



1 Step, 2 Step



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?

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Nine Colours



You have 27 small cubes, 3 each of nine colours.

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?

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NRICH encourages students to engage with the challenge of learning mathematics, and to understand that perseverance is part of the process.

NRICH activities require students to:

- be determined, resilient and resourceful
- accept and embrace “being stuck” as a natural part of the problem solving process
- learn from both successes and failures and see setbacks as a necessary springboard to success

NRICH publishes a wide range of tasks which offer all students opportunities to struggle and opportunities to succeed.