

#mathsCPDchat 12 July 2022

How can a maths department best be supported by senior management in a secondary school?

Hosted by [Catherine Edwards](#)

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



The graphic features a dark teal background with a large, stylized green hashtag symbol on the left. The text '#mathscpdchat' is written in white, bold font across the top. To the right, a yellow box contains the word 'Today', and below it, the date and time 'Tuesday, 12 July, 7-8pm' are displayed. A central photograph shows a group of five people in a meeting, with a woman in a light blue shirt speaking and gesturing. Below the photo, the discussion topic is repeated in white text. At the bottom left, the host's name and Twitter handle are listed, along with the event's website. The NCETM logo is positioned in the bottom right corner.

#mathscpdchat Today
Tuesday, 12 July, 7-8pm

How can a maths department best be supported by senior management in a secondary school?

Hosted by Catherine Edwards @Edwards08C
ncetm.org.uk/mathscpdchat

The links shared during this discussion were:

[Core Maths supporting other subjects](#) which is guidance from the AMSP. It focuses on how studying Core Maths improves students' confidence with the mathematical content of other Level 3 courses that they may be taking. The support available to maths departments on setting up Core Maths provision and developing relevant pedagogy and subject knowledge includes live online PD, 'on-demand' PD, a series of videos paired with classroom resources, leaflets, postcards and posters. It was shared by [Cat van Saarloos](#)

[Mathematics in Education and Industry \(MEI\)](#) is a charity committed to improving lives through advances in maths education. These aims are achieved in many ways, that include the provision of high-quality professional development and resources for teachers. It was shared by [Mary Pardoe](#)

A full illustrated summary of the discussions in this #mathsCPDchat follows.

The (linked-to-Twitter) screenshots below show the four conversations generated by the host's first question. Teachers expressed the appreciation that they feel when senior managers support the kinds of professional development provision that the teachers themselves believe will be most helpful. They also appreciate being listened to and trusted, even when they wish to try out more unusual ideas. In the following part of the summary only, you can **click on any screenshot-of-a-tweet to go to that actual tweet on Twitter**. The next four conversations, represented by screenshots-linked-to-Twitter, were in response to this question from [Catherine Edwards](#)



Catherine Edwards @Edwards08C · 16h

Welcome to tonight's [#mathsCPDchat](#) where we talk about how the senior team can support the maths team in secondary school.

Starting with a positive...What's the best thing senior leadership have done for a maths team you worked in?

In this discussion, between [Alice Ward-Gow](#), [Catherine Edwards](#) and [Mary Pardoe](#), tweets and Twitter discussions were mentioned, some of which are regarded as contributing to teachers' CPD ...



Miss Ward-Gow @mcwardgow · 16h

Replying to @Edwards08C

Supported the courses/CPD that we would like to do which enables us to develop in our chosen area 😊 [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

any particular course/CPD we should all be going on? [#mathsCPDchat](#)



Miss Ward-Gow @mcwardgow · 16h

Twitter 😊 I think it depends on what colleagues individual needs are and what the team needs [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

I can definitely endorse twitter, it's free - the best kind of initiative to support!

Do you have a formal mechanism to request CPD, or is it AdHoc?

So SLT find courses for you?

[#mathsCPDchat](#)



Miss Ward-Gow @mcwardgow · 16h

Most of the time when someone says "where did you get that from" the answer is usually Twitter 😊 we get emailed with CPD opportunities within the Trust, or can find them ourselves and check whether we can do them

[#mathsCPDchat](#)



Mary Pardoe @PardoeMary · 16h

MEI mei.org.uk run lots of great courses!

[#mathscpdchat](#)



We're working to achieve our aims through:



Curriculum development

Ensuring that the maths that's studied and examined is useful for further study, work, and life.



Improving the quality of maths teaching and learning

Providing excellent professional development and resources for teachers, and working with them to raise students' confidence and inspire interest and enjoyment in learning and using maths.



Advocacy

Influencing the maths education environment and supporting and encouraging students to progress in maths education.


