

# **Sutton Coldfield Grammar School for Girls**



## **A-Level Mathematics Transition Work**

You've made it to the end of the GCSE Maths course.

You deserve an amazing summer break and a brilliant results day.

Now if you are thinking of studying A-Level Maths, you should be commended for your astute decision-making. However, A-level Maths and A-level Further Maths do not have the reputation for being some of the hardest A-Levels for nothing.

What can you do to ensure the best possible start to the course? Well, it's pretty easy really - don't forget everything you studied for GCSE Maths, especially the Algebra. Definitely read through your Algebra notes before September - there is a nice overlap between Grade 7-9 Algebra and the Year 12 course, so if you can keep those skills sharp you should have a good start.

You will still have access to Dr Frost over the summer so maybe work your way through some of the algebra key skills to keep them fresh.

Here are some suggestions for ways to keep your maths skills fresh, without the maths textbooks.

One last thing.....

For the A-level Maths course, you will require a different calculator.

The model use in school is the

Casio fx-991Ex Classwizz

Or Casio fx-991Cw

There is no need to buy this in advance but you will need it by the end of September.



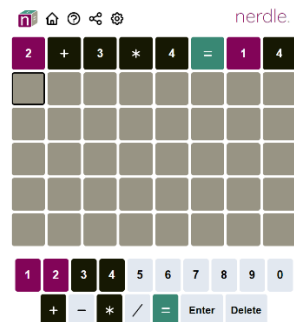
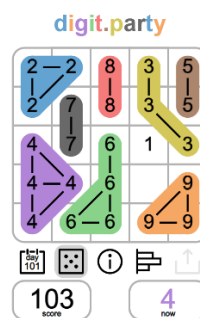
Here are some more suggestions for ways to keep your maths skills sharp, without the maths text books.

### Try the free Sumaze apps

Number and logic problems in a maze-style game. If you have a lot of free time Sumaze 1 can be done in under two days



### Try some online daily challenges



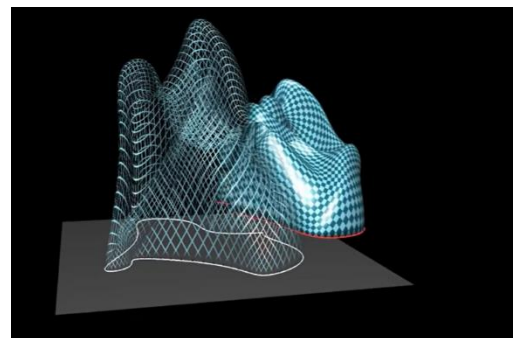
### Investigate YouTube

Look for the Numberphile channel or videos by the 'Festival of the Spoken' nerd team



Unsurprisingly Matt Parker (Stand Up Maths) is involved in both

Or **3blue1brown** for animated maths and interesting problems, you won't always understand it but you will be fascinated



## Watch a film

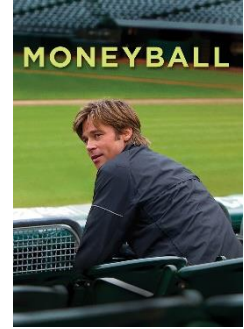
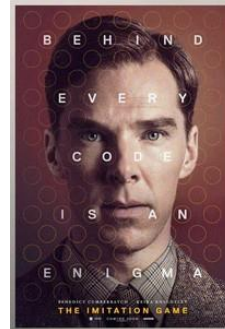
'Hidden Figures' PG

