

# MathsJam Shout

November 2023  
MathsJam UK Gathering

This month's activities are drawn from talks at this year's **MathsJam Annual UK Gathering**, which takes place in November in a conference centre near Stoke. It brings together recreational maths fans from all over the UK to share interesting maths puzzles and ideas. For more information, visit [mathsjam.com/gathering/uk](https://mathsjam.com/gathering/uk) or watch the video at [bit.ly/UKMJ-trailer](https://bit.ly/UKMJ-trailer) for a flavour of what the event is like.

## Play Fizz Buzz

Luna Kirkby's talk explored the history and origins of the game FizzBuzz.

In turn, players count up from 1. Each multiple of 3 must not be spoken, and instead replaced with the word 'Fizz', and each multiple of 5 replaced with 'Buzz' (with multiples of 15 being 'FizzBuzz'). If you hesitate or mis-speak, pay a forfeit or you're out! Can you make it all the way to 100?

**Variations:** Replace numbers containing the **digit** 3 or 5; replace 7 with "Quack"; add your own rules!

## Investigate Skittles Stats

Clare Wallace's talk questioned the truth of a marketing claim...

The back of each packet of Skittles contains the claim "No two rainbows are the same, neither are two bags of skittles". What would need to be true for this to be the case? If you like, buy some packets of Skittles and investigate.

Standard bag of skittles: ~56; 'Fun size' 16-17  
Colours: red, orange, yellow, green, purple



## Try Change Ringing

Colin Graham told us all about change ringing: ringing all possible orderings of a set of bells, using a mathematical method.

Get hold of some small handbells, or practise saying 'bong' at four different pitches, to ring a Plain Bob Minimus: Can you see how the pattern is made?

More: [bit.ly/method-ringing](https://bit.ly/method-ringing) • [bit.ly/gresham-bells](https://bit.ly/gresham-bells) • [cccbr.org.uk](https://cccbr.org.uk)

1234	1342	1423
2143	3124	4132
2413	3214	4312
4231	2341	3421
4321	2431	3241
3412	4213	2314
3142	4123	2134
1324	1432	1243

## Puzzle Diffy Squares

Follow the instructions at [bit.ly/diffy-squares](https://bit.ly/diffy-squares) and compete to make the biggest diffy square.

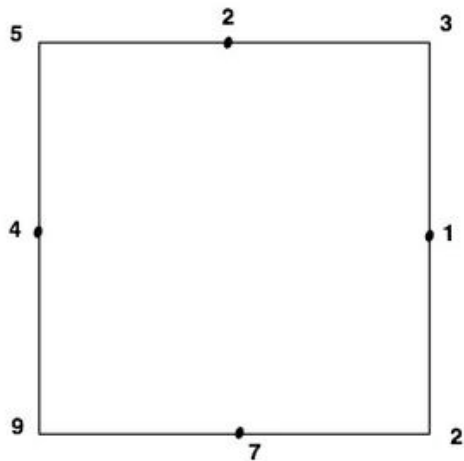
John Hoskinson's talk investigated what happens if you make "Diffy N-gons"...

**MathsJam Shout** is a monthly sheet of ideas for activities to do at a MathsJam night. It's created using suggestions from a different MathsJam each month, and if you'd like to submit suggestions for a month in the future, email [katie@mathsjam.com](mailto:katie@mathsjam.com) for details.

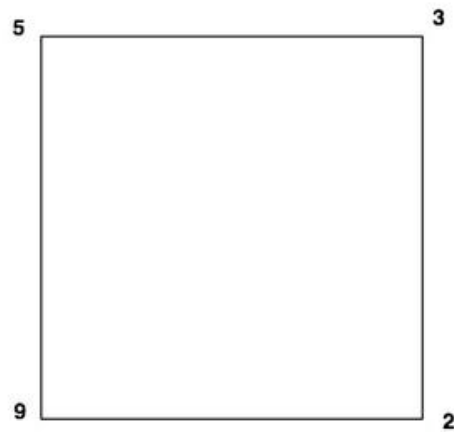
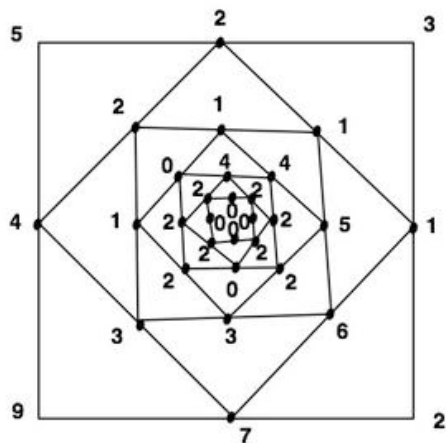
MathsJam is a monthly opportunity for like-minded self-confessed maths enthusiasts to get together in a pub and share stuff they like. Puzzles, games, problems, or just anything they think is cool or interesting. Monthly MathsJam nights happen in over 70 locations around the world, on the second-to-last Tuesday of each month. To find your nearest MathsJam, visit the website at [www.mathsjam.com](https://www.mathsjam.com).

# How Diffy Squares Work

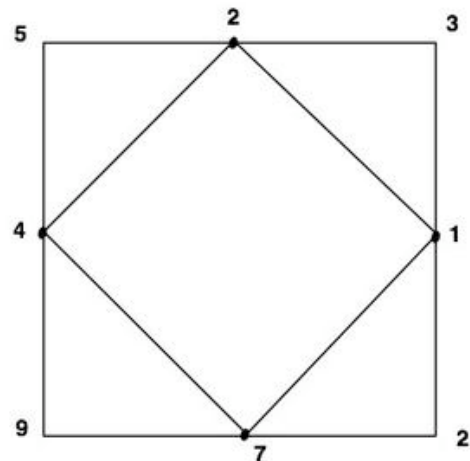
Step 1: Draw a square, and pick a number for each corner.



Step 3: Connect the midpoints. You get a new square!



Step 2: Mark the midpoints, and label them with the positive difference of the two numbers on the nearest corners.



Step 4: Continue until you reach all zeroes.

*What's the longest you can go before your diffy square reaches all zeroes?  
Will they always get to zeroes eventually?*