(link provided above)

... and in this conversation, between [Joanne Green](#), [Catherine Edwards](#) and [Mary Pardoe](#), thinking about senior managers trusting decisions and ideas of maths teachers prompted comments about maths-art lessons ...

 **Joanne Green** @MsJoanneGreen · 16h ...
They were friendly resulting in me being able to ask them anything and tell them anything.


 **Catherine Edwards** @Edwards08C · 16h ...
[#mathscpdchat](#)
That's great to hear, that culture of trust is super important

 **Mary Pardoe** @PardoeMary · 16h ...
Replying to @Edwards08C
Yes ... the best head and deputy I had as a HOD in one school trusted me to the extent that they timetabled me in some maths-art lessons! Exhibition of pupils' creations in local library ... drew people to the school ... and lots more support followed as a result!
[#mathsCPDchat](#)

 **Catherine Edwards** @Edwards08C · 16h ...
Replying to @PardoeMary
oooh, I love the sound of that. In addition to standard lessons or within?
[#mathsCPDchat](#)

 **Mary Pardoe** @PardoeMary · 16h ...
In addition!
Those were pre-NC days! (When I was VERY young!)
[#mathscpdchat](#)

 **Catherine Edwards** @Edwards08C · 16h ...
maybe we can all do dome maths art in the extended school days that are in the pipeline [#mathsCPDchat](#)

 **Mary Pardoe** @PardoeMary · 16h ...
Maybe! It certainly gave confidence to some less-confident pupils. And enabled me to develop a classroom atmosphere of 'all contributions valued ... not looking for "right-answer-only"' that spread over into maths lessons.
[#mathscpdchat](#)

... but a less unusual idea was aired in this chat between [Mr Hawes](#) and [Catherine Edwards](#):

 **MrHawesMaths** @HawesMaths · 16h ...
Replying to @Edwards08C
I have now been allocated meeting times with department that are protected. Cannot wait to have some rich sessions. [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

Do you have a plan / curriculum for these or are you playing it by ear as things come up?

[#mathsCPDchat](#)



MrHawesMaths @HawesMaths · 16h

I have brought in a whole load of cpd books for the department so I am intending on running a book club style meeting where we can discuss ideas and how we might implement them in our teaching practice.

[#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

looks like an excellent selection.

We did Rosenshine as a department a few years back, it led to some fantastic discussions

The fourth conversation in response to Catherine's first question, between [Peter Williams](#) and [Catherine Edwards](#), was also about faculty meetings:



Peter Williams @MathsImpact · 16h

...

Replying to @Edwards08C

Given us 25 hours of faculty meeting time during the next calendar year, and let me use them how I see fit.

Nothing beats time together as a team, and the freedom to work on subject specific stuff in all of that time is brilliant.

[#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

...

Big question for this time next year - will it be honoured, or will it be overtaken by Admin? how much is that up to you as HoD ?

[#mathsCPDchat](#)



Peter Williams @MathsImpact · 16h

...

It's on the calendar, so we will definitely have that time.

As for admin, that's down to me. If I'm organised and we have good systems in place, we won't need meeting time for admin (at least not much, there will always be some needed at certain points).

[#mathscpdchat](#)

There was a later tweet, from [Emma Brown](#), about the conversations generated by the host's first question (those shown above), and the discussions prompted by Catherine's other questions (those shown below without links):



Emma Brown @EmmaJBrown_84 · 13h

...

Lots of valuable points in response to the series of questions. Aimed at secondary, but also relevant to primary.



Catherine Edwards @Edwards08C · Jul 12

Welcome to tonight's [#mathsCPDchat](#) where we talk about how the senior team can support the maths team in secondary school.

Starting with a positive...What's the best thing senior leadership have done for a maths team you worked in?

Catherine's second question ...



Catherine Edwards @Edwards08C · 16h

...

Qu2.

What's the one thing you wish all senior leaders understood about teaching maths? [#mathsCPDchat](#)

... prompted more replies and discussions than any other question. It generated this long conversation ... which featured discussion about deciding how to group students (whether to place them in sets according to 'recorded/observed' prior attainment or to teach students in mixed-attainment classes) ...



