



Y7&8 INFORMATION EVENING

MATHEMATICS

NOTRE DAME HIGH SCHOOL SHEFFIELD

MATHS AT NOTRE DAME



- KEY MESSAGES FOR STUDENTS
- HABITS THAT LEAD TO SUCCESS
- PRACTICAL SUPPORT

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So what are these things?
And what can I do to help?



1. YOU WILL IMPROVE IF YOU PRACTICE



Think about things that you can do that this baby cannot

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We asked students to think about this question in an assembly.
The point was...maths is not something that you either have or you don't.
You learn it with practice



2. BE OPEN TO AND ACT UPON ADVICE



What happens when you go to the doctor?

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The doctor needs some information; there will be questions, tests, scans before they can help

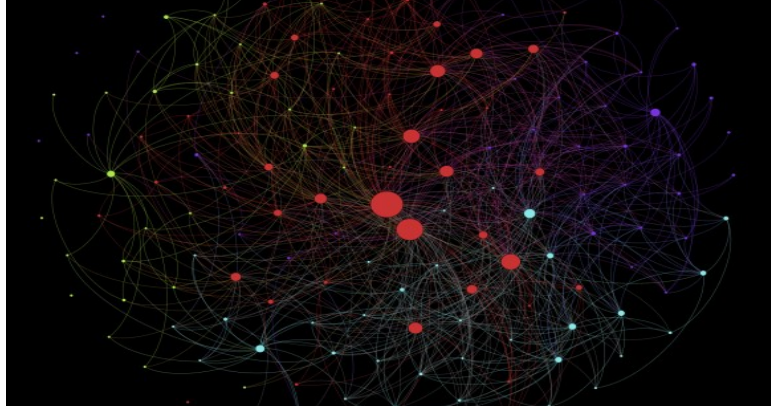
The maths teacher needs information, too.

We use techniques to gather this information, but it's so much easier if students are forthcoming

Particularly when they are unsure about a topic



3. WE NEED TO PRACTICE THINGS THAT YOU HAVE DONE IN PRIMARY



Which are the most important maths skills?

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We asked students to think of some maths topics.

The diagram shows GCSE maths skills, with the dots proportional to the number of topics they are prerequisite for.

Y7 can name all the big ones!

The message: we will be revisiting things that have been done in primary.

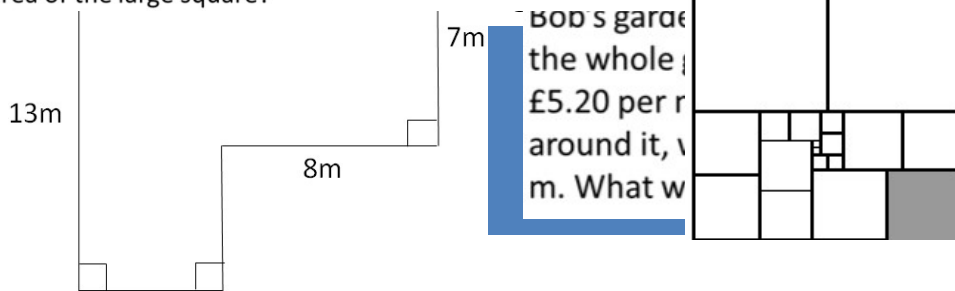
Some students think "I've done area before, so I don't need to concentrate on this"
And then, before they know it, they are left behind.

They need share what they already know, and get ready for when we extend the ideas they started in primary

EXAMPLE



[JMC 2008 Q25] A large square is divided into adjacent pairs of smaller squares with integer sides, as shown in the diagram (which is not drawn to scale). Each size of smaller square occurs only twice. The shaded square has sides of length 10. What is the area of the large square?



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One example is 'area of a rectangle'

We know students do it in primary and yet we spend two weeks on it

But we won't spend two weeks on the first problem, we'll look at more complex questions

Answers are £3561.60 and 1296



4. MATHS IS ABOUT BEING CERTAIN (NOT ANSWERS)

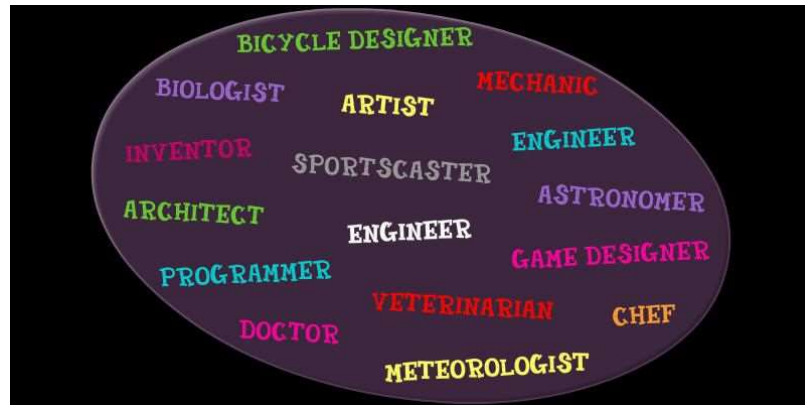


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If some of the blocks lower down are shaky, trying to learn new ideas can be difficult, and can risk upsetting what is already understood



