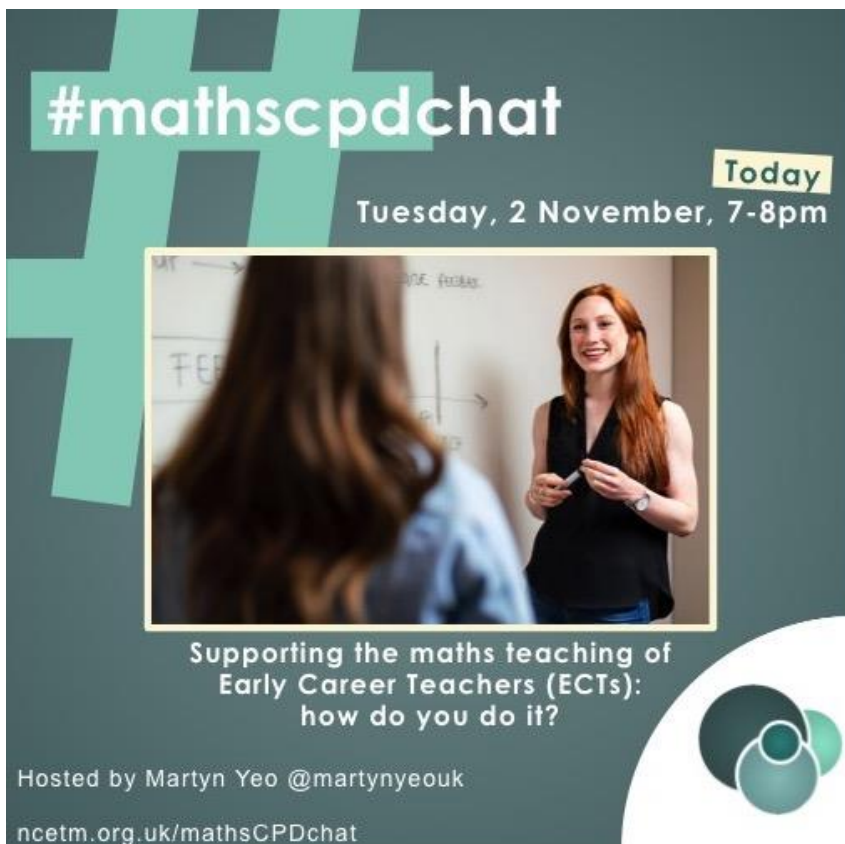


#mathscpdchat 2 November 2021

Supporting the maths teaching of Early Career Teachers (ECTs): how do you do it?

Hosted by [Martyn Yeo](#)

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



The graphic features a large teal hashtag symbol on the left. The text '#mathscpdchat' is written in white on a teal background. To the right, 'Today' is in a yellow box, followed by 'Tuesday, 2 November, 7-8pm'. A central photo shows a woman with red hair speaking to a group. Below the photo, the title 'Supporting the maths teaching of Early Career Teachers (ECTs): how do you do it?' is written. At the bottom, it says 'Hosted by Martyn Yeo @martynyeouk' and 'ncetm.org.uk/mathscpdchat'. The NCETM logo is in the bottom right corner.

#mathscpdchat

Today
Tuesday, 2 November, 7-8pm

Supporting the maths teaching of
Early Career Teachers (ECTs):
how do you do it?

Hosted by Martyn Yeo @martynyeouk
ncetm.org.uk/mathscpdchat

The links shared during this discussion were:

[Just started teaching maths? What you need to know](#) which is an article on the NCETM website.

