

## #mathscpdchat 24 May 2022

**What has been the most interesting lesson or incident in your maths teaching this term?**

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 large teal hashtag symbol in the background. At the top left, the text '#mathscpdchat' is displayed in a bold, white font. To the right, a white box contains the word 'Today' in teal, with the date and time 'Tuesday, 24 May, 7.30-8.30pm' below it. The central part of the graphic is a collage of images related to the podcast, including a microphone icon, a book cover for 'THE NCETM MATHS PODCAST', and several episode covers labeled 'Episode 40', 'Episode 59', and 'Episode 61'. Below the collage, the question 'What has been the most interesting lesson or incident in your maths-teaching this term?' is written in bold black text. At the bottom left, it says 'Hosted by Catherine Edwards @Edwards08C' and 'ncetm.org.uk/mathscpdchat'. A small version of the NCETM logo is in the bottom right corner.

The links shared during this discussion were:

[Are You Convinced?](#) which is a podcast by [UK YOUTH](#) which 'bridge the gap between all things education and youth services'. In each episode two experts with very different views go head-to-head on key topics (such as 'We need to stop talking about race!', 'We still don't know how to address youth mental health issues!' and 'Teachers and youth workers should be trained together.' The podcast's hosts are Ndidi Okezie and Laura McInerney. It was shared by [Catherine Edwards](#)

[Calculator Crunch](#) which is a programme created and organised by MEI. It is designed to engage Y6 pupils with maths, while also developing their confidence with calculators so they are ready for maths at their secondary school. It was shared by [Alison Hopper](#)

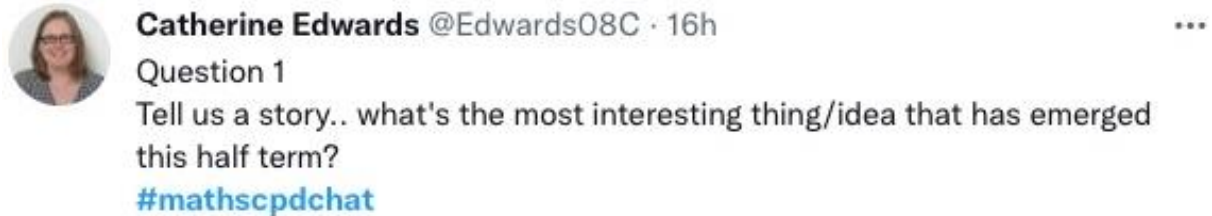
[Scavenger Hunt](#) which is a hunt/loop card generator from mathswiteboard that draws on their bank of questions. You can design your own hunt (around the classroom or wherever you like!) by selecting questions, at an appropriate level of skills/knowledge required, from the question bank. It was shared by [Matt Woodfine](#)

[Care in Mathematics Education](#) which is a video provided by Professor Anne Watson as a record of her plenary presentation at the BSRLM (British Society for Research into Learning Mathematics) Autumn 2021 Conference. It was shared by [Mary Pardoe](#)

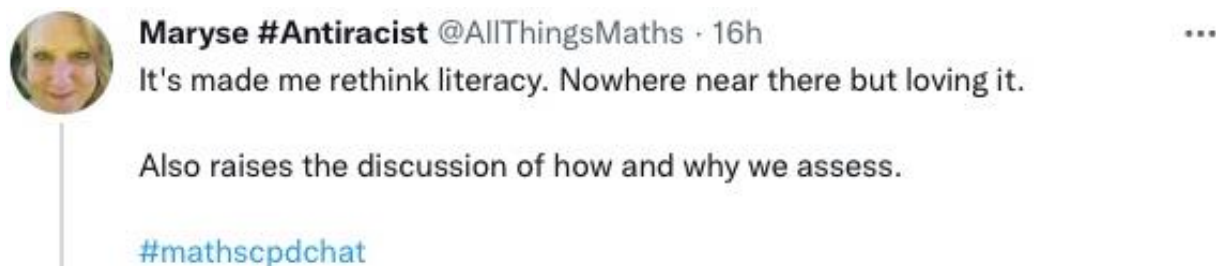
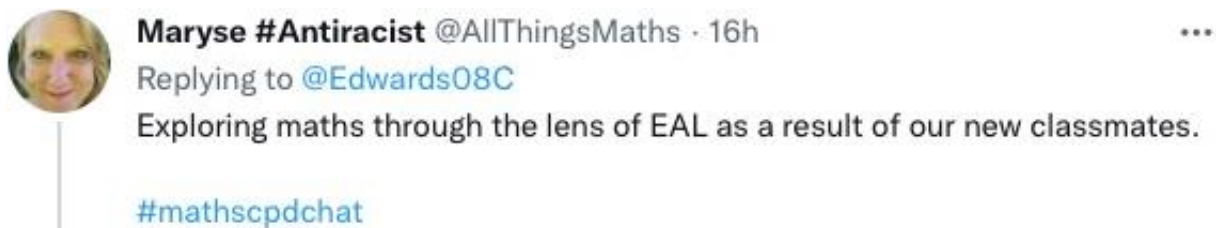
**A full illustrated summary of the discussions in this #mathsCPDchat follows.**