Mr Allan @mrallanmaths · 16h

...

Replying to @Edwards08C

That it's a hierarchical subject (in terms of knowledge required) and so mixed ability and mixed level classes are probably not good ideas. (Mixed can work, as some people manage to show, but it's not as efficient as teaching the right maths at just the right time). [#mathsCPDchat](#)



The Most Excellent Dame Claire of Muirton @clairesaintee · 16h

...

Replying to @mrallanmaths and @Edwards08C

This. Every. Day. Of. The. Week.



Shonibach @shonibach · 12h

...

Replying to @mrallanmaths and @Edwards08C

Hope so. Night from Ireland



Friday at 5 @markhiggins20 · 14h

...

Replying to @mrallanmaths and @Edwards08C

Maybe schools should consider what structure is best for meeting the needs of their young people? Is it the same for every school?

Personally, my priority is to ensure that all young people in my charge feel valued and get the opportunity to grow and develop in their learning.



Mr Allan @mrallanmaths · 14h

...

It's probably not the same for every year group, or class.

I like that priority. It's right up there for me too.



Friday at 5 @markhiggins20 · 14h

...

Maybe you are right but to practically manage a departmental timetable then some decisions have to be made which might involve compromises.

I'm lucky, in my school, each year group comes in a single block which gives me freedom to make better decisions about class organisation.



Mr Allan  @mrallanmaths · 14h

...

Absolutely. The issue is, as with many things, that we are dealing with mass education. It's not possible to meet every single need/requirement. So we do the best we can. Often this involves arranging students into groups in some way or another. Timetables get too much say.



Catherine Edwards @Edwards08C · 16h

...

I'm really interested in mixed ability teaching, but I think the time and training investment would be huge.

I currently teach in a comparatively small school and although we set the range within a set can be broad. I wonder what I could learn from mixed ability. [#mathsCPDchat](#)



CanDoMaths @MathsCanDo · 16h

...

Ability is not fixed [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

...

Better to say mixed prior attainment, but that takes a lot more characters! [#mathsCPDchat](#)



CanDoMaths @MathsCanDo · 16h

...

... but has a very significant impact on teacher and pupil mindsets / beliefs [#mathscpdchat](#)



Beyond Good - The Teaching Podcast @BeyondGoodPod · 14h

...

Replying to [@Edwards08C](#) and [@mrallanmaths](#)

Thanks for opening the discussion on this.



Mr Hawes Maths @HawesMaths · 16h

...

Replying to [@Edwards08C](#) and [@mrallanmaths](#)

It is definitely a personal thing but it definitely requires investment in time, managing the curriculum and training staff to deliver it effectively. [#mathscpdchat](#)



Mr Allan  @mrallanmaths · 16h

...

Replying to [@Edwards08C](#) and [@MathsCanDo](#)

Prior attainment is not fixed [#mathsCPDchat](#)

In all seriousness, whether teaching mixed classes or closely homogenised classes, it's important to consider the prior attainment of all students.



Catherine Edwards @Edwards08C · 16h

...

Agree, I talk about students being in classes where they can get the best support to achieve their absolute best.

And that, that is the purpose of the setting.

[#mathsCPDchat](#)

... and Q2 also prompted this discussion, about senior managers providing maths teachers with 'guidance' on how students should be present 'written answers' ...



Peter Williams @MathsImpact · 17h

...

Replying to [@Edwards08C](#)

That we rarely spend time answering questions in full sentences, so absolutely anything targeted at improving long form answers will probably be a waste of time in maths.

[#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

...

But also...it would be nice to know how other departments teach their written answers.

I recently got told off for suggesting a PEE chain to Y9, apparently we don't do that anymore ! [#mathscpdchat](#)



Joanne Green @MsJoanneGreen · 18h

...

[@MathsImpact](#) [#mathscpdchat](#) [@Edwards08C](#) I disagree. I include formula always, follow the formula, and often write it in a word sentence so formula following becomes a habit. It's easier to say why you're not following it then if you need to divert as an argument.