It describes, and provides links to, NCETM materials that will help Early Career Teachers develop their knowledge, confidence and skill as they begin their careers in mathematics education. It was shared by [Martyn Yeo](#)

[Maths Education Books - Reviewed and Distilled](#) which is an NCETM podcast discussion between Lisa Coe, Primary Maths Lead for the Inspiration Trust, and Gwen Tresidder, NCETM Communications Manager. Lisa, who tweets as [@Elsie2110](#), talks about the maths books that

she has found most useful, what she has learned from them, and why she writes a blog to summarise their most useful points. Links to the books discussed are provided. It was shared by [Martyn Yeo](#)

[Early Career Framework](#) which is a Department for Education publication (2019). It sets out two kinds of content - 'Learn that ...' statements and 'Learn how to ...' practice statements, both of which are intended to support Early Career Teachers in developing the knowledge, practices and working habits that set them up for fulfilling and successful careers in teaching. It was shared by [Martyn Yeo](#)

[LUMEN](#) which is a collection of free online professional development videos from Loughborough University Mathematics Education Network. Some videos have been designed mainly for secondary teachers, others mainly for primary / Early Years teachers, and others for everyone. They focus on many different important issues in mathematics education, with titles such as 'Developing fluency with procedures without using traditional exercises' (Colin Foster), 'How mixed-attainment grouping affects the way students experience mathematics' (Tom Francome), 'Attention In and To Teaching Mathematics' (John Mason), 'Supporting Spatial Reasoning in the Early Years' (Helen J Williams), and so on ... ! It was shared by [Richard Dare](#)

[Variation Theory](#) which is a website developed by [Craig Barton](#) that provides a collection of sequences of questions and examples following key principles from Variation Theory (such as 'When certain aspects of a phenomenon vary when its other aspects are kept constant, those aspects that vary are discerned'). It was shared by [Richard Dare](#)

[Teaching Math with Examples](#) which is a book by [Michael Pershan](#) in which he presents many practical ideas relevant to the designing of mathematical tasks. It was shared by [Catherine Edwards](#)

[A Compendium of Mathematical Methods](#) which is a book by [Jo Morgan](#). It brings together over one hundred different approaches from classrooms all over the world, so that readers can explore mathematical methods that they may never before have encountered. It was shared by [Catherine Edwards](#)

[The Complete Mathematics Conference](#) which brings together thousands of maths teachers from primary, secondary and higher education to collaborate and learn from each other. It was shared by [Catherine Edwards](#)

[Complete Mathematics: Teacher CPD](#) which is where on the Complete Mathematics website you will find brief descriptions of the many different courses that are offered, and collections of videos

of Complete Mathematics conference sessions, with links to further information about them. It was shared by [Jonathan Hall](#)

[Maths CPD Chat summaries](#) which is a page on the NCETM website where you will find information about, including summaries (of which this is one!) of the weekly #mathsCPDchats. It was shared by [Catherine Edwards](#)

[Maths and climate change collection](#) which is a padlet developed by [Catherine van Saarloos](#) providing briefly described and attractively presented links to a wide variety of resources related to climate change, such as interactive graphs showing the ratings of different countries in their progress towards tackling climate change, and a KS3/4 Desmos online activity on food's carbon footprint. It was shared by [Catherine van Saarloos](#)

[Copying and pasting data in Excel](#) which is a video explaining how to extract the particular data you want to investigate from a Large Data Set using copying and pasting in Excel. It was shared by [Catherine van Saarloos](#)

[Espresso](#) which is the part of the Cambridge Mathematics website where you will find summaries of research about issues in mathematics education. The Espressos are published at regular intervals. Each one considers how the latest good-quality research on a particular issue can provide teachers with helpful guidance, and points them to further relevant reading. Recent 'issues' addressed include those related to the teaching and learning of percentages, early concepts of probability, and the number line. It was shared by [Rute Castro Silva](#)

[myminimaths](#) which is a website providing a wide variety of free Key Stage 2 maths resources for teachers, pupils and parents. The resources include a 'Times Tables Skill Builder', video tutorials, 'mini maths fluency', sections about 'intelligent questioning', home learning, and Y6 Arithmetic practice papers. It was shared by [Sarah Watkins](#)

[MEI](#) which is the MEI website addressing all aspects of mathematics education. MEI's continuing aims are to raise the quality of maths education, improve social equity through access to high-quality maths education, and promote the relevance of maths education to everyone – in the workplace, in everyday life, and for active citizenship. It was shared by [Mary Pardoe](#)