**There were more replies to the host's Question 1 than to any of her other questions. The (linked to Twitter) screenshots below show replies and conversations generated by that question. In that part of the summary only you can click on any screenshot of a tweet to go to that actual tweet on Twitter.**

That is, all the immediately following conversations and replies, represented by screenshots linked to Twitter, were in response to this question from [Catherine Edwards](#):



This was a conversation between [Maryse Dare](#) and [Catherine Edwards](#) which focused on teaching maths to students for some of whom English is not their first language (EAL students) ...





**Dominic Brassington EAL** @EALDominicB · 16h ...

That's very kind of you

... and there was another reply to Catherine's question about 'top tips for teaching EAL students' from [Anna Kerr](#):



**A Kerr** @annamkerr · 15h ...

Build a relationship! Get them to teach you their words for what you are learning. Get the whole class involved and try to use their words in future lessons. Also, ask them to show you how they solve problems. Maths terms are often different to usual English words so preempt this

A very long conversation was initiated by [Rob Shaw](#), and also included comments from [Catherine Edwards](#), [Alison Hopper](#) and [Maryse Dare](#):



**Rob Shaw** @TheEvolvingTchr · 16h ...

Replying to @Edwards08C

The most interesting thing has been learning and teaching a concept within 48 hours. This has pretty much been my first half term as a secondary school teacher.



**Catherine Edwards** @Edwards08C · 16h ...

All the concepts or just some of them? which was the hardest/easiest?

[#mathsCPDchat](#)



**Rob Shaw** @TheEvolvingTchr · 16h ...

Quite a few concepts (new to me as a primary teacher)... such as area of circle + sector, circumference + arc length, Pythagoras, trigonometry, bearings, factorising , oh and teaching GCSE statistics...

Easiest to teach has been Y7s... a lot of work on fractions [#mathscpdchat](#)



**Rob Shaw** @TheEvolvingTchr · 16h ...

Just using a calculator has been a little strange [#mathscpdchat](#)

Oh and the reliance some of the chn have on using them... now they are part of their equipment.



**Alison Hopper** @AlisonHopperMEI · 15h ...

Replying to @TheEvolvingTchr and @Edwards08C

One of a few replies here from me! No calculators in primary since 2013/14 but check out the [@MEIMaths #CalulatorCrunch](#) to support children with this as they move from primary to secondary (part 1!) [#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 16h ...

Replying to @TheEvolvingTchr

I'm finding the opposite with my Y11 at the moment, keep insisting on doing written methods on the calculator paper, driving me mad! #mathsCPDchat



**Maryse #Antiracist** @AllThingsMaths · 16h ...

I've had these conversations with Y9 and compound interest recently 🤔

#mathscpdchat



**Catherine Edwards** @Edwards08C · 15h ...

but WHY can't I just work it out for each year..... ?!

#mathsCPDchat



**Maryse #Antiracist** @AllThingsMaths · 15h ...

Work out this mortgage interest....

#mathscpdchat



**Rob Shaw** @TheEvolvingTchr · 17h ...

Replying to @AllThingsMaths and @Edwards08C

It's got to a point... that I have to say 'no calculator' 😊 I then get a few moans because they have to show their workings.

That is also one thing.. I think secondary school just don't do enough of.. although I only have one view on this.