4. MATHS IS ABOUT BEING CERTAIN (NOT ANSWERS)



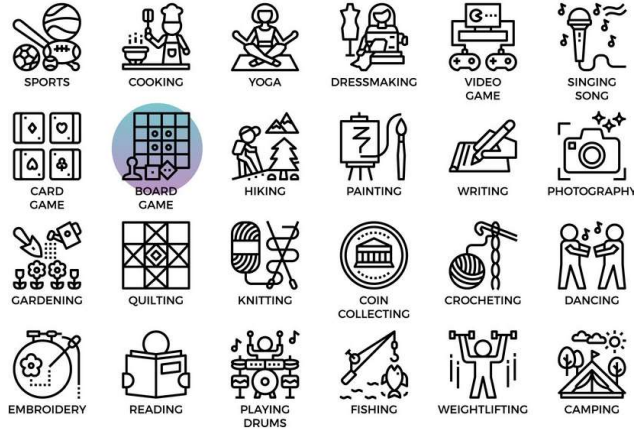
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The individual skills can be useful but probably in very specific situations or careers (science, engineering, etc)
But the ability to make a case with certainty is vital in many more careers, and in managing our lives (in particular, financially)



5. YOU LIKE WHAT YOU'RE GOOD AT

HOBBIES



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The usual thought is that you get interested first, and then you become successful
But there's a growing consensus that it's the other way round. You experience some success, and that fuels your interest
We might see this in hobbies, a child experiences some early success, they feel good at it, and it becomes something they like doing. This then leads to more success.



1. YOU WILL IMPROVE IF YOU PRACTICE

2. BE OPEN TO AND ACT UPON ADVICE

3. WE NEED TO PRACTICE THINGS THAT YOU
HAVE DONE IN PRIMARY

4. MATHS IS ABOUT BEING CERTAIN
(NOT ANSWERS)

5. YOU LIKE WHAT YOU'RE GOOD AT

MATHS AT NOTRE DAME



- KEY MESSAGES FOR STUDENTS
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HABITS FOR LEARNING MATHS



- MATHS IS LEARNED THROUGH EXAMPLES. STUDENTS NEED TO BE THINKING ABOUT HOW THEY WOULD DEAL WITH EVERY EXAMPLE, NOT JUST WHEN THEY ARE ASKED
- IMITATE THE WORKING SHOWN BY THE TEACHER. SOME STUDENTS CAN DO EASY QUESTIONS WITHOUT WORKING, AND THEN GET STUCK ON MORE CHALLENGING QUESTIONS
- PRACTICE WRITING CLEAR SOLUTIONS. AS THE MATHS GETS HARDER, THOSE WHO RELY ON MENTAL METHODS START TO STRUGGLE.

HABITS FOR LEARNING MATHS



- RESILIENCE IS SOMETHING WE HAVE TO LEARN, AND BUILD UP SLOWLY.
- WE MOSTLY MODEL THE THINKING THAT STUDENTS NEED TO USE.
- BUT SOMETIMES, WE NEED TO LET THEM THINK FOR A MINUTE OR TWO BEFORE GIVING GUIDANCE

Jon has 78p

Nat has £3.52

Nat gives Jon some money so that they both have the same amount.

How much does Nat give Jon?

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REVISION FOR TESTS



- STUDENTS WILL DO A TEST EVERY HALF TERM.
- THEY WILL BE PROVIDED WITH A PRACTICE TEST TO HELP THEM PREPARE
- IT IS HELPFUL FOR THEM TO TRY THE QUESTIONS ON THEIR OWN BEFORE LOOKING AT THE ANSWER

EXTRA PRACTICE



- WE WILL USUALLY SET HOMEWORK ON THE WEBSITE DRFROSTMATHS.COM
- STUDENTS CAN ALSO PRACTICE HERE INDEPENDENTLY – A 30 MINUTE WEEKLY PRACTICE AT HOME WOULD HAVE CONSIDERABLE BENEFITS
- YOU WILL HAVE GOT AN EMAIL FROM SCHOOL WITH LOG IN DETAILS – I'D LIKE TO SHOW YOU A COUPLE OF THINGS NOW AND GIVE YOU CHANCE TO TRY.

FAQ - SETTING



- WE TRY TO GROUP STUDENTS SO THAT THEY ARE WITH OTHERS WHO NEED TO WORK ON SIMILAR NUMBER SKILLS
- SETTING IS NOT ABOUT RANKING STUDENTS
- THE SET DOES NOT DETERMINE THE GRADE. IT'S HARD WORK THAT COUNTS.

FAQ - SETTING



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QUESTIONS



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