

Mathematics in Education and Industry

50 years at the forefront of Mathematics Education

Using multilink cubes in the secondary classroom

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This session will look at how multilink cubes can be used to engage students and deepen their understanding of a range of mathematical topics within the secondary curriculum and across the full ability range.




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Take 1 cube to represent the odd number, 1.

Now make models of the next 4 consecutive odd numbers.

What happens when you add together any number of consecutive odd numbers starting with 1?

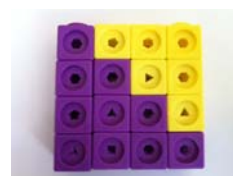
Show this with your models.



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What else can be added together to make a square number?

How can one derive the n^{th} term for the triangle numbers?



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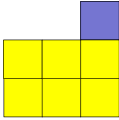
Choose a triangle number.

Multiply it by eight and add one.

What happens?

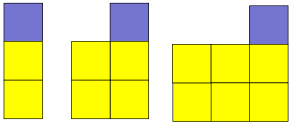
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1 2 3 4



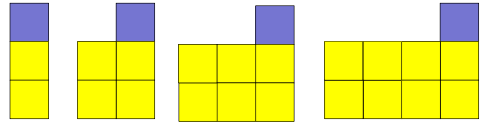
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1 2 3 4



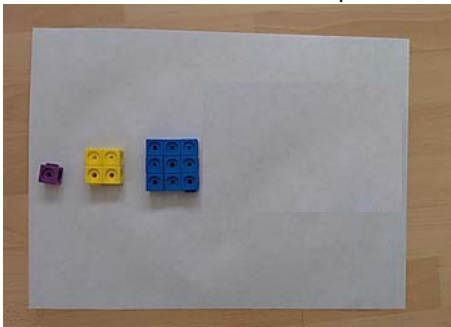
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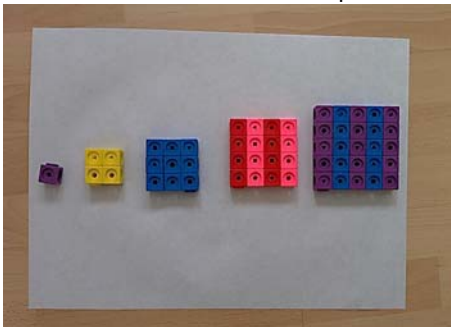
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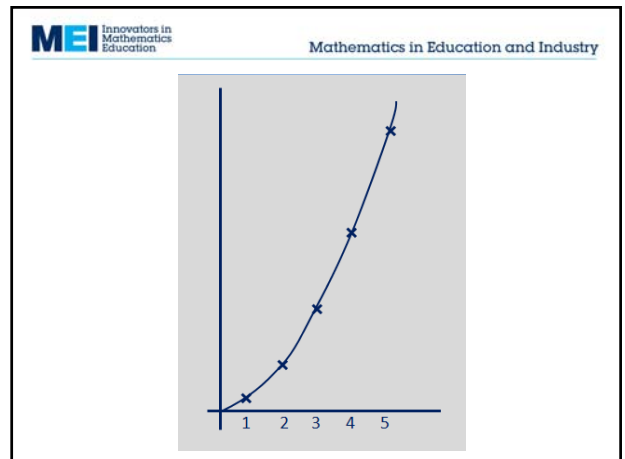
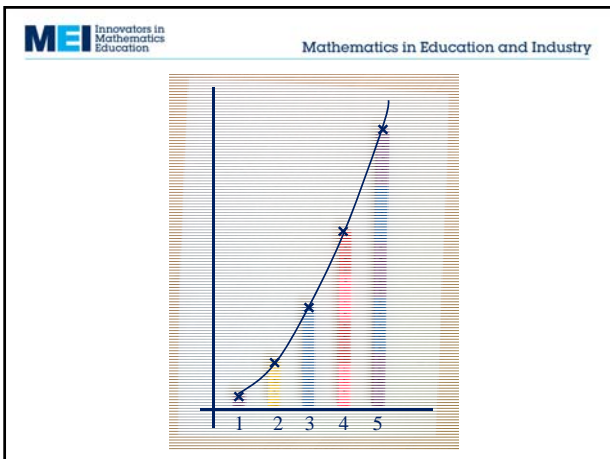
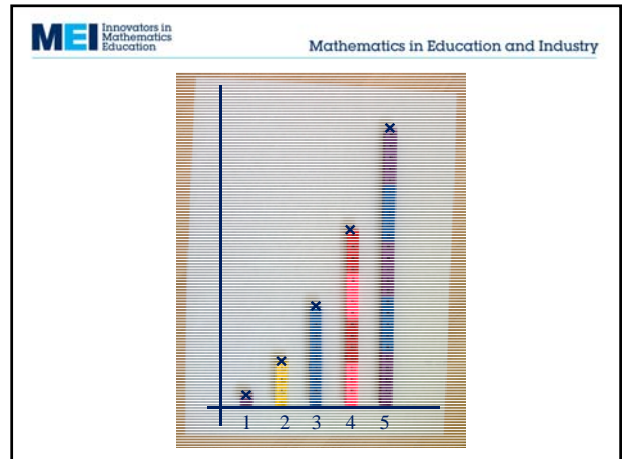
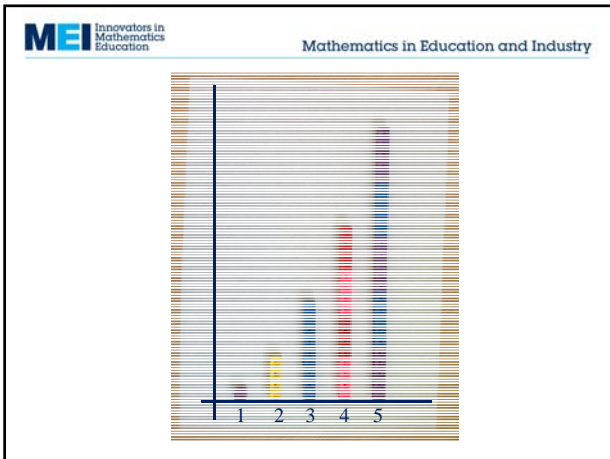
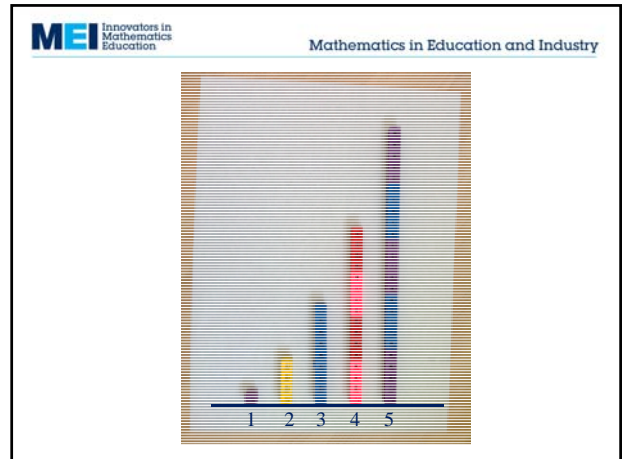
Make the first five terms of the n^2 sequence.



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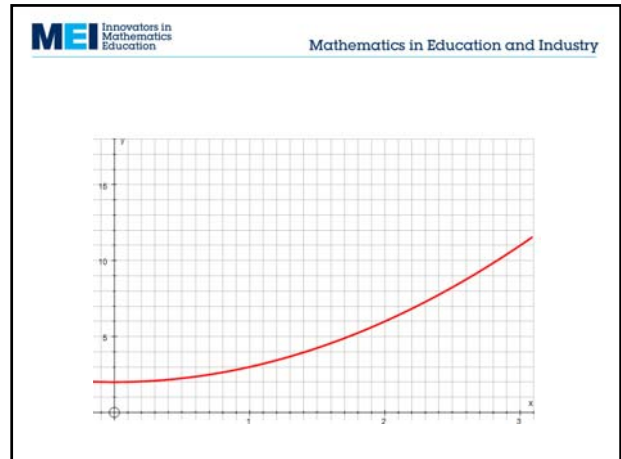
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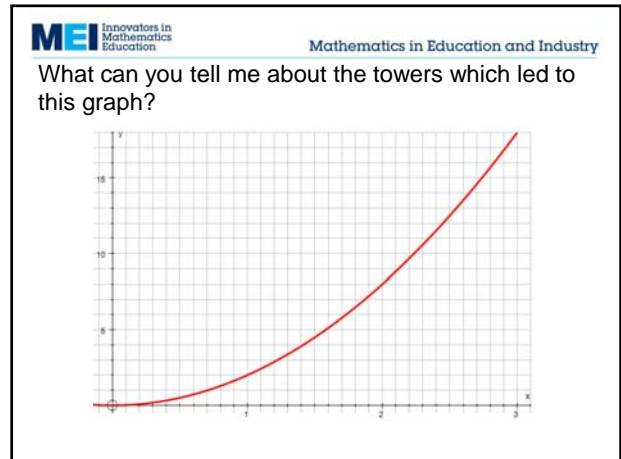