[NCETM](#) which is the NCETM (National Centre for Excellence in the Teaching of Mathematics) website addressing all aspects of mathematics education. The NCETM works collaboratively to raise levels of achievement in maths, and increase appreciation of the power and wonder of maths. It was shared by [Mary Pardoe](#)

[ATM](#) which is the ATM (Association of Teachers of Mathematics) website addressing all aspects of mathematics education. The ATM was established in 1952 to encourage the teaching and learning of mathematics by relating more closely to the needs of the learner. It was shared by [Mary Pardoe](#)

[NRICH](#) provides free curriculum-linked resources to develop the mathematical reasoning, and problem-solving skills of primary, secondary and post-16 students. It was shared by [Mary Pardoe](#)

At the start of the chat the host tweeted this poll:



The screenshots below, of chains of tweets posted during the chat, show four conversations and three sets of replies about various ways of supporting Early Career Teachers. The first two conversations were generated by the same tweet, and so provide an example of how one tweet during a Twitter chat frequently generates more than one completely separate conversation. These four conversations are followed by three groups of tweets (not proper conversations as this was very near the end of the chat) each suggesting the one piece of advice that the author of the tweet would give an Early Career Teacher. **Click on any of these screenshots-of-a-tweet to go to that actual tweet on Twitter.**

The four conversations were generated by this question from [Martyn Yeo](#):



Martyn (He/Him) @martynyeouk · 18h

...

Q1

Let's get stuck in...

How can we support ECTs in their Maths teaching?

[#mathscpdchat](#)



and included these from [Gemma Scott](#), [Martyn Yeo](#) and [Richard Dare](#):



Director of Maths @DirectorMaths · 18h

...

Replying to @martynyeouk

By getting them into schools and departments surrounded by passionate individuals who acknowledge that everyone is learning. If conversations about curriculum, pedagogy, subject knowledge are common place it's easier for ECTs to learn I believe [#mathscpdchat](#)



Martyn (He/Him) @martynyeouk · Nov 2

...

And how do you achieve this? [#mathscpdchat](#)



Director of Maths @DirectorMaths · Nov 2

...

Faculty time as CPD time, shared planning (for all not just ECTs), opportunities to share new ideas. Valuing contributions of everyone regardless of experience [#mathscpdchat](#)



Martyn (He/Him) @martynyeouk · 18h

...

How long have you found this atmosphere takes to achieve? [#mathscpdchat](#)



Director of Maths @DirectorMaths · 18h

...

Certainly not over night! You've got to really show you value everyone not just pay lip service to it. I'd say a year or so for my team but it's something to constantly maintain [#mathscpdchat](#)

 **Richard Dare** 🦋 @dare_richard · Nov 2 ...


Weekly joint planning time is so useful!

We're using the "KS3 Non statutory guidance" from NCETM and DoE in our sessions.

[#mathscpdchat](#)

 **Martyn (He/Him)** @martynyeouk · 18h ...

Replying to @dare_richard and @DirectorMaths
And how are finding that? [#mathscpdchat](#)

 **Richard Dare** 🦋 @dare_richard · Nov 2 ...


Replying to @martynyeouk and @DirectorMaths
It's great: we've all got a hardcopy. There's so much in it.

I have to go back to the extra detail in the NCETM COD materials too!
[#mathscpdchat](#)


 **Richard Dare** 🦋 @dare_richard · 18h ...

*CPD! 😊

these tweets (generated by the same tweet from [Gemma Scott](#)) from [Catherine Edwards](#), [Richard Dare](#), [Helen Scott](#), [Catherine van Saarloos](#), [Martyn Yeo](#) and [Jonathan Hall](#):

 **Director of Maths** @DirectorMaths · 18h ...

Replying to @martynyeouk
By getting them into schools and departments surrounded by passionate individuals who acknowledge that everyone is learning. If conversations about curriculum, pedagogy, subject knowledge are common place it's easier for ECTs to learn I believe [#mathscpdchat](#)

