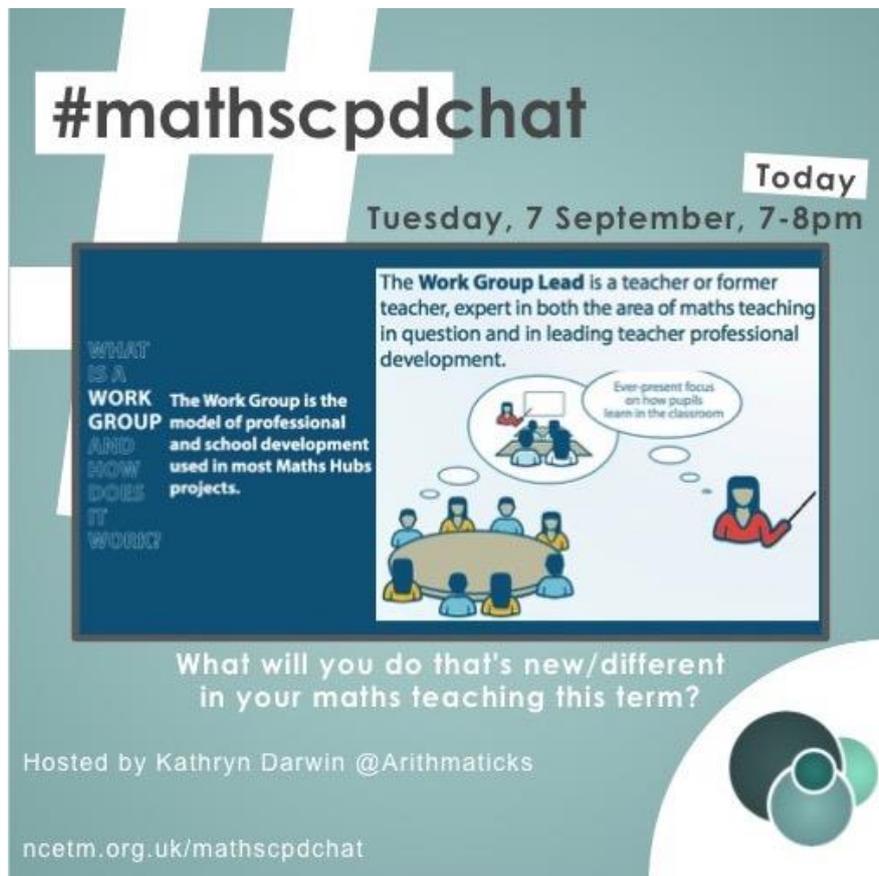


## #mathscpdchat 7 September 2021

What will you do that's new/different in your maths teaching this term?

Hosted by [Kathryn Darwin](#)

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



#mathscpdchat

Today  
Tuesday, 7 September, 7-8pm

WHAT IS A  
WORK GROUP  
AND HOW DOES  
IT WORK?

The Work Group is the model of professional and school development used in most Maths Hubs projects.

The Work Group Lead is a teacher or former teacher, expert in both the area of maths teaching in question and in leading teacher professional development.

Even-present focus on how pupils learn in the classroom

What will you do that's new/different in your maths teaching this term?

Hosted by Kathryn Darwin @Arithmatics

ncetm.org.uk/mathscpdchat

Among the links shared during the discussion were:

[Building Thinking Classrooms in Mathematics](#) which is a book by Peter Liljedahl that includes 14 teaching practices designed to enhance learning. It is about ways of getting students thinking rather than merely being busy. It was shared by [Chris Shore](#)

[Building Thinking Classrooms: 14 practices](#) which is a website page on which strategies intended to generate conditions in which students become able to think more deeply are described, explained and justified. It was shared by [Chris Shore](#)

[Where maths meets ... the world of work!](#) which is a collection of engaging activities created by [Catherine van Saarloos](#). Each version of the tasks focuses on interpreting and using data at one of four different curriculum stages, Upper Key Stage 2, Key Stage 3 and GCSE Foundation, GCSE Higher, and Level 3 Core Maths and A level Maths. It was shared by [Catherine van Saarloos](#)