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What can you tell me about the graph these towers create?



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Plans & Elevations

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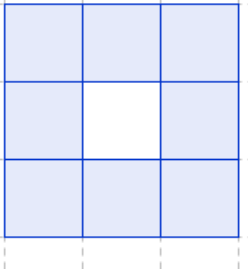


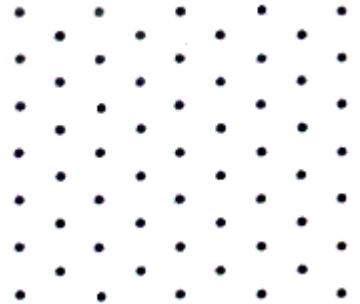


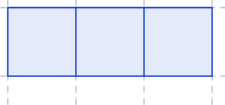
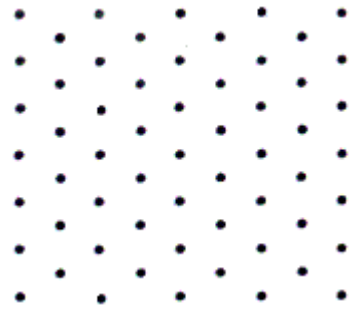

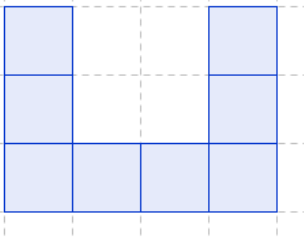
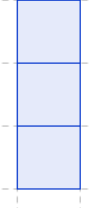
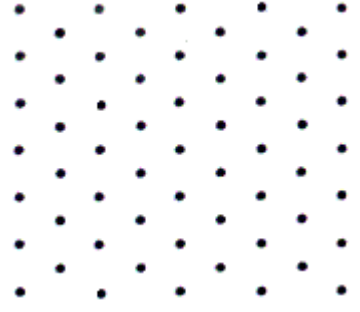
Architect game