 **Director of Maths** @DirectorMaths · 18h ...

Practical things though: structured coaching and mentoring with an eye on what is coming up, encouraging accurate reflections and I like to take mine out on learning walks so they see the same thing done several ways to help them evaluate [#mathscpdchat](#)

 **Catherine Edwards** @Edwards08C · 18h ...

The practical things are so important, I think it can be easy to get caught up in theory.
Plus practical teaching adjacent things, so IT skills, making sure your answer boxes are all lines up for marking, how to back a display board. Small things make a difference [#mathscpdchat](#)



Richard Dare 🐝 @dare_richard · 18h

...

Yes, it's amazing how many micro-skills one accumulates which make life easier and teaching better.

I really agree, more training in Excel and PowerPoint or OneNote would help.
[#mathscpdchat](#)



Helen Scott @HelenScott88 · Nov 2

...

Replying to @dare_richard @Edwards08C and 2 others

I totally agree. The 'logistics' of stuff like data entry, reports, ppt, setting hwk, registers, using proforma, setting cover etc can be overwhelming. We've set up 30 min sessions for our trainees/ECTs in the dept to cover this stuff plus some pedagogy [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 18h

...

Just had this conversation today, showing someone I line manage how to use a vlookup, saved her hours. Might have to find/create Excel skills for middle leaders 🙌 [#mathscpdchat](#)




Catherine van Saarloos @CoreMathsCat · Nov 2

...

Replying to @Edwards08C @dare_richard and 2 others

These @MEIMaths videos are great: m.youtube.com/watch?v=pnpf7c..
[#mathscpdchat](#)

	<p>youtube.com</p> <p>1a Copying and pasting data in Excel</p> <p>For more information visit https://integralmaths.org/This-video-explains-how-to-extract-the-particular-data-you-wa...</p>
---	--



Martyn (He/Him) @martynyeouk · 17h

...

What is vlookup? [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 17h

...

It's an excel function that looks up a value from one place and gives you a corresponding value. It is very useful. [#mathscpdchat](#)



Richard Dare 🐝 @dare_richard · Nov 2

...

Replying to @martynyeouk @Edwards08C and @DirectorMaths

Essential for automatically calculating grades from boundaries.

I'd recommend @StudyMaths Excel for teachers course.
[#mathscpdchat](#)



Catherine Edwards @Edwards08C · Nov 2

...

Is that on complete maths? [#mathscpdchat](#)


 **Jonathan Hall** @StudyMaths · Nov 2 ...
It's available within our CPD college here:




 **Martyn (He/Him)** @martynyeouk · 18h ...
Cool! It is those little things that we need to share. I've also been shown things by ECTs too - have you? #mathscpdchat

 **Catherine Edwards** @Edwards08C · 18h ...
They've often shown me new websites for resources, or reminded me of old favourites #mathscpdchat


these from [Mary Pardoe](#), [Yorkshire Steve](#) and [Richard Dare](#):

 **Mary Pardoe** @PardoeMary · 18h ...
Replying to @martynyeouk
Vital to establish trust first. Then lots you can do ... e.g. plan a sequence of lessons together ... teach the lessons TOGETHER ... reflect on/discuss what happens/ed ... what you SAW ...
#mathsCPDchat

 **Yorkshire Steve** @Yorkshire_Steve · 18h ...
Replying to @PardoeMary and @martynyeouk
Plan a lesson/sequence together but the mentor teach it/them can be useful too. Allows the ECT to observe whether the things anticipated in the planning process actually happened as expected etc.

