

LANGUAGE RELATED TO EARLY NUMBER CONCEPTS www.widgit.com/parents

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Essential concepts:

- Never assume a child is sure of any word!
- Check everything with objects before you move to abstracts like using numerals.
- Relate everything to something well known already from home life.
- Keep going back over things a slightly different way.
- If possible, make things self-checking: so the answer may be there, but hidden by your finger to be revealed when the child makes a guess etc.
- Listen out, and watch what children are doing: it often becomes evident just what misconceptions they have about numbers and counting words!

Keep it light – make it a game where the child gets lots of points. When they make progress, you can have the point if the child gets it wrong. Children realise this is fairer than you ‘pretending’ to play when you know all the answers!

link a numeral to the number (the five-ness of 5)

If he can't recall the numbers except in rote sequence or he isn't 100% sure that ##### = 5, he needs more practice at labelling groups instantly. Most of us recognise up to at least 7 objects in a group as 7 (after which we tend to see more than one group - you might see 11 buttons as 6 and 5). With maths equipment, or dice patterns, the fixed layout should mean most kids can label the patterns *without counting*. Numicon shapes are brilliant! An abacus is also very useful, especially when each row of ten has five of one colour and five of another.

more

Check out *more* with buttons, liquid etc. It is a very big jump to know that the numeral 9 is more than 7, but number pattern shapes (e.g. dice layouts) help to start with.

more than ...

Focuses on the two things/numbers you are comparing without necessarily mentioning the exact difference.

2 more than ... (etc.)

You have to count or work out the exact difference as a number.

less

Check out knowledge of the word. We have the English confusion that *less* and *fewer* both occur. With numbers we tend to say *4 is less than 6* and *I have less water than you do* but *there are fewer buns here*. (This is very confusing!)

one

Unfortunately we have this word for a number (1), and also to talk about any thing we like: *do you like this one?*

same

Again, we use *same* to mean *identical* and also loosely to mean *equal* ($2+2$ is the same as $3+1$): to a child it doesn't look the same at all but shapes or counting bricks etc. help!

add/plus/with/together/and

Once you have the concept of adding, this is okay but until then people appear to be saying something different every day and it is very muddling.

take away/subtract/minus

Same applies here.

equal(s)

For some reason children often confuse *equal numbers* with *even numbers*. If you can find a balance scale, you can demonstrate what *equals* means. We do not have to have *identical* things on the two sides but they do have to make the *same weight*. Try to transfer this idea to what we are doing in sums. Numicon pieces are just a new version of this – if you put 5 and 3 next to each other, it will equal the 8 piece. Do it with visual things and then write the numbers as a sum. There is an additional complication as workbooks ask you to find the sets *with equal numbers*. This is usually where there are three sets: two matching sets, and one different.

bonds (the different ways numbers can add up)

Play with the shapes/number-rods/blocks and find different ways to make the bigger shape *and write down what you find*. (So take any number above 3 and look for ways of covering it and then write down what has been found: $4+1=5$, $3+2=5$, $2+2+1=5$.)

a bigger or higher number

Do not assume the child realises this means what you do! They are more used to these words being physical descriptions and, unless number concepts are secure, a row of same size numerals leaves them thinking you are asking a daft question!

a smaller number

Same applies.

each (e.g. each child has 2/ every child has 2)

We stupidly use *each* and *every* to mean much the same in some circumstances, but not always!

counting on

It is critical to learn not to start from 1 when adding up! Until you know number bonds, you do have to count on the next number: but you don't have to count the first number. E.g. $4+3$: don't count 1 2 3 4 : keep saying to the child *you've got 4* and if necessary use three counters to do the sum 4 5 6 7.

To master this, practise frequently saying any number to the child and they must instantly give you the next number: 15 **16** 12 **13** 6 **7** etc.

They cannot really count until this skill is secure. It is also very helpful to acquire a dice with numerals and another with spots. Roll your dice and make a sum. For addition, put the numeral on the left, and the spots on the right. You have 5, count on the spots! For subtraction, you will have to arrange the dice rather than throw them or the greater number may not be on the left! Put the spots on the left this time, and the numeral on the right. The child can cover up spots to the value of the numeral and see what's left over.

in order

We learn to count by rote from 1 but need to know what the sequence is wherever we start. So to put numbers in order you can choose *any* little sequence.

from big to small

Again be careful about physical descriptions! Use counting sticks or shapes which make it very clear because they are physically bigger and then *write the numbers to show how it looks without this aid*.

from small to big

Same applies here.

sharing/dividing

Always, always try to find a link to the child's life. Every child knows exactly what mum does when she shares things out. They know about *fair*. It's the abstract writing down with numbers that is the problem. Draw people, or have dolls/sorting toys etc. Talk about sweets, biscuits etc. Make the child demonstrate how you share (*1 for me, 1 for you, 1 for him* and so on).

multiplying/times

Again, link to life. If I live alone I will have 1 pair of wellies by the door. If I live with 1 other person there will be 2 pairs – *how many wellies will be there?* Most children could draw you what it would look like. They could draw how many tyres you would need for one car or two cars – go from there to how we write it down.

evens/odds

Try counting in turn (*I say 1, you say 2 etc.*) to show what is happening, or making a row of pegs of two colours (*blue yellow blue yellow blue ...*). Go and look at numbers on people's houses. Learn to count in 2s by moving two 1p coins at once like a bank teller and saying 2, 4, 6 etc. and then go on to learning about 2p coins and do the same. The abacus is great for this, and counting in 5s and 10s.

every other one

This phrase is extremely confusing because the words don't seem to mean what you think they should!

skip one

Link what you do when you say this to action e.g. use a peg board.

count in 5s and 10s You can use an abacus, or make a string of beads for each. Do the 5th a different colour and make the child say those while you count the others – then you drop out. Transfer the skill to 5p coins. Same for 10s.

-teen & -ty endings

13 up to 19 sound very similar to 30 up to 90. Many children have not actually realised 13 and 30 are different words, nor that all the –teen numerals start with 1 for the 10 and the –ty numerals end in 0 and the first numeral tells you how many tens!

1st, 2nd, 3rd These go with *first/second/third* but the written words and the sound of them do not seem to have any relation to *one/two/three*. After that things get easier... If children are not secure in working left-to-right, then they will continue to make mistakes with instructions. The first thing is always found by working from the left. Left-handers have particular difficulty with this.