#engagement #mathscpdchat



**Rob Shaw** @TheEvolvingTchr · 16h ...

The biggest change has been... primary is so focussed on number fluency and understanding... (e.g arithmetic paper), whereas in secondary... maths is a lot more than just number. Who knew that geometry, algebra and probability are so important... #notthisteacher #mathscpdchat



**Alison Hopper** @AlisonHopperMEI · 15h ...

Probability isn't in the current Primary NC. The focus on number is on understanding forming the foundation of algebra it just doesn't look like algebra does in secondary. The Y5-8 Continuity work focuses on where this starts in primary [#mathscpdchat](#) [#Y58Continuity](#)



**Catherine Edwards** @Edwards08C · 16h ...

Replying to [@TheEvolvingTchr](#)

do you think that is one of the biggest differences, the variety and breadth of topics at KS3 compared to KS2?

Thinking of transition, do we in secondary need to handle that more sensitively?

[#mathsCPDchat](#)



**Rob Shaw** @TheEvolvingTchr · 15h ...

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

I haven't done much algebra yet, so not 100% there in answering this Q. I did a bit of factorising with Y10... that was fun! [#mathscpdchat](#)



**Maryse #Antiracist** @AllThingsMaths · 15h ...

🔥 the stronger the number concepts, the easier it'll flow when we work with numbers we don't know [#algebra](#)

[#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 15h ...

got to crack out the algebra tiles! really helps make the link, especially if you've been using double sided counters for directed number.

[#mathsCPDchat](#)



**Rob Shaw** @TheEvolvingTchr · 15h ...

Everything you just said there... over my head 😂 [#novice](#) [#mathscpdchat](#)

I really want to learn and love algebra. Better make this my next area to explore...



**Catherine Edwards** @Edwards08C · 15h ...

[@LaSalleEd](#) has videos on using them (I think).

and [@StudyMaths](#) has virtual ones to play with on Maths bot.



**Rob Shaw** @TheEvolvingTchr · 15h ...

Replying to [@Edwards08C](#) [@AllThingsMaths](#) and 2 others

Amazing! Thanks 🙌



**Maryse #Antiracist** @AllThingsMaths · 15h ...  
And feel free to ask any questions.



**Catherine Edwards** @Edwards08C · 15h ...  
Always loads of people willing to help on Maths teacher twitter.

A reply to [Catherine Edwards](#)'s Question 1 from [Mr Hawes](#) initiated a short 'exchange' between him and Catherine:



**MrHawesMaths** @HawesMaths · 16h ...  
Replying to @Edwards08C  
Real time feedback for me. It was an area I explored previously but have now come back to it and looking at it in more depth. #mathscpdchat



**Catherine Edwards** @Edwards08C · 16h ...  
How are you doing this? and not to sound too interview like, what impact is it having?

#mathsCPDchat



**MrHawesMaths** @HawesMaths · 16h ...  
having final answers available to the students so they can mark and check as they go. If they get it right 🙌 If they get it wrong, they have an opportunity to fix it or get help. they can be more productive and my time is effective @BeyondGoodPod inspired me again #mathscpdchat

Another reply to [Catherine Edwards](#)'s Question 1 from [MIF, FSET, MCCT, NPQML](#) generated a conversation between them about 'storytelling':



**MIF, FSET, MCCT, NPQML** @mathingabout · 16h ...  
Replying to @Edwards08C  
That students can be stretched more in the classroom...we can deepen understanding through discourse... carve a route to learning through 'storytelling'. #mathscpdchat



**Catherine Edwards** @Edwards08C · 16h ...  
any topics in particular lend themselves to storytelling?

#mathsCPDchat



**MIF, FSET, MCCT, NPQML** @mathingabout · 16h

...

Replying to @Edwards08C

Oddly enough graphical inequalities, expanding brackets, solving equations, rearranging formulae, wordy exam style questions to name a few! Loads more.... I love to tell stories... my students love stories!  
[#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 16h

...

clearly we need a book! [#mathsCPDchat](#)



**MIF, FSET, MCCT, NPQML** @mathingabout · 16h

...

...I've thought about it....will certainly consider that! Thank you for the suggestion!



**Catherine Edwards** @Edwards08C · 16h

...

I'd read it...



**MIF, FSET, MCCT, NPQML** @mathingabout · 16h

...

Yay! My first customer! I'll sign it for you!

There was another reply, from [Becky George](#), to a question from [Catherine Edwards](#) in the previous conversation:



**Catherine Edwards** @Edwards08C · 16h

...

any topics in particular lend themselves to storytelling?

[#mathsCPDchat](#)



**BeckyGeorge** @1982beckyboo · 13h

...

Real life graphs, so many possibilities.

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

Catherine's second question ...



