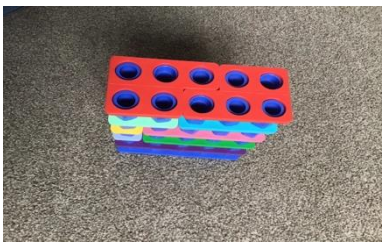
Using a ten plate as a base and counters, number bonds to ten can be made as towers and reinforced as they are built and taken down.









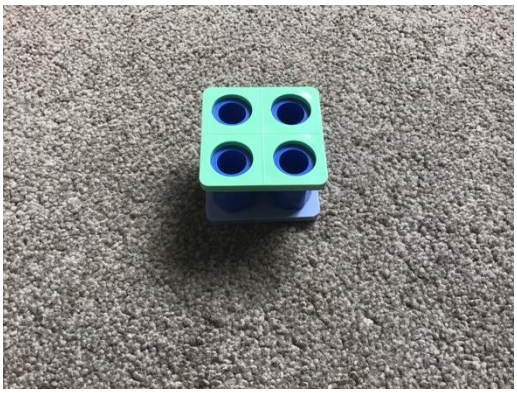


Fractions

Numicon can easily be used to demonstrate parts of a whole. They will also show that different configurations show the same thing.

Multiplication and division

Counting in 2s, 5s and 10s is the beginning of multiplication. You can introduce doubling and halving as early multiplying and dividing skills. e.g. double 2 = 4, two lots of 2 is 4.



Adding two 2 digit numbers

Use Numicon to demonstrate the two numbers then place together in the correct place value format. Eg. 16 + 13 = 29