Plans & elevations

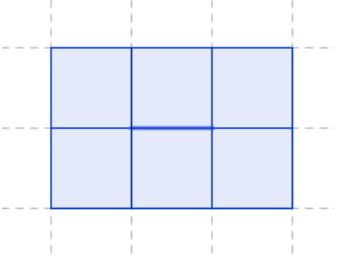
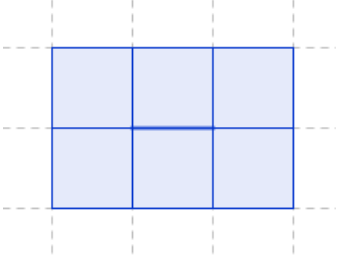
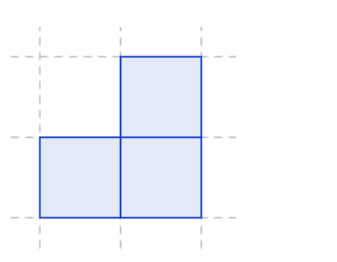
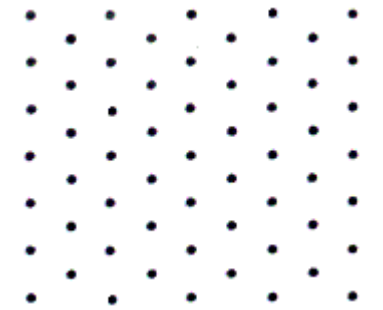
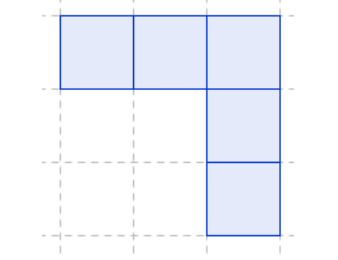
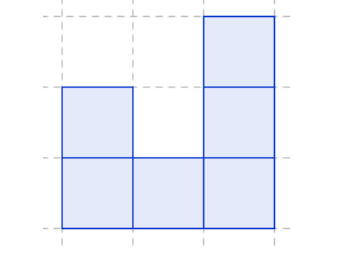
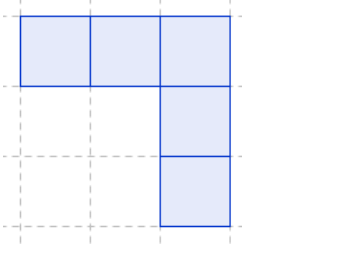
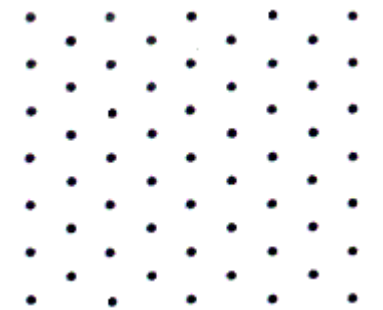
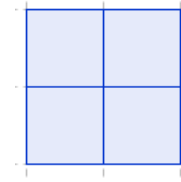
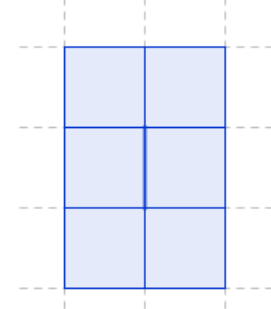
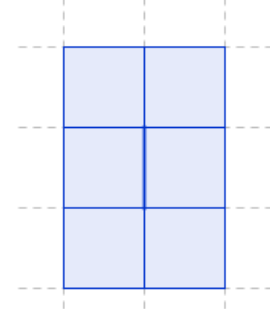
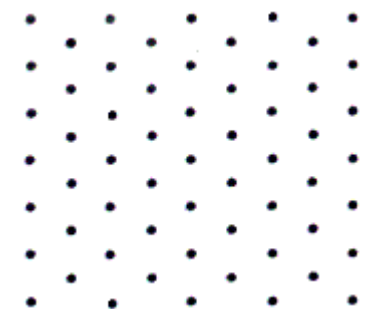
Suggestions for use

Each of the following questions has a solution of 8 cubes. Some of the questions may have more than 1 solution. The problem sheets may be given with or without the isometric paper option for students to draw their solution.