**Catherine Edwards** @Edwards08C · 17h

...

Question 2

Tell us something interesting you have learnt or tried out this half term?  
How did it go?

[#mathsCPDchat](#)



... prompted a few conversations, which were this one about using connections within mathematics ...



**Maryse #Antiracist** @AllThingsMaths · 17h ...

Replying to @Edwards08C

Linking linear equations & linear sequences. Opens discussions on continuous and discrete. Cross pollinates concepts.

[#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 17h ...

Love this! do you find that students learn/retain better when they have links? Are they starting to notice them themselves?

[#mathsCPDchat](#)



**Maryse #Antiracist** @AllThingsMaths · 17h ...

Yes. Definitely. It leads to greater discussion and solidifies concepts. A handful notice but I'm trying to embed as usual practice. I've been bad this week though. Exhausted. [#mathscpdchat](#)

... this 'exchange' ...



**Maryse #Antiracist** @AllThingsMaths · 17h ...

Replying to @Edwards08C

Stolen from someone here... "what I'm looking for is you doing..." and then I walk the room. It's sped up students making a start on tasks. Behaviour rather than maths though.

[#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 17h ...

can't have maths without the behaviour! Reframing like this is so powerful though. Gets harder as the term goes on and we get tired

[#mathsCPDchat](#)

... this longer discussion about using a visualiser in the classroom ...



**Rob Shaw** @TheEvolvingTchr · 17h ...

Replying to @Edwards08C

Using a visualiser to model topics such as bearings and in statistics. Where it is important to see not only what is happening, but how it happening... thinking aloud and saying why! [#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 17h

...

Replying to @TheEvolvingTchr

I LOVE my visualiser, so much better than using the board or a PowerPoint. I've also hacked a standing desk so I can see the whole class while I model

[#mathsCPDchat](#)



**MrHawesMaths** @HawesMaths · 16h

...

Looking to get these on order. So powerful for modelling.



**Rob Shaw** @TheEvolvingTchr · 17h

...

Replying to @HawesMaths and @Edwards08C

Game changer



**Catherine Edwards** @Edwards08C · 16h

...

best thing to come out of the pandemic for us, a visualiser in every classroom

[#mathsCPDchat](#)



**MrHawesMaths** @HawesMaths · 16h

...

Given that a big part of lessons is modelling and showcasing good practice. It is a no brainer. I tend to use OneNote and my iPad and pencil. Works a great but for things like angel work and working through papers etc. it is seriously powerful. [#mathscpdchat](#)



**Rob Shaw** @TheEvolvingTchr · 16h

...

Replying to @HawesMaths and @Edwards08C

Yes, I think it has helped those in Y11 and the teachers going through papers and examples etc...



**Catherine Edwards** @Edwards08C · 16h

...

I have to say it surprised me a little at first, how different the students found it compared to me writing on the whiteboard. I don't think I've changed what I'm saying or writing. Something about it looking the same as their book

[#mathsCPDchat](#)

... and these comments:



**MrHawesMaths** @HawesMaths · 17h

...

Replying to @Edwards08C

I've moved from 'starters' to 'retrieval' tasks with my groups. Just changing the language had been effective and the dialogue has opened up hugely.

[#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 17h ...

Replying to @HawesMaths

how do you plan your retrieval? #mathsCPDchat



**MrHawesMaths** @HawesMaths · 17h ...

It varies depending on topics. I tend to look at last lessons, last term and beginning of year questions to tackle. Students favourite medium is a DrFrost live game. I also use @draustinmaths practice strips @Corbettmaths 5 a day and @PiXLMattTheApp revision starter. #mathscpdchat



**Mr Owens Maths** @louisboy37 · 17h ...

Replying to @HawesMaths @PardoeMary and @Edwards08C

#mathscpdchat I love a recall and retrieval... from Sept, all depts at our school must do ot, with same format on board

Catherine's third question ...



**Catherine Edwards** @Edwards08C · 17h ...

Question 3

Confession time... anything you want to do differently next time you teach it?

#mathsCPDchat

... generated three conversations, which were this ...



**Maryse #Antiracist** @AllThingsMaths · 17h ...

Replying to @Edwards08C

I need to have a solid focus on problem solving. I've been filling gaps as we go along (pandemic) and haven't pushed through enough.