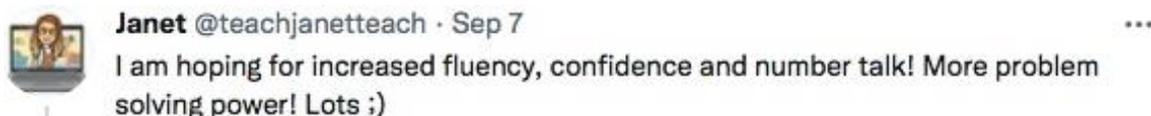
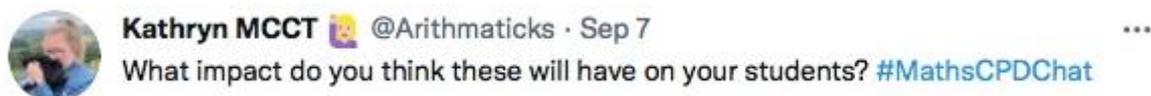
[Abi the Maths Tutor](#) which is a case study on the Complete Mathematics website. It provides clear and comprehensive information about how the Complete Mathematics Classroom platform can significantly support and enhance mathematics learning. It was shared by [Atul Rana](#)

The screenshots below, of chains of tweets posted during the chat, show parts of five conversations about how teachers plan to work on changes, and/or innovations, in their maths teaching. When prompted by the host, Kathryn Darwin, they also discussed how they hope their changes will impact positively on their pupils' learning. **Click on any of these screenshots-of-a-tweet to go to that actual tweet on Twitter.**

The conversations were generated by this tweet from [Kathryn Darwin](#):



and included these from [Janet](#), [Kathryn Darwin](#), and [Amy How](#):



these from [Chris Shore](#) and [Kathryn Darwin](#):

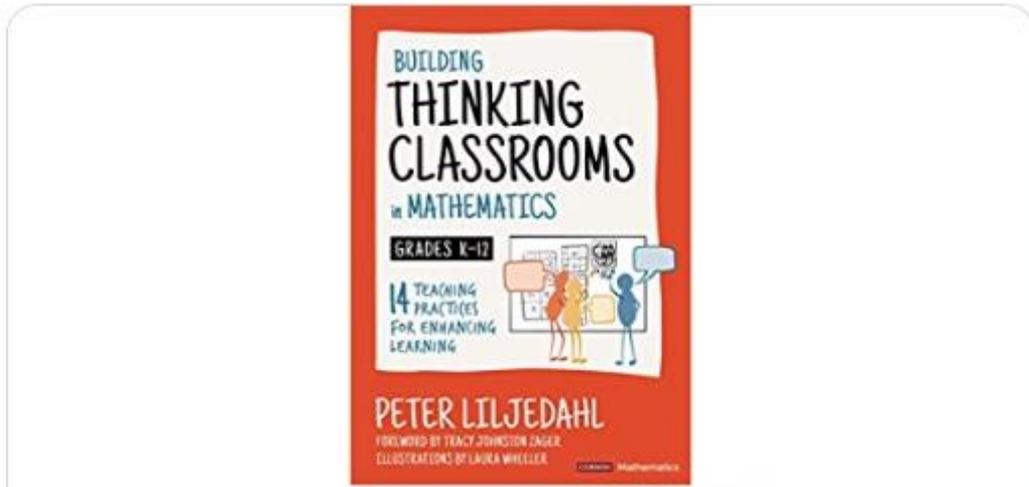


**Chris Shore** @cjshore · Sep 7

...

Replying to @Arithmaticks

I like some of the ideas in this [amazon.co.uk/dp/1544374836/](https://www.amazon.co.uk/dp/1544374836/). especially the use of group and writing on vertical surfaces. Unfortunately I don't have the space in the rooms I teach in. #mathscpdchat



**Kathryn MCCT** 🧐 @Arithmaticks · Sep 7

...

Is there anything in there you will be able to take into your classroom?  
#mathscpdchat



**Chris Shore** @cjshore · Sep 7

...

I'd like to increase the amount of time spent thinking that goes on in the classroom. [buildingthinkingclassrooms.com/14-practices/](https://buildingthinkingclassrooms.com/14-practices/) #mathscpdchat



**Kathryn MCCT** 🧐 @Arithmaticks · Sep 7

...

How do you think this will impact the students? How will your practice be different to encourage it? #mathscpdchat



**Chris Shore** @cjshore · Sep 7

...

Use of tasks and questions - want to think carefully about this. Also I want to push questions back on to them a bit more rather than always answer them myself. I probably do too much thinking for my students. #mathscpdchat.

these from [Miss. Mc](#), [Kathryn Darwin](#) and [@fletchermaths](#):



**Miss. Mc** @MissMc\_Maths · Sep 7

...

