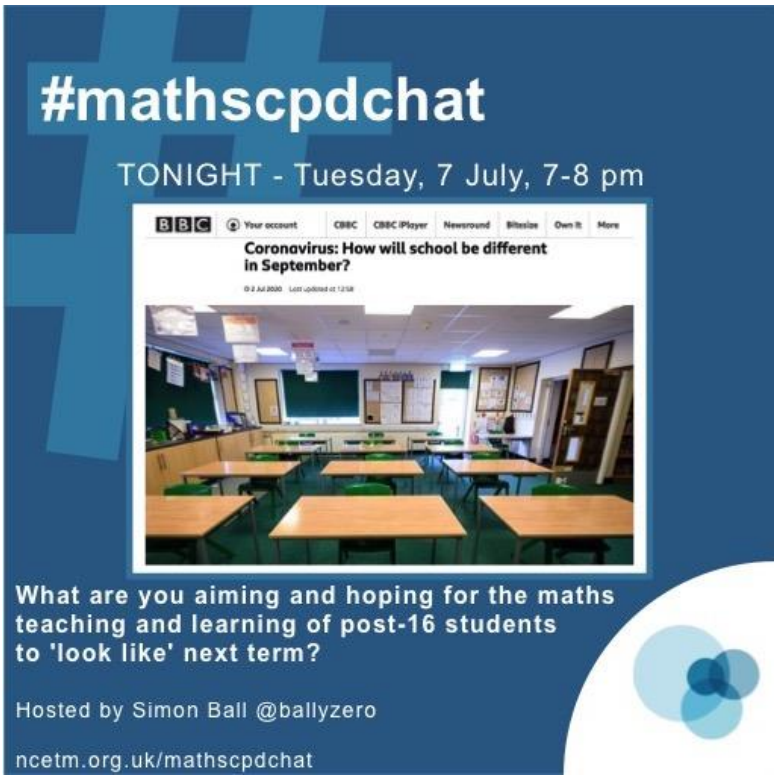
#mathscpdchat 7 July 2020

What are you aiming and hoping for the maths teaching and learning of post-16 students to 'look like' next term?

Hosted by Simon Ball

This is a brief summary of the discussion – to see all the tweets, follow the hashtag ***#mathscpdchat*** *in Twitter*



Some of the areas where discussion focused were:

issues that are becoming important for teachers of post-16 students as they make plans for next term:

- whether next term every student will have access to the **quantity of quality contact time with their teacher in school** that will enable them to acquire the learning of

which they are capable … not yet knowing how much of each student's learning next term will result from **time spent in school** and how much of it will still depend on **remote-teaching accessed from home** … ways of keeping students motivated when they are working partly at home and partly in school;

- the **most effective ways of 'transmitting' in-school class teaching to students at home** … for example, some teachers are considering using Class Onenote on the classroom digital/interactive board in order to teach, at the same time, both those students who are in the classroom and those who are trying to do the same work at home;
- **determining in September 'what went in' to students' minds while they were supposed to be learning at home** in lockdown conditions, or, as key workers' children, in school (one teacher has found that 'key worker' Y11 students have not been as focused during their in-school lessons as Y11 students usually are) … building banks of **assessment tasks and resources to use in September** … how to cope-with/advise present Y12 students who were intending to move into Y13 Further Maths groups in September but who now show very little understanding of the Y12 maths that they were supposed to have done at home;
- the **need to re-plan next term's A level teaching** … for example using parts of *DrFrostMaths* material, but expanding the explanations and supplementing the material with past exam questions;
- that next **term's Year 12 students are unlikely to have developed adequate independent-learning skills** … partly because these (present Y11) students will not have had the usual experience of preparing to take GCSE exams … this skill-lack will need to be addressed next term;
- teachers are concerned that in the autumn term they may have **larger than normal groups of students doing GCSE resit** … it will be particularly important for students to make the very best use of both contact (with their teacher) and non-contact learning time;
- the possibility that, because they have not taken GCSE exams this term, **present Y11 students who would not normally have been accepted onto A level courses will nevertheless be accepted this year** … some schools may feel 'pressured' (by taking into account difficulties that some Y11 students have had to endure during lockdown) to **allow students with estimated GCSE maths grades as low as 4 onto A level maths courses** … gaining a grade 5 in GCSE Maths normally indicates that the student has a good understanding of only about half of the higher-tier content … some teachers would normally prefer that only students who have achieved at least grade 6 in GCSE maths are accepted onto A level Maths

courses … that therefore **the ability/attainment ranges within next year's A level classes may be greater than usual** … some students starting on A level courses in September may have done no maths at all for six months … teachers will be challenged to cope well with A level classes containing students of very mixed past mathematical experience and attainment … **the availability of good post-16 'alternative to A level' maths courses will be even more important this September**;