'Moneyball' 12A

'Beautiful Mind' 12

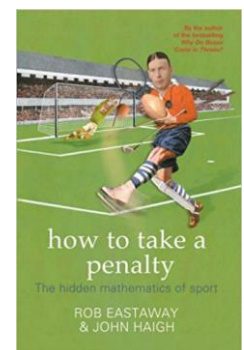
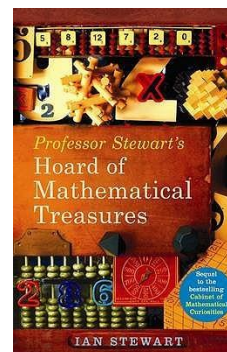
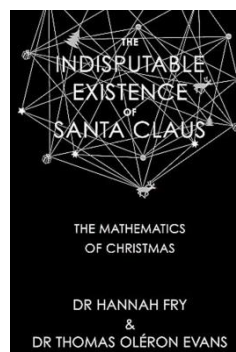
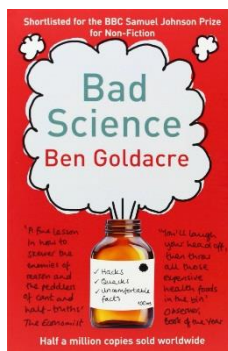
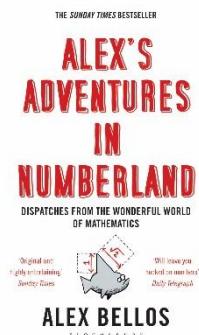
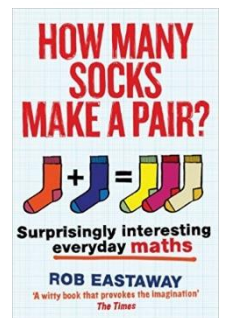
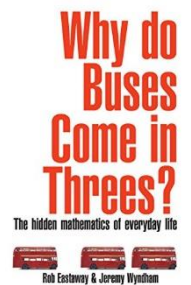
'The Imitation Game' 12

You'll be surprised how many results you get if you Google 'maths films on Netflix', however they aren't all available on the UK service



## Read a book and follow the authors on social media

- 'Why do Busses come in threes' or 'How many socks make a pair' both by Rob Eastaway
- 'Alex's Adventures in Numberland'
- 'Bad Science' by Ben Goldacre
- 'The indisputable existence of Santa Claus: The mathematics of Christmas' by Dr Hannah Fry & Dr Thomas Oleron Evans



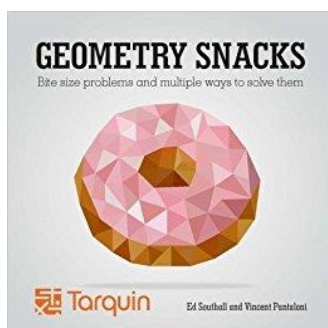


## Go to an event

If you get the opportunity to, go to a popular Maths or Science lecture. You'll be surprised where they pop up - even the famous Hay Literary festival has a maths lecture! Don't worry if you don't understand all of it, you won't be alone, but you'll start to see the links between different areas

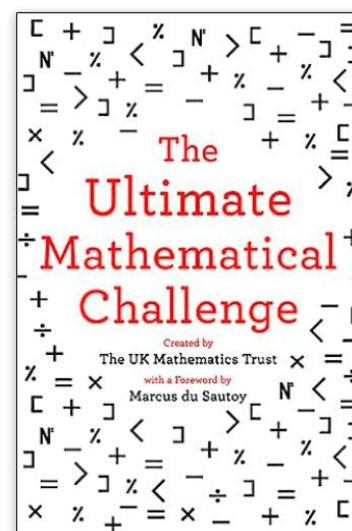
## Puzzles

Invest in some Maths related puzzle books:  
Sudoku, mathdoku, menseki meiro (books are in other languages, but you don't need the instructions, just the pictures), logic problems  
They'll all keep your brain alert



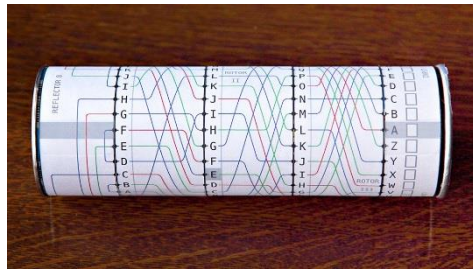
Geometry snacks is another book with fun and interesting geometrical problems if you fancy something a bit different from number puzzles.

If you loved the junior and intermediate maths challenge get ahead in you preparation for the senior maths challenge with the UKMT puzel book



## Eat some tubes of Pringles with friends

- Google Pringles Enigma machine
- Make enigma machines out of the tubes



- Text each other coded messages whilst sunbathing (in the rain)

Above all have a brilliant summer and we will see you in  
September!

The only way  
to **learn**  
**mathematics**  
is to **do**  
**mathematics.**

PAUL HALMOS