Peter Williams @MathsImpact · 17h

...

Replying to [@MsJoanneGreen](#) and [@Edwards08C](#)

That's a very different thing from drafting an essay though.

I've seen plenty of while school policies on things like redrafting which would be useless in maths in their current format, and many which are barely transferrable at all.

... and these comments ...



MrHawesMaths @HawesMaths · 16h

...

Replying to [@Edwards08C](#)

The fact that it is a 'difficulty' based subject not 'quality' meaning there are far greater fluctuations in scores and attainment due to the nature of the exam papers. [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

...

this used to be easier when all the topics were against Grade criteria and you could point at the level.

Although it did lead to some daft feedback policies.

[#mathsCPDchat](#)

... and this conversation (generated by a comment from a primary teacher) in which teachers discussed implications of ways in which the inter-dependence of ideas in mathematics is unlike that in other subjects:



Lisa 🌱 @Elsie2110 · 17h

...

Replying to @Edwards08C

Great question! How far teachers have to 'go back' when a difficulty point arises. How many small prior knowledge steps need to be filled in before the concept can be covered. [#MathsCPDChat](#)



Catherine Edwards @Edwards08C · 17h

...

Is maths peculiar in this, or could we team up with other departments?

I agree that the really linear nature of Maths subject knowledge is hard to explain sometimes. [#mathsCPDchat](#)



Lisa 🌱 @Elsie2110 · 16h

...

Replying to @Edwards08C

I think in primary it isn't quite like anything else in terms of potentially having to go back so many steps to unpick the area of challenge. [#MathsCPDChat](#)



Catherine Edwards @Edwards08C · 16h

...

Interesting to hear that from a primary perspective as you will be teaching subjects to the same group so it is much more of a like for like comparison.

[#mathsCPDchat](#)



Dr Anna @Dr_anna_maths · 16h

...

You can't teach converting mm to km to pupils who don't have the secure building block of multiplying and dividing by powers of 10. So we constantly have to revisit before we can teach the 'new' content [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

...

and the understanding that going back and revisiting/reteaching "easy" topics is not only okay, but essential.

[#mathscpdchat](#)



Dr Anna @Dr_anna_maths · 16h

...

MfL always seem to share a lot of common ground with maths in this respect. Lots of small steps needed and checking and building upon previous knowledge [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

...

I think MFL and Maths have the most in common of the school subjects.

I wonder what we could learn from our MFL departments?

[#mathsCPDchat](#)

There were the following two two-way exchanges about what maths teachers wish senior leaders understood: this ...



Marcus Wong @MarcusWongEdu1 · 16h

...

Replying to @Edwards08C

I think that the greatest lessons in maths do not immediately reveal themselves through the plan or the resources or the PowerPoint but through the interactions, responses and thoughts of learners. What a pupil records is often half (or less) of the story.



Catherine Edwards @Edwards08C · 16h

...

I hope the days of judging entirely on the content of exercise books is long past, but unfortunately I'm sure it continues in some places

... and this:



susan condy @CondySusan · 16h

...

Replying to @Edwards08C

Missing a small number of maths lessons or even one period each week creates a significant gap in learning



Catherine Edwards @Edwards08C · 16h



...

attendance is so key!

Also careful timetabling, a double period Monday morning with lower set Y11 was one of the worst impacted I've ever had..

[#mathscpdchat](#)

This conversation was generated by a comment from a teacher who mostly works with students who have special educational needs:

-  **NESL & Nurture** @MrsC_Nurture · 16h ...
Replying to @Edwards08C
That you cannot make progress without the basics being understood. Basic Numeracy is vital before they can flourish.
-  **Catherine Edwards** @Edwards08C · 16h ...
how could SLT support this in a secondary environment? #mathscpdchat
-  **NESL & Nurture** @MrsC_Nurture · 16h ...
Stop worrying about target grades. Progression should be seen from where kids started at, not what a computer says they should be getting. Celebrate the little wins as much as the grade 9s.
-  **Catherine Edwards** @Edwards08C · 16h ...
playing devils advocate....
don't target grades reflect where children have started....
#mathsCPDchat
-  **NESL & Nurture** @MrsC_Nurture · 16h ...
Not in my experience in that they very rarely take into account SEND, ACES and the child as a whole. I primarily teach send/nurture and there is no way I can get them to make progress if they don't feel safe and comfortable. Building their confidence is key.