- during the autumn term more Y12 students than usual may be advised, or decide, to move from an A level course to working towards AS exams instead, or onto a **Core Maths** course … it may be that this year, owing to the unusual circumstances, **Core Maths will be the most appropriate maths course** for more than ever before of the Y12 students who want/need to study maths beyond GCSE … teachers are looking forward to teaching **Core Maths in Year 12** from this September onwards;
- during the autumn term some Y12 students may be **starting on an A level course while at the same time revising to take GCSE exams**;
- because next term's Y12 students have never taken 'proper' exams, some of them may be unusually likely to suffer from **exam anxiety** … teachers will be ready to support them;
- teachers are **adjusting Year 12 A level programmes of learning** to make room for **'consolidation'** of some fluency skills that students normally acquire during Key Stage 4 … teachers anticipate that this kind of adjustment will need to be continued throughout the 2020/21 school year … some teachers have decided to abandon their plan to fit mechanics and statistics in between Y12 pure maths and Y13 pure maths, and try instead to **get through all the A level pure maths before focusing on mechanics and statistics**;
- some teachers have been 'amazed at the **resilience, determination and hard work of the vast majority of students since lockdown**' … most of next term's post-16 students 'want to be back at school again and they want to do well';

strategies and resources that teachers believe will support the maths learning of post-16 students next term:

- arranging now for present **Y13 students to support Y12 students**, and for **Y12 students to support Y11 students**;
- planning for **each student to have their own individual mini-whiteboard** so that they are easily able to show other people their ideas and reasoning in response to questions and challenges;

- **working with students and their parents** … to build students' resilience and realistic expectations … encouraging students to 'take responsibility for their learning';
- regular testing and **continual assessment for learning**;

whether/how teachers intend to think and act differently in their teaching next term:

- some teachers intend to **move the focus of Y13 students' attention away from selection of procedures and accurate calculation** towards learning how to **communicate mathematical reasoning** using conventional mathematical notation;
- making better/more use of **cameras** … taking **photos** of (handwritten) **ways of presenting chains of reasoning**, for example in problem-solutions and in proofs … **students sharing photos of their work** with each other and with their teacher … **teachers sharing their 'examples'** with students;
- drawing on banks of (YouTube) **videos that teachers made** during lockdown;
- teachers are hoping to teach lessons next term in classrooms in the school building … expecting that they will be **'delivering from the front of the classroom'** (rather than circulating round the classroom to interact with individual students at a 'close-up' distance);

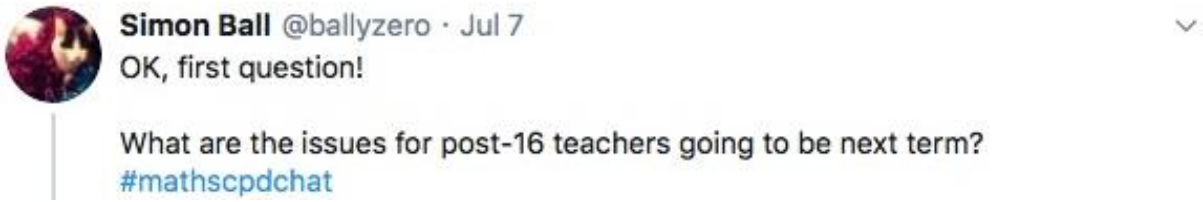
how teachers will try to support Year 13 students in particular:

- by giving them **masses of reassurance** … keeping in mind that Year 13 students will **have missed opportunities** that are normally offered during Year 12, such as visits to universities … making Y13 students' experiences 'as close to normality as possible' because **'these students are craving some normality'**;
- by **helping Y13 students hold onto high expectations for their futures** … providing the structure for their learning that was missing during lockdown … supporting those Y13 students who reveal that they have gaps in their knowledge by offering extra support sessions during lunch breaks and after school;
- some teachers will soon be sending home to next term's Y13 students a **'Summer Homework'** … they will follow it up with 'some sort of assessment as soon as we get back' … the **'Summer Homework'** will address mathematics that was supposed to have been 'covered' during lockdown … students responses to the **'Summer Homework'** will potentially 'help us to see topics that need corrective teaching'.