#mathscpdchat



**Catherine Edwards** @Edwards08C · 17h ...

I've been trying out more backwards fading of problem solving. I think I need to do some more work on teaching them to "read" maths

#mathsCPDchat



**Rob Shaw** @TheEvolvingTchr · 17h ...

I've been doing this a lot with ratio with my Y7. If we write the information we read as we read it... we can most likely predict the questions.... And by the time we see the Q with the ? mark... we have everything laid out to make a start! #understanding #mathscpdchat



**Catherine Edwards** @Edwards08C · 17h

...

I like Goal free problems for this too, although I've been a bit slack with using them this year (that will have to be my confession for this thread!)  
[#mathsCPDchat](#)

... this ...



**Maryse #Antiracist** @AllThingsMaths · 17h

...

Replying to @Edwards08C

Also... paper shortage is having an impact at the moment so trying to think outside of textbooks and questions on the board.

[#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 17h

...

nothing quite like a shortage for some creative thinking! what have you come up with? [#mathsCPDchat](#)



**Maryse #Antiracist** @AllThingsMaths · 17h

...

Nothing so far.... focus is sleep and survival this week 🤔

Half term will be a planning sesh.

[#mathscpdchat](#)



**Matt Woodfine** @PiXLMattTheApp · 17h

...

Replying to @AllThingsMaths and @Edwards08C

Have your tried designing a scavenger hunt using:

[mathswhiteboard.com/MWB/scavengerb...](https://mathswhiteboard.com/MWB/scavengerb...)

Although it is an activity that requires to be printed, it will be less than printing an exercise for all students. Put it up around the room and it is a nice self marking task.

... and this:



**Rob Shaw** @TheEvolvingTchr · 17h

...

Replying to @Edwards08C

Erm... not sure my bearing lessons have been that great. More of everything... especially questioning... when using a visualiser (instead of just talking aloud). [#mathscpdchat](#)

Get to teach it to Y8 tomorrow for the first time... so will learn from teaching it to Y9.



**Catherine Edwards** @Edwards08C · 17h

...

bearings are tricky, there is a lot of hidden literacy mixed in there, as well as the maths.

I've started spending time just marking the correct angle for the bearing, without doing any measuring

[#mathsCPDchat](#)

Catherine followed up her fourth question ...



**Catherine Edwards** @Edwards08C · 18h

...

Question 4

Outside of the classroom.. have you read something, joined something, done something connected to teaching maths but not in your classroom?

[#mathsCPDchat](#)

... with this (link provided above):



**Catherine Edwards** @Edwards08C · 18h

...

Replying to @Edwards08C

I've been listening to podcasts a lot recently. Not specifically maths but I've enjoyed "Are you Convinced?" [open.spotify.com/show/7ML2dY4jw...](https://open.spotify.com/show/7ML2dY4jw...)

[#mathsCPDchat](#)



[open.spotify.com](https://open.spotify.com/show/7ML2dY4jw...)

Are You Convinced?

Listen to Are You Convinced? on Spotify. What happens when two experts with very different view...

The other replies to Question 4 formed this conversation ...



**Rob Shaw** @TheEvolvingTchr · 18h

...

Replying to @Edwards08C

Oh I did appear on a @NCETM podcast, signed up to watch the virtual videos from a recent maths conference and connected with some great maths tweeters recently.

Next up is connecting with @MathsTeachSolns for the autumn intake of the maths non-specialists programme [#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 18h

...

Busy half term! I'll have to listen to your episode.

I braved my first in person conference and made it to a teach meet, Its lovely to just talk maths for a day

[#mathsCPDchat](#)



**Rob Shaw** @TheEvolvingTchr · 18h

...

Oh that's awesome. Both of these need to be my next steps 😊

[#mathscpdchat](#)

... and this:



**W E Cookson** @WECmathventures · 18h

...

Q4 reading THE MAN WHO COUNTED by MALBA TAHAN written several decades ago [#mathscpdchat](#)



**Catherine Edwards** @Edwards08C · 18h

...

Replying to @WECmathventures

What's it about ?

[#mathsCPDchat](#)



**W E Cookson** @WECmathventures · 18h

...

[#mathscpdchat](#) THE MAN WHO COUNTED several short stories about the travels across ancient Persia of the narrator and a stranger each involving some aspect of maths

Catherine also followed her fifth question ...



**Catherine Edwards** @Edwards08C · 18h

...

Question 5

time to blow your own trumpet.. what ahs been the BEST lesson you have taught this half term (any and all definitions of best accepted)

[#mathsCPDchat](#)

... with a reply of her own, about her own 'best' lesson so far this term:



**Catherine Edwards** @Edwards08C · 18h

...

