

Note: All text underlined in blue are hyperlinks to external resources

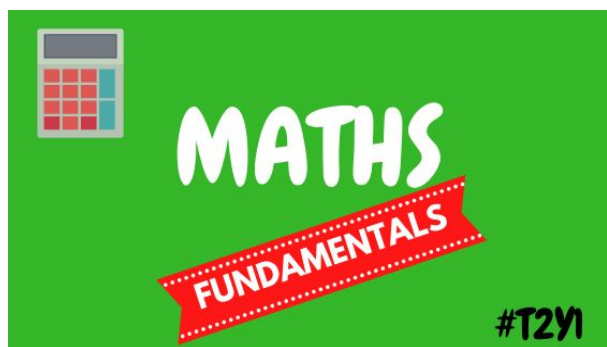
INTRODUCTION TO MATHS IN MEDICINE!

Maths skills come up across the course, mostly in problem solving, drug calculations, data interpretation/graphs and statistics. In assessments, thankfully the maths is *NOTHING like the quantitative reasoning in the UCAT* – you get a proper calculator, have plenty of time and all questions are medical related (rather than general maths questions)!!

In first year, there are some topics covered in A-level Maths which helped to provide a background knowledge in these areas, such as logarithms and statistical tests. However, the standard of maths required is not to A-level standard, so it is not to worry if you have not done A level Maths before!

These resources will pick out some key topics to help to refresh your memory! If you find you are struggling to grasp some concepts, don't worry too much – you are only expected to have a GCSE level of maths and there is maths support available when you start medicine!

PART 1: As these are fundamental maths topics, you are probably fairly confident in most of them already! Most topics were covered in GCSE, with the exception of logarithms and some of the harder unit conversions. For each topic, there are attached links to websites and videos, first of all to run through the topic and some practice questions!



Key topics:

- Ratio
- Fractions, proportions and percentages
- Rounding
- Units
- Conversions
- Logarithms
- Indices and standard fo

Ratios:

- Check out this [website](#) which will talk through different aspects, it has questions with worked examples and worksheets for further practice!

Fractions, proportions and percentages:

- Check out sections 9 & 11 which has brief recap of [fractions and percentages](#) with practice questions in the context of medicine
- Here are some fairly basic questions to practice [proportions](#)

Rounding:

- This tutorial explains [significant figures](#) from a chemistry perspective
- In addition, try out this [quiz](#) to practise significant figures !

Units:

Most unit conversions in medicine are similar to chemistry conversions ($\text{mol/cm}^3 \square \text{mol/l}$ etc.) and during [PCS](#) there is usually a specific tutorial on this.

- This [video](#) has an exhaustive list of the SI units which you use in medicine (although you don't need to know all the units mentioned in the video!). It also explains prefixes like nano, micro – as you are often dealing with very small concentrations it is useful to know these!
- This document has [questions to practice units](#) in the context of drugs (although the last exercise is quite advanced)

Conversions:

- Try out Section 8 as well which runs through [conversions](#) and has some practice questions too
- Try out this [unit conversions test!](#)

Logarithms

If you haven't done A-level maths, you might not have covered logarithms (although they are used in chemistry e.g. in pH calculations).

- Check out this [video](#) just to give you a background understanding of the reason we use logarithms and how they relate to indices (but NOTE: these calculations are rarely used in medicine!) – just use this video to provide you with a background understanding of them
- Here is an alternative explanation as a [written resource](#) rather than video
- You won't need to go into the laws of logs but may need to use formulas that include logs. Try out some of these [questions](#) to get familiar with using logs and the log function in the calculator
- Here is a [further resource](#) - the first section of this document runs through the concept of logs and has several questions to practice from

Indices and standard form

- A nice brief [video](#) running through the concepts of indices
- Here is a recap of [standard form](#) and try these [questions](#) to test your knowledge!