 **Mary Pardoe** @PardoeMary · 18h ...
Replying to @martynyeouk
TOGETHER watch a video of someone else teaching (part of) a lesson ... pausing it ... what happened then? ... what might the teacher/or you have done differently? ... what would have changed? ...why? ... #mathsCPDchat

 **Mary Pardoe** @PardoeMary · 18h ...
Good if you can find time to do some maths TOGETHER!
#mathsCPDchat

 **Richard Dare** 🐝 @dare_richard · 18h ...
Yes!

and these from [Rute Castro Silva](#) and [Martyn Yeo](#):

 **Rute Castro Silva** @RuteCastroSilva · 18h ...
Replying to @martynyeouk
Model kindness and compassion without being condescending.
Just as we do with our students ❤️

 **Martyn (He/Him)** @martynyeouk · 18h ...
It's interesting to try and practice what you preach...#mathscpdchat

The following replies were generated by the last question from [Martyn Yeo](#):


 **Martyn (He/Him)** @martynyeouk · Nov 2 ...
Q4 Finally what is the one piece of advice you would give an ECT with their maths teaching

It could be something to do..or something not to do!

[#mathscpdchat](#)



and included these from [Gemma Scott](#), [Martin Noon](#), [Catherine Edwards](#) and [Martyn Yeo](#):

 **Director of Maths** @DirectorMaths · Nov 2 ...
Replying to @martynyeouk @MrTs_NQTs and 8 others
“What are your students THINKING about?” Keep that mantra in mind. That and ask, ask, ask. Don't try and be someone else but never be afraid to ask what they would do. It's not easy but it gets better 😊 #mathscpdchat

 **Martin Noon** @letsgetmathing · Nov 2 ...
Replying to @martynyeouk @PardoeMary and 9 others
Don't try to make everything from scratch but ensure you OWN every lesson. You can still do that using a textbook exercise.



Catherine Edwards @Edwards08C · Nov 2

...

Replying to @martynyeouk @MrTs_NQTs and 8 others

Always plan a sequence
Don't be afraid to take your time
Better to do four things well, than forty things averagely

[#mathscpdchat](#)



Martyn (He/Him) @martynyeouk · Nov 2

...

Feel I need that on a tshirt! [#mathscpdchat](#)

these from [Emma B Maths](#), [Sarah Slattery](#) and [Richard Dare](#):



Emma B Maths @CardiffMaths · Nov 2

...

Replying to @martynyeouk @MrTs_NQTs and 8 others

Do regular whole class class checks for progress. Are they getting it? Can they already do it?! Use the mini whiteboards!



Sarah Slattery @MissSlattery91 · Nov 2

...

Replying to @martynyeouk @MrTs_NQTs and 8 others

Try not to rush through the curriculum, give them time to explore and investigate.
[#mathscpdchat](#)



Richard Dare 🦋 @dare_richard · Nov 2

...

Replying to @martynyeouk @MrTs_NQTs and 8 others

Keep your love of Maths.
Accept you won't get everything done.
[#mathscpdchat](#)

and finally these from [Martyn Yeo](#), [Catherine Edwards](#) and [Mary Pardoe](#):



Martyn (He/Him) @martynyeouk · Nov 2

...

I have a few I've tried to use and live by over the last few years:

You can only do what you can do

It is what it is

It's only for now

It's ok to be good enough


You do you

[#mathscpdchat](#)

 **Catherine Edwards** @Edwards08C · Nov 2 ...
Replying to @martynyeouk
"Control the controllable"

So many things happen to and around the students which you cannot impact, take charge of what you can.

[#mathscpdchat](#)

 **Mary Pardoe** @PardoeMary · Nov 2 ...
Replying to @martynyeouk @MrTs_NQTs and 8 others
Don't think that every other maths teacher ... in your school/the world is teaching better lessons than you are!
[#mathsCPDchat](#)

 **Martyn (He/Him)** @martynyeouk · Nov 2 ...
Like that - try not to compare yourself to anyone - including yourself!
[#mathscpdchat](#)

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

All the replies to Martyn's last question (Q4) are included in the sequence of screenshots of tweets shown above. But, although most of the replies to his first question (Q1) are also included in that sequence, this short conversation is not ...