Replying to @Edwards08C

My best was a spontaneous lesson, just before Eid, it was clear no book work was going to happen with Y7 nurture.

So we sat in a circle and played counting games, and they trounced me at Killer 21. Loads of fun!

[#mathsCPDchat](#)

The other replies to Question 5 were this conversation ...



**Rob Shaw** @TheEvolvingTchr · 18h

...

Replying to @Edwards08C

I can't remember the exact lesson (I know it was fractions though - Y7). I remember leaving the room & seeing my whiteboard was covered in examples. Children understood & were engaged. It was one of the first lessons with them, where I thought, yeah, I can do this! #mathscpdchat



**Catherine Edwards** @Edwards08C · 18h

...

my classroom neighbour has managed to sweet talk the site team into covering his walls with whiteboards. I get serious envy when I peek through his window to see walls full of maths.

#mathsCPDchat



**Rob Shaw** @TheEvolvingTchr · 18h

...

Lovely 😊 #mathscpdchat

... and this:



**MrHawesMaths** @HawesMaths · 18h

...

Replying to @Edwards08C

The outdoor scavenger hunt easily! #mathscpdchat

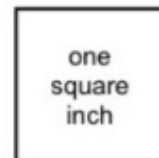
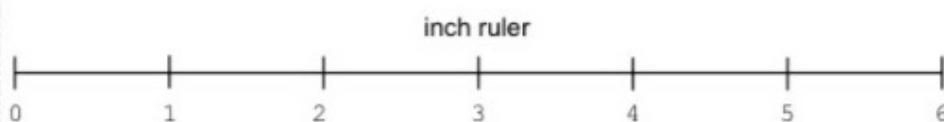


## Math Scavenger Hunt

Explore the math in your environment by finding and writing the items below. An item can only be written once.



Something square	
A circle	
Something shorter than 6 inches (see ruler below)	
The number 5	
A double-digit odd number	
A coin	
Something that comes in pairs	
A rectangular prism	
An even number	
A pattern	
Something that is twice as long as your foot	
Something in between 2 and 4 inches (see ruler below)	
Something spherical	
Something that tells time	
A rectangular array	
Something that has symmetry	
Something longer than 6 inches (see ruler below)	
A number in the teens	
Something about the size of an apple	
Perpendicular lines	
A number greater than 20 but less than 30	
Parallel lines	
Something triangular	
Something with an area between 10 and 30 square inches (see square inch below)	
A number whose tens place is even	



**Catherine Edwards** @Edwards08C · 18h

Nice!





There were no replies to Catherine’s last question (and time was running out):



**Catherine Edwards** @Edwards08C · 18h



Question 6

Last one, looking forward to next half term what three things are you looking forward to?

[#mathsCPDchat](#)

The following four comments were made in/to the chat, but they were not replies to any other tweets in the chat, including the host’s main questions:



**W E Cookson** @WECmathventures · 17h



[#mathscpdchat](#)

Pupils encouraged to (try to) teach each other gain greater understanding



**Mary Pardoe** @PardoeMary · 18h



[#mathscpdchat](#)



**Alison Hopper** @AlisonHopperMEI · 18h

Me, me, me! #Y58Continuity #CalculatorCrunch

 **MEI** @MEIMaths · May 24

Hands up if you’re excited for #CalculatorCrunch to return next month! 🙌🙌

The popular challenge is designed to encourage pupils in Years 6 & 7 and their teachers to get the calculators out of the cupboard and have some fun!

Find out more here: [mei.org.uk/calculator-cru...](https://mei.org.uk/calculator-cru...)



7:35 PM · May 24, 2022 · Twitter for Android



**W E Cookson** @WECmathventures · 18h



**#mathscpdchat** EAL boys. Research footballers in their national team, particularly if the players play in Premiership. Bring stats on these players into conversations/problems.




**Mary Pardoe** @PardoeMary · 18h



**#mathscpdchat**

 **BSRLM** @BSRLM\_maths · Jan 14

Prof. @annemathswatson has kindly shared with us the recording of her BSRLM Autumn Conference Keynote #BSRLMNov21. Care in Mathematics Education.  #mathscpdchat #mathsEd #iteachmaths [bsrlm.org.uk/conference-key...](https://bsrlm.org.uk/conference-key...)