The following ten tweets are all 'single' replies to Catherine's second question (which is shown again here as a reminder), rather than parts of conversations; that is, they do not form a conversation or a discussion ... although they might generate some discussion between readers of this summary!

-  **Catherine Edwards** @Edwards08C · 16h ...
Qu2.
What's the one thing you wish all senior leaders understood about teaching maths? #mathsCPDchat
-  **loz-strike needed-no Tories ever** @lozhbd · 3h ...
Replying to @Edwards08C
importance of talking!



SteveLoMMXXII @MaxTheMaths · 18h

...

If we are serious about challenging depth of understanding then we need to move beyond giving students simple then more complex closed problems that just require students to find the answer.

[#TheAnswersOnlyTheBeginning](#) [#mathscpdchat](#)



Dr. Elizabeth Carruthers @Elizabe81000320 · 3h

...

Replying to [@Edwards08C](#)

That children love challenges and can make and solve their own mathematical problems in non-standard ways. Young children engage in mathematics through imaginary play. Head teachers need to support teachers freedom to observe children's own mathematics where children lead.



Mr R @northerntangent · 15h

...

Replying to [@Edwards08C](#)

That the pedagogy is often very different to that of other subjects and that's why so much generic CPD feels like a waste of time for Maths depts.



NILAM PATEL @nilampatel86 · 16h

...

Replying to [@Edwards08C](#)

that you don't have to 'cover' the whole curriculum to sit the exam and be successful



CanDoMaths @MathsCanDo · 16h

...

Replying to [@Edwards08C](#)

Being 'good' at Maths > being top of the x tables leaderboard

[#mathscpdchat](#) [#mathschat](#)



iwishilikedmaths @wishilikedmaths · 3h

...

Replying to [@Edwards08C](#)

That manipulatives are needed when learning new concepts regardless of the age of the learner.



Little Miss Maths @littlemaths · 12h

...

Replying to [@Edwards08C](#)

That if pupils miss a lesson they can't just "catch up" - it has to be taught to them.



Belgian Bob Cavanagh @RSG_Bob · 4h

...

Replying to [@Edwards08C](#)

Independent study time. Whereas students can spend time outside of class writing essays, students cannot practice Maths in the same way.



Danielle Beacall @DBeacallISEN · 37m ...

Replying to @Edwards08C

Repetition is key! Allow for variation & fluency before moving on to the next concept. We have mastery question cards for those that believe they have grasped a concept, often they find it difficult to explain their thinking, therefore needing experiences rather than rote learning.

A reply to Question 2 from [W E Cookson](#) generated the following comments and discussions ...



Catherine Edwards @Edwards08C · 16h ...

Qu2.

What's the one thing you wish all senior leaders understood about teaching maths? [#mathsCPDchat](#)



W E Cookson @WECmathventures · 17h ...

Recognise that for some pupils, maths is a grudge subject. It's more difficult than say FoodTech and Art to get full engagement.



Mary Pardoe @PardoeMary · 17h ...

Replying to @WECmathventures and @Edwards08C

The big question is 'Why has it become a 'grudge' subject for those (hopefully few) pupils?' Do SLT and maths teachers discuss this together ... and work on their conclusions? [#mathscpdchat](#)



MrHawesMaths @HawesMaths · 17h ...

I am looking at a big cross curriculum push on this to appreciate that maths in its raw form can be pretty much found everywhere, that applications of maths happen subconsciously outside of a maths lesson and that's okay. It can be a functional/beautiful part of life [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 17h ...

ooh, how are you going to do this? I'd love to see it slotting into peoples planning as naturally as literacy [#mathsCPDchat](#)



MrHawesMaths @HawesMaths · 17h ...

