






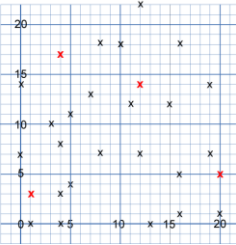
More Able Students at TMWS 2021

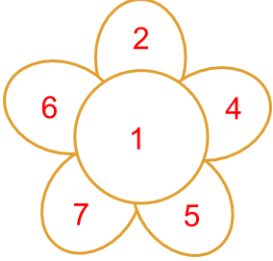
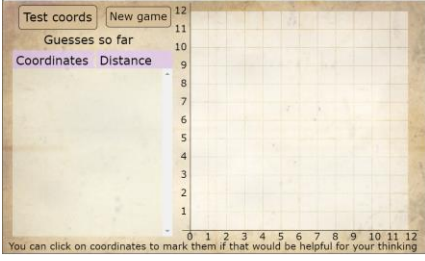
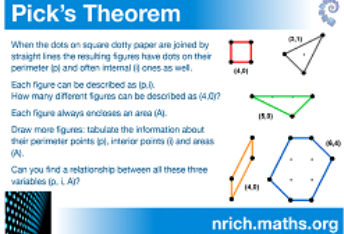
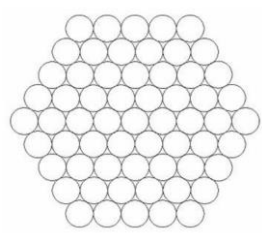
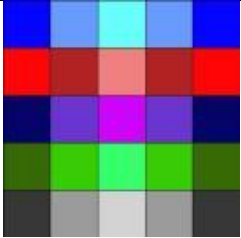

Spring term

Maths	Jan – Feb	Feb – April
YEAR 7		
YEAR 8		
YEAR 9		
YEAR 10		
YEAR 11	 https://nrich.maths.org/epidemic	 https://nrich.maths.org/7322

More Able Students at TMWS 2021

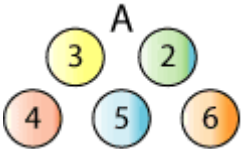


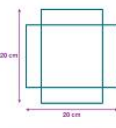
Spring term

Maths	Jan – Feb	Feb – April
YEAR 7	<p>Got It!</p>  <p>This is a game for two players. Start with the target number of 23. The first player chooses a whole number from 1 to 4. Players take turns to add a whole number from 1 to 4 to the running total. The player who hits the target of 23 wins the game. Can you find a winning strategy? Can you always win? What happens if you choose a new target number? What happens if you change the range of numbers you can add? Can you work out a winning strategy for any target and any range of numbers?</p> <p>nrich.maths.org</p> https://nrich.maths.org/397	<p>Consecutive Sums</p>  <p>Some numbers are sums of consecutive numbers. Can you make all the numbers this way? Which numbers can be written in more than one way?</p> <p>$10 = 1 + 2 + 3 + 4$ $11 = 5 + 6$ $9 = 4 + 5$ and $2 + 3 + 4$ $12 = 3 + 4 + 5$ $13 = 6 + 7$ $18 = 2 + 3 + 4 + 5$</p> <p>nrich.maths.org</p> https://nrich.maths.org/7999
YEAR 8	<p>1 Step, 2 Step</p>  <p>Liam's house has a staircase with 12 steps. He can go down the steps one at a time or two at a time. For example, he could go down 1 step, then 1 step, then 2 steps, then 2, 2, 1, 1, 1, 1. In how many different ways can Liam go down the 12 steps, taking 1 or 2 steps at a time?</p> <p>nrich.maths.org</p> https://nrich.maths.org/1step2step	 <p>https://nrich.maths.org/8485</p>

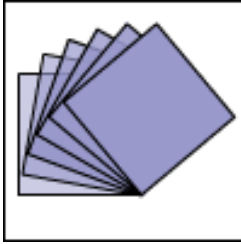
<p>YEAR 9</p>	 <p>https://nrich.maths.org/786</p>	 <p>https://nrich.maths.org/6288</p>
<p>YEAR 10</p>	<p>Pick's Theorem</p> <p>When the dots on square dotty paper are joined by straight lines the resulting figures have dots on their perimeter (p) and often internal (i) ones as well.</p> <p>Each figure can be described as (p, i).</p> <p>How many different figures can be described as $(4, 0)$?</p> <p>Each figure always encloses an area (A).</p> <p>Draw more figures, tabulate the information about their perimeter points (p), interior points (i) and areas (A).</p> <p>Can you find a relationship between all these three variables (p, i, A)?</p>  <p>https://nrich.maths.org/pickstheorem</p>	 <p>https://nrich.maths.org/stealcables</p>
<p>YEAR 11</p>	 <p>https://nrich.maths.org/900</p>	<p>Nine Colours</p> <p>You have 27 small cubes, 3 each of nine colours.</p> <p>Can you use all the small cubes to make a 3 by 3 by 3 cube so that each face of the bigger cube contains one of each colour?</p>  <p>https://nrich.maths.org/ninecolours</p>

More Able Students at TMWS 2021

Summer term

<p>Maths</p>	<p>May-Jun</p>	<p>June- July</p>
<p>YEAR 7</p>	 <p>https://nrich.maths.org/oddsandevens</p>	 <p>https://nrich.maths.org/85</p>
<p>YEAR 8</p>	 <p>https://nrich.maths.org/610</p>	<p>Cuboid Challenge</p> <p>You can make an open box from a 20cm by 20cm piece of card by cutting out four squares and folding the flaps.</p> <p>What's the biggest volume of box you can make in this way?</p>  <p>https://nrich.maths.org/cuboidchallenge</p>

YEAR 9

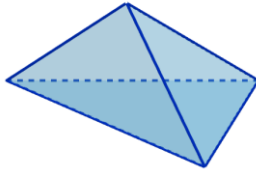


<https://nrich.maths.org/tiltedsquares>



<https://nrich.maths.org/5725>

YEAR 10



<https://nrich.maths.org/272>

Marbles in a Box

Imagine a three dimensional version of noughts and crosses where two players take it in turn to place different coloured marbles in a box.

The box is made from 27 transparent unit cubes arranged in a 3-by-3 array.

The object of the game is to complete as many winning lines of three marbles as possible.

How many different ways can you make a winning line?



nrich.maths.org

<https://nrich.maths.org/marbles>