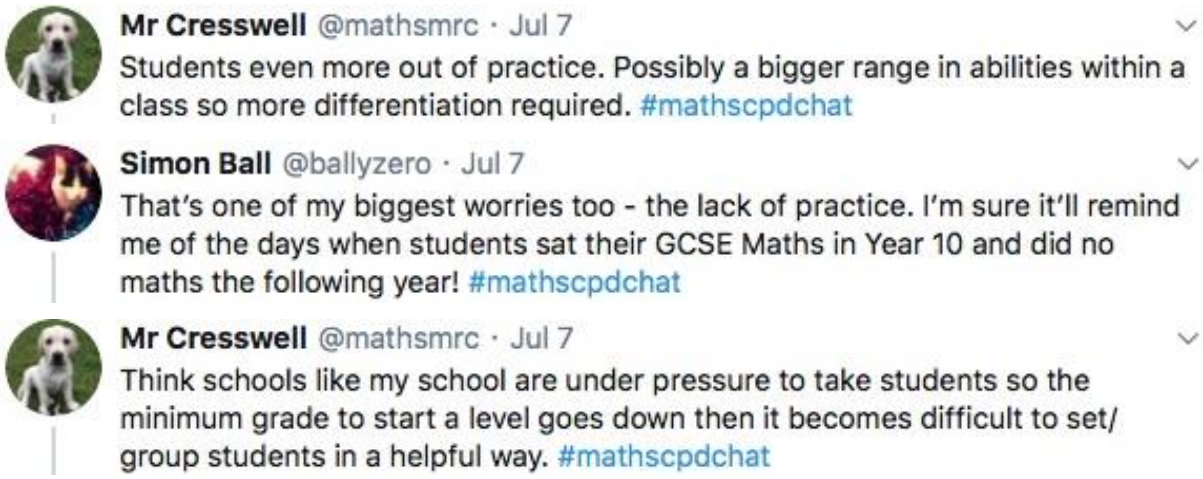
In what follows, click on any screenshot-of-a-tweet to go to that actual tweet on Twitter.

This is a part of a conversation about supporting Y12 students next term who were intending to start an A level Maths course in September, but who, after receiving their GCSE grades,

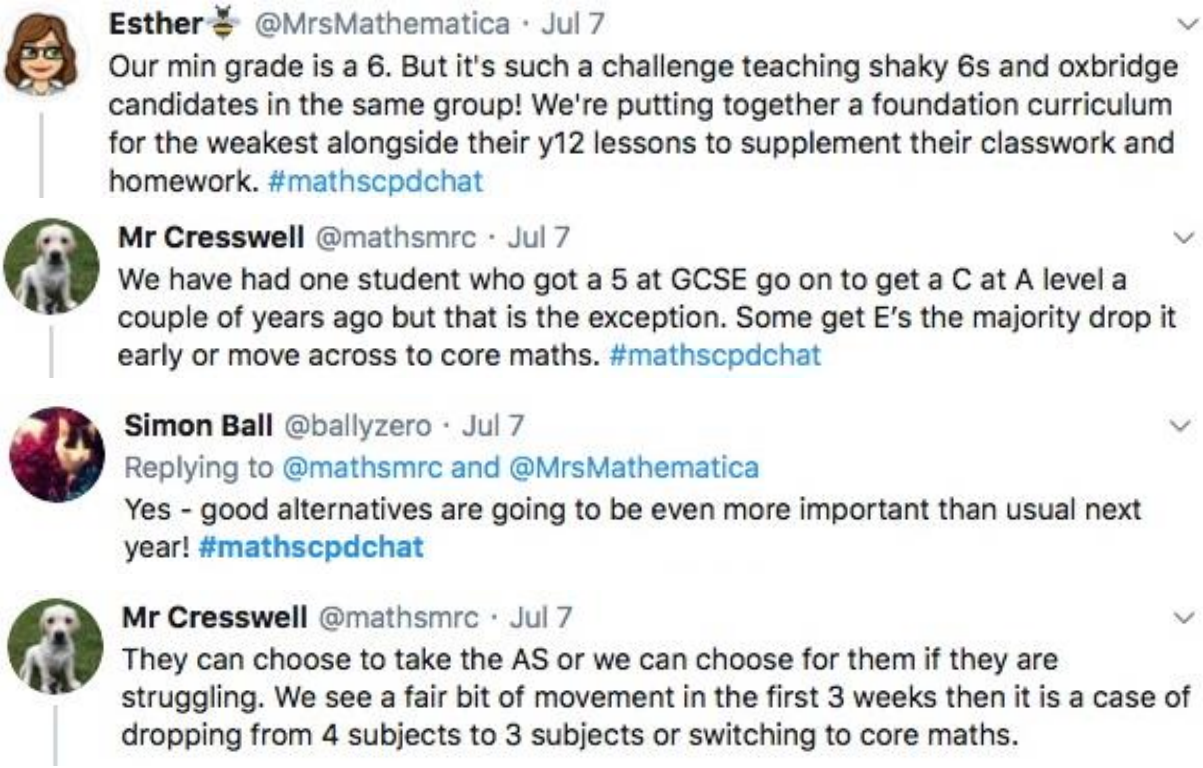
are considering working instead for a good alternative post-16 maths qualification such as Core Maths. The conversation was generated by this tweet from Simon Ball:



and included these from Mr Cresswell and Simon Ball:



these from Esther Stevens, Mr Cresswell and Simon Ball:



and these from Mary Pardoe, Alex J-Williams, Catherine van Saarloos and Sarah Allott:

Mary Pardoe @PardoeMary · Jul 7

Will there be more students this year, I wonder, for whom Core Maths is the most appropriate post-16 maths course?

If so, there is a great deal of excellent support at MEI/ASMP ...

e.g. here ... amsp.org.uk/news/free-reso...

#mathscpdchat

Alex J-Williams @Trudgeteacher · Jul 7

Only if colleges are offering it?

Mary Pardoe @PardoeMary · Jul 7

...and @CoreMathsCat has assembled many, many, very lovely resources for Core Maths here ...

padlet.com/catherine_vans...

Catherine van Saarloos @CoreMathsCat · Jul 7

Replying to @PardoeMary @ballyzero and @sarah_allott_17

We also have a course for current Y11 students (who may do Core Maths) on Integral: 2017.integralmaths.org/management/sel...
Will be useful for students who do #geography #psychology too if your school/college doesn't yet offer CM #mathscpdchat

Sarah Allott @sarah_allott_17 · Jul 7

We do! We started offering it this year 👍 loving hearing about it and can't wait to get the chance to teach it.

(to read the discussion-sequence generated by any tweet look at the replies to that tweet)

Among the links shared were:

Transition resources for Year 11 students which are mathematics resources from IntegralMaths created to support transition from GCSE to further study. The *Core Maths Skills* course will help students to consolidate GCSE Mathematics techniques in contexts that support effective transition to A level or other Level 3 courses with mathematical content. The *Transition to A level Mathematics* course prepares students to work on A level Maths with confidence. It was shared by Catherine van Saarloos

DrFrostMaths which provides a free online learning platform, teaching resources, videos and a bank of exam questions. It was shared by Esther Stevens

OneNote Class Notebook in your Microsoft Teams Class which is a blog describing how you can use OneNote Class Notebook. Each page can be any size and can become like a classroom whiteboard. Students can access and collaborate on anything in the collaboration space. It was shared by Sam Green

Advanced Mathematics Support Programme which is a government-funded initiative, managed by MEI, which aims to increase participation in, and improve the teaching of, Core Maths, AS/A level Mathematics and Further Mathematics. It was shared by Mary Pardoe

Free resources for Core Maths which is a new collection of free resources from the Advanced Mathematics Support Programme (AMSP) that are tailored to specific Core Maths qualifications. It was shared by Mary Pardoe

IntegralMaths which is a website providing comprehensive, high-quality support for AS/A level Maths and Further Maths. It includes thousands of teaching and learning resources, and tools for tracking the progress of students. It was shared by Mary Pardoe