I ran a mini cpd on it last term and will have small working group next term to see where maths fits in and what approaches we can use to create consistent methods. Initially I want recognition of maths and the part it plays in other subjects. Then we look a deeper level stuff.



Catherine Edwards @Edwards08C · 17h ...

You'll have to talk to [@Arithmatics](#) about her cross curricular campaign against the formula triangle! [#mathsCPDchat](#)



Dr Anna @Dr_anna_maths · 17h

...

Ooh, I also launched a campaign against the formula triangle with our science dept. No fight needed, especially now the maths content of science is more demanding. We have been working to align the way we teach solving eqns and rearranging [#mathscpdchat](#)



Cat van Saarloos @CoreMathsCat · 17h

...

You might like to share our courses on maths in A level [#Biology](#) [#geography](#) and [#psychology](#) with other departments: amsp.org.uk/teachers/core-... (scroll down a wee bit on this page) [#mathscpdchat](#)

... back to the 'grudge subject' comment:



W E Cookson @WECmathventures · 17h

...

Recognise that for some pupils, maths is a grudge subject. It's more difficult than say FoodTech and Art to get full engagement.



Catherine Edwards @Edwards08C · 17h

...

Replying to [@WECmathventures](#)

Although of course all subjects are compulsory until KS4, in most schools. So does that statement hold true for Y8 art?



W E Cookson @WECmathventures · 19h

...

I found Art to be a great way to engage disaffected Yr8s in Maths. Draw a Beastly Butterfly (symmetry), polygonasaurus (shape).

In response to Q2, field trips were also mentioned:



Catherine Edwards @Edwards08C · 17h

...

[#mathsCPDchat](#)



Joanne Green @MsJoanneGreen · 17h

That field trips are needed, so cover is needed for the other classes whilst that occurs, a budget is needed for the trips, and support from Senior Leadership to attend the field trips to show their support to the maths department. twitter.com/Edwards08C/sta...



Catherine Edwards @Edwards08C · 17h

...

Replying to [@MsJoanneGreen](#)

what field trips would you like to run? [#mathsCPDchat](#)



MrHawesMaths @HawesMaths · 17h

...

Bletchley park is on my list. I am hoping to get to do a horse racing one at Goodwood 🍷 #mathscpdchat

Catherine's third question ...



Catherine Edwards @Edwards08C · 17h

...

Qu3.

How could senior leadership best support pedagogical development in your maths team? #mathscpdchat

... prompted just two single replies, both of which expressed much the same view:



Mr R @northerntangent · 15h

...

Replying to @Edwards08C

Protect department CPD time. Don't ask for anything to be done in that time. If you have whole school tasks, use whole school meeting/CPD time, not my dept time. It's one of my biggest frustrations. It devalues dept CPD and we can't work towards improvement without time.



Peter Williams @MathsImpact · 16h

...

Replying to @Edwards08C

Put in place subject specific CPD.

Generic training is unhelpful at the best of times, but if you're talking about pedagogy in particular, it's completely different in maths a lot of the time.

Collaboration with other schools maths departments can support this.

#mathscpdchat

There was just one reply to Catherine's fourth question ...



Catherine Edwards @Edwards08C · 18h

...

Qu4 Wider school perspective now.

Thinking about continuing COVID catch up and interventions.

What would be the most useful interventions senior leadership could implement/coordinate to support the maths team in filling gaps?

#mathscpdchat

...



Peter Williams @MathsImpact · 17h

...

Replying to @Edwards08C

Make sure students have access to devices, and get them involved in computer aided interventions.

They are far more scalable than 1-1 tuition models, and it's easier to connect the dots with the class teacher if they have access to the intervention directly.

[#mathscpdchat](#)

... and no replies (YET!) to her last question:



Catherine Edwards @Edwards08C · 18h

...

Qu5.

What maths skill/knowledge do you wish you could teach senior leadership (past or present)

[#mathsCPDchat](#)