

Teaching the Language of Maths

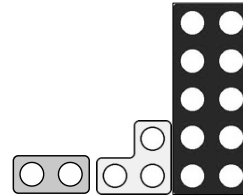
one	two	three	four	five	six	seven	eight	nine	ten
1	2	3	4	5	6	7	8	9	10

- On this number line
- Which number is higher, bigger, is more than any other?
- Which number is lower, smaller, is less than any other?
- Neither the numerals nor the words alone can answer these questions.
- How can we represent this concept visually?

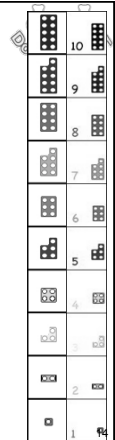
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Complex Language of Maths

- Now can you now tell which number is higher, bigger, can hold more?
- And which number is lower, smaller, holds less?

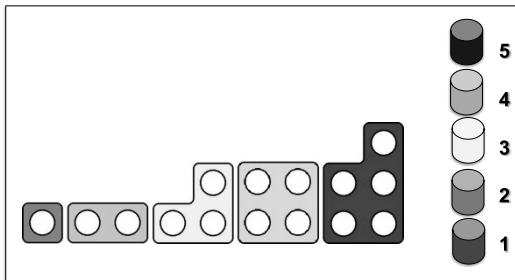


Numicon can teach the concept and language together



Understanding 'first, next, last'

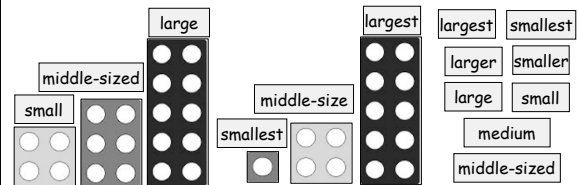
- Count them forwards and backwards.
- Which is first? Which is last?
- Where is 1? Where is 5?



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Language of Comparison

- Which is, small, middle sized, large?
- Now look at the 1, 4 and the 10 shape
- What has happened to 4?
- What concept and language are we teaching here?



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Short-term Auditory Memory

Affects child's ability to:

- Learn new vocabulary – language development

Learning new vocabulary from listening is difficult

HOWEVER

Numicon provides the visual support which overcomes the auditory memory difficulty

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Language of Maths

Teach vocabulary and concepts together

Child may not understand the meaning of a familiar word in the mathematical context

Spatial Relationships:

In, on, under, by, beside, behind, in front of, next to, over, through, inside, outside, out, to, off, above, below, round, up, down, front, back, left, right, forwards, backwards, top, high, low, bottom, middle, first, last, next

Time:

again, now, after, soon, today, before, later, yesterday, early, late, once, tomorrow, twice, quick, slow, first, next, last, days of the week, weeks in a month, months of the year

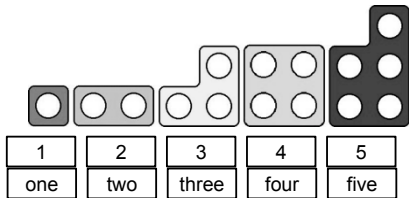
Telling the time: o'clock, half past, quarter past, quarter to, units of measure - seconds, minutes, hours, days, weeks, months, years

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Language Development



- Language signalled on each activity
- Match words and later the numerals to Numicon patterns
- Focus on language alongside action with the Shapes.
- Language is signalled on each activity



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Maths Vocabulary



Practising Maths vocabulary – bigger & smaller numbers

Is the number **higher** or **lower** ?

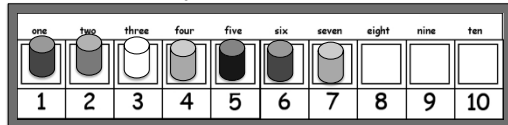
10 is higher than 7	9 is lower than 10
8 is lower than 10	7 is higher than 5
6 is higher than 4	4 is lower than 3
5 is lower than 9	6 is lower than 7
4 is higher than 2	7 is higher than 6
2 is lower than 8	3 is lower than 4

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Activity One to one correspondence Final tag representation - Stable order



Pegs are always laid out from the left
One-to-one correspondence & Stable order.



Without counting tell how many. Final tag
Without counting remove them and make the
Numicon 7 pattern - Number Conservation

Calculate how many – Number Conservation



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Calculating v Counting



Counting experience forms an essential part of children's developing understanding of numbers, but it is by no means the best foundation for their calculating.

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Practising Making the Numicon Patterns



Provide lots of practise making Numicon number patterns with different objects



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Counting collections is important but does not show number relationships



Name _____ Date _____

Colour 6 pictures.
Write 6 in the box.
Write nine on the line.

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