

## Using words like big and small teaches infants spatial skills

Using words like big, tall and tiny while talking to young children could help them develop skills crucial to understanding of mathematics and science, research shows.



Parents compile a list of activities toddlers should experience before the age of three Photo: ALAMY



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Children below school age who hear their parents using words that describe the size and shape of objects, and who go on to use them in their everyday speech, perform better in spatial awareness tests, according to the study.

The tests analyse skills which are used by physicists and engineers to understand abstract concepts and apply them to processes or objects in the real world.

Prof Susan Levine, who led the study published in the *Developmental Science* journal, said: "Our results suggest that children's talk about space early in development is a significant predictor of their later spatial thinking."

This in turn is an "important predictor" of achievement and careers in the fields of science, engineering, technology and mathematics, she added.

Her team from the University of Chicago studied 52 children between the ages of one and four as they interacted with their parents during nine 90-minute sessions timed at four month intervals.

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Researchers counted the number of words the children used that described size, shape or other spatial features – such as little, triangle or corner -and found that while some children used as few as four, others used up to 191.

They then set the children tasks requiring them to rotate shapes in their head, or select the picture from a range of options which was most similar to a separate image depicting the same spatial relation between objects.

For every 45 additional spatial words they used, children performed 15 per cent better in the shape rotation task and scored 23 per cent higher in the spatial relation test.

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