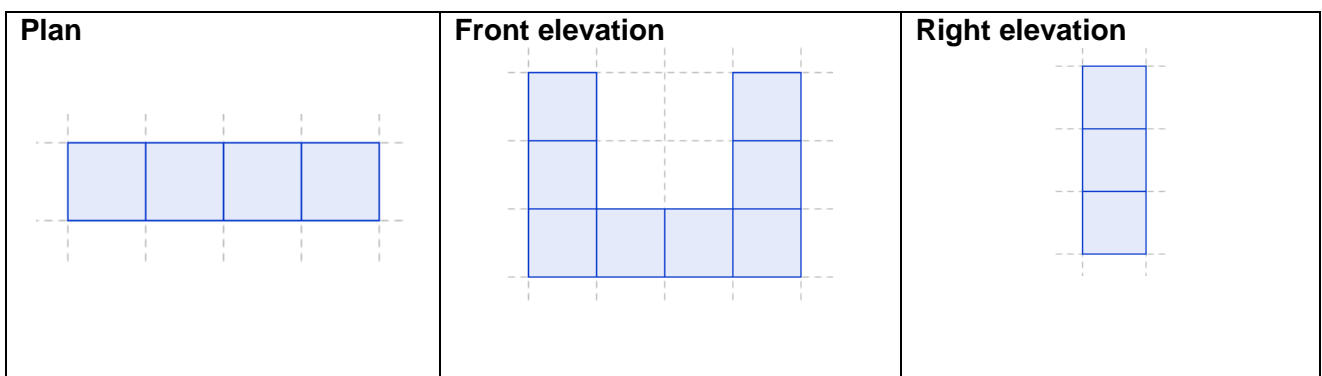
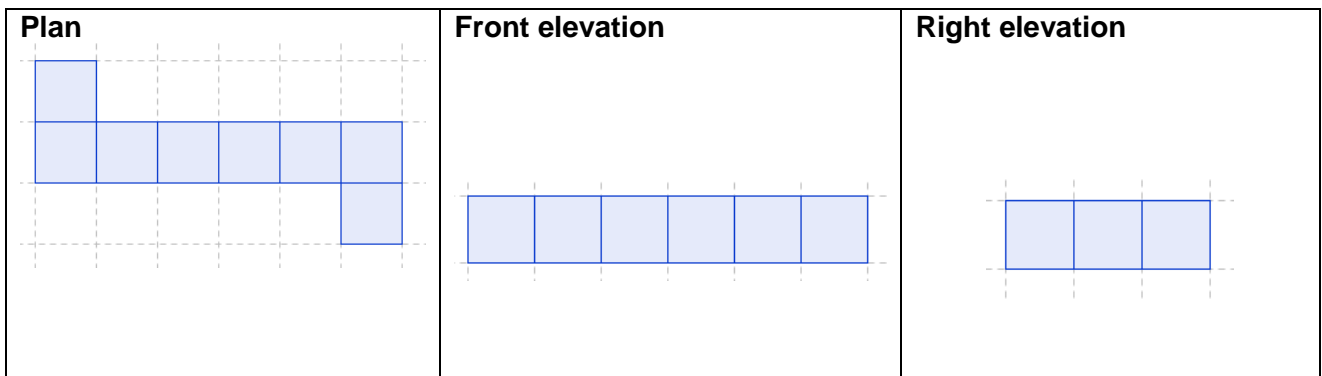
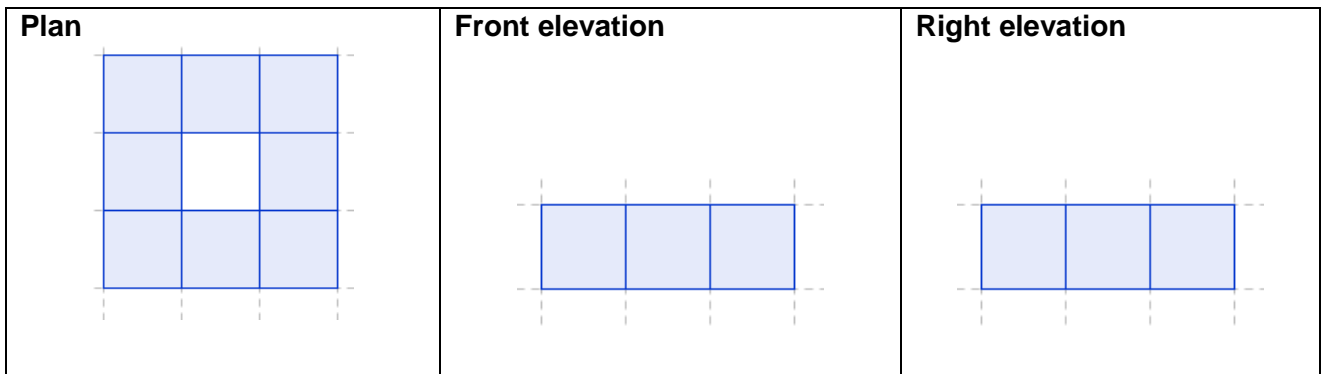
Confidence-building questions

<p>Plan</p> 	<p>Front elevation</p> 	<p>Right elevation</p> 	<p>Solution</p> 
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More challenging questions (8-cube solution)

<p>Plan</p> 	<p>Front elevation</p> 	<p>Right elevation</p> 	<p>Solution</p> 
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