 **Director of Maths** @DirectorMaths · 18h ...
Replying to @DirectorMaths and @martynyeouk
Practical things though: structured coaching and mentoring with an eye on what is coming up, encouraging accurate reflections and I like to take mine out on learning walks so they see the same thing done several ways to help them evaluate [#mathscpdchat](#)

 **Martyn (He/Him)** @martynyeouk · 18h ...
That's a great idea to take them with you on learning walks - a strategy used with ITT's so why not carry on the next year...
[#mathscpdchat](#)

 **Director of Maths** @DirectorMaths · 18h ...
It's some to big I like to do with all staff when I can but I know trainees and ECTs have found it particularly beneficial [#mathscpdchat](#)

... and neither are these two replies, which were not part of any substantial conversations:



Catherine Edwards @Edwards08C · 18h

...

Replying to @martynyeouk

Faculty Level - well resourced scheme, clear policies, lots of subject knowledge discussion

Mentor - clear and incremental coaching on classroom practice

In general lots of non judgemental support and being there #mathscpdchat



Richard Dare 🐝 @dare_richard · 18h

...

Replying to @martynyeouk

Instructional coaching.

PD

Joint planning

Sharing resources.

Many of the replies to Martyn's second question (Q2) ...



Martyn (He/Him) @martynyeouk · 19h

...

Q2 Any resources you could recommend to help ECTs with their Maths teaching?

#mathscpdchat



... are represented in the list of links given at the start of this summary. However, some contributors indicated resources by giving Twitter account names, or referring to websites rather than linking to them:

[@piximaths](#)

[@mrbartonmaths](#)

[@mathsjem](#)

[@missradders](#)

[@WRMathsSec](#)

[@TTRockStars](#)

'NCETM PD materials'

'Don Steward'

'Open Middle'

'Resourceaholic for resources'

'Corbett maths'

'White Rose scheme of work'

'MathsBot digital manipulatives'

'Mathspad'

This tweet was more general:



Etak Airotciv @etaknipsa · 17h

...

Replying to [@martynyeouk](#) [@JeroneeJ](#) and 6 others

For primary.. Haylock is the essential for subject knowledge and the workbook..then [@mrbartonmaths](#) resources maths bot for on line and the NCETM need guidance as it's huge ...spend time with maths lead tbh observe observe observe remember ECTs had practice but bubbles restricted

This short sequence happened ...



Director of Maths @DirectorMaths · 19h

...

Replying to [@martynyeouk](#) [@dare_richard](#) and 4 others

For secondary I'd say something like [@PixiMaths](#) is a great starting point. There are loads of great resources and the key message I want ECTs to take away is that the lesson is not the PowerPoint, it's the answer to: why this example/ question... [#mathscpdchat](#)



Director of Maths @DirectorMaths · 19h

...

Why this task? What will students be thinking about in this part of the lesson etc that's what makes a good lesson, not the slides [#mathscpdchat](#)



Martyn (He/Him) @martynyeouk · 19h

...

So important - thanks for reminding us! [#mathscpdchat](#)

... as did this:



Mr T's NQT/ECT support  @MrTs_NQTs · 19h

...

Replying to [@martynyeouk](#) [@DirectorMaths](#) and 4 others

[Nrich.maths.org](#) and
Ncetm website

Both have a raft of activities and ideas linked to the NC.



Director of Maths @DirectorMaths · 19h

...

I think it's important that mentors discuss and/ or model how these tasks might be used and how you would run the classroom etc [#mathscpdchat](#)



Catherine Edwards @Edwards08C · 19h

...

And what the purpose is, it's so easy to get sucked into doing tasks because they are exciting and not necessarily because they encourage thinking about the thing you want then to think about [#mathscpdchat](#)



Richard Dare 🦋 @dare_richard · 19h

...

Yes, thinking about what students will attend to. Thinking about representations, continuities and interconnections. Planning backwards from these.
[#mathscpdchat](#)

Possibly Martyn's third question ...



Martyn (He/Him) @martynyeouk · Nov 2

...

Q3 I am running an ECT work group with [@markuk73](#) for [@OriginMathsHub](#) and would be interested in what ECTs would want in a programme?

[#mathscpdchat](#)



... was not noticed because contributors were, at the time when he posted it, busy suggesting, and finding links to, resources!