

Teaching Abstract Concepts

These are concepts of inclusion/exclusion and quantity. They are particularly important for numeracy but are often used in general instructions. They are difficult to learn because they are so abstract – you can't see a picture in your head of them. These can be practised with easy maths equipment such as coloured bricks or shapes.

Concept:	Example:	Achieved consistently:
and	<i>"give me a red brick and a blue brick"</i> <i>"give me a circle and a square"</i>	
one	<i>"give me one of the green bricks"</i> <i>"give me one of the triangles"</i>	
or	<i>"give me a blue brick or a red brick"</i> <i>"choose a rectangle or circle"</i>	
but not	<i>"give me a brick but not a blue one"</i> <i>"find me a square but not a big one"</i>	
all	<i>"give me all the red bricks"</i> <i>"put all of the circles away"</i>	
some	<i>"give me some of the blue bricks"</i> <i>"give me some of the squares"</i>	
all except	<i>"give me all the bricks except the yellow one"</i> <i>"collect all of the triangles except the little ones"</i>	
either	<i>"give me either of the blue bricks"</i> <i>"find me either of the big circles"</i>	
if	<i>"if I touch a red brick, you give me a blue brick"</i> <i>"if I point to a circle you point to a square"</i>	
unless	<i>"Don't give me a green brick unless I touch a red brick."</i> <i>"Don't give me a triangle unless there are three of them on the table"</i>	
while	<i>"While I pick up the green bricks you pick up the red bricks"</i> <i>"pick up a circle while you are touching a blue triangle"</i>	
when	<i>"When I touch a blue brick, you touch a yellow brick"</i> <i>"Pick up a circle, when I pick up a triangle"</i>	

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- Be explicit about what the terms mean
- Say and demonstrate the instruction before asking the children to do it
- Practise with different equipment to help the child generalise the concept
- Keep the other concepts easy – just a colour or size but not both
- Work on only two concepts at a time and don't introduce any more until the child has consistently grasped them
- To make sure the child really understands, you need to contrast two concepts
- Present the concepts randomly – avoid being predictable

Concept:	How to explain:	Useful to teach with:
and	<i>"When I say "and" it means you need BOTH things"</i>	<i>or</i>
one		<i>all; all except; either</i>
or	<i>"When I say "or" it means you have to choose one – not both"</i>	<i>and</i>
but not		<i>all</i>
all		<i>but not; one; some</i>
some	<i>"When I say "some" it means NOT one and NOT all"</i>	<i>all</i>
all except		<i>one</i>
either	<i>"When I say "either" it means you have to choose one – not both"</i>	<i>and; one</i>
if		<i>when</i>
unless		<i>but not</i>
while	<i>"When I say "while" it means at the same time"</i>	<i>all except</i>
when		<i>if</i>