Replying to @Arithmaticks

Do you mean the display or teaching style? #MathsCPDChat



**Kathryn MCCT** 🧐 @Arithmaticks · Sep 7

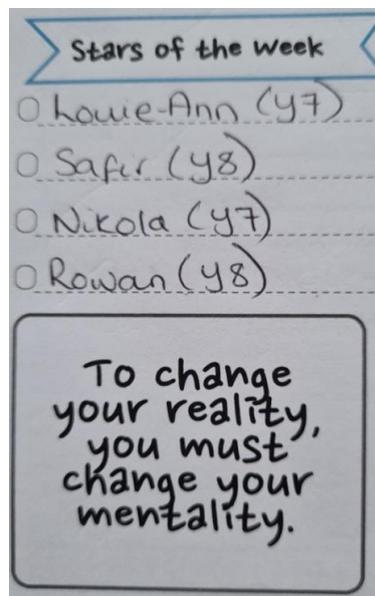
...

Anything at all :) Probably your practice really!

 **Miss. Mc** @MissMc\_Maths · Sep 7 ...  
Not maths but more to do with general teaching practice: I plan on catching students doing it right and rewarding more than sanctioning. It's pretty new for me 'cause I often notice the bad first. Inspired by all the positivity in [@EducatedMindsUK](#) planner [#MathsCPDChat](#)

 **Kathryn MCCT** 🧐 @Arithmaticks · Sep 7 ...  
That sounds perfect! I'm sure students will respond well to that too... How are you going to hold yourself accountable? [#MathsCPDChat](#)

 **Miss. Mc** @MissMc\_Maths · Sep 7 ...  
The planner's really helpful for that. Will do at least 4 positive phone calls every Friday when doing the weekly reflection 😊 [#MathsCPDChat](#)



 **Kathryn MCCT** 🧐 @Arithmaticks · Sep 7 ...  
Oh I love that! [#MathsCPDChat](#)

 **Miss. Mc** @MissMc\_Maths · Sep 7 ...  
[@Classcharts](#) reports are also really helpful as well. You can run reports for the day, week, month etc and can see the balance between positives and negatives. If the negatives outweigh the positives, I'll give achievement points to the students who deserve it 😊 [#MathsCPDChat](#)

 **Miss. Mc** @MissMc\_Maths · Sep 7 ...  
Replying to [@Arithmaticks](#)  
Will be doing a quick pre-test before each unit in KS4 and will use that to determine whether something needs to be taught as a full lesson or whether a quick retrieval task is all that's needed. Inspired by the [@JaggersMaths](#) SoW that we're following [#MathsCPDChat](#)

 **Kathryn MCCT** 🗣️ @Arithmaticks · Sep 7 ...  
Replying to @MissMc\_Maths and @JaggersMaths  
Exciting - is this different to your past practice? #MathsCPDChat

 **Miss. Mc** @MissMc\_Maths · Sep 7 ...  
It is indeed. Prior to this year, I'd follow the entire SoW but assess in each lesson whether more or less time was needed on worked examples before independent work #MathsCPDChat

 **@fletchermaths** ❤️ @fletchermaths · Sep 7 ...  
Replying to @MissMc\_Maths @Arithmaticks and @EducatedMindsUK  
Same here, I want to be more positive with students this year. #mathscpdchat

these from [Catherine Edwards](#) and [Atul Rana](#):

 **Catherine Edwards** @Edwards08C · Sep 7 ...  
Manipulatives are new for me, so being more thoughtful about how and when I use them.  
Retrieval , always done it, just want to sequence better  
Note making, is me improving, I want to develop their ability to generate their own notes and I don't think I do that well  
[#mathscpdchat](#)

 **Atul Rana** @atulrana · Sep 7 ...  
Manipulatives are amazing! I've just started using spreadsheets with tutees, including primary ones (Google Sheets is good enough). Sharpening their programming and maths at the same time #MathsCPDchat

 **Atul Rana** @atulrana · Sep 7 ...  
Replying to @atulrana  
[#MathsCPDchat](#)  
I should add that I am learning how to use 2 new manipulatives:  
- Pattern blocks (thanks to @VikkiPriddle CPD course)  
- Invicta balance for equality, (thanks to @Mathematicsctlm CPD)

Learning to use new manipulatives is a journey, hopefully I will blog about it..

 **Catherine Edwards** @Edwards08C · Sep 7 ...  
I've loved using them this year, its just been a bit scattered and ad hoc. Want the be more intentional.  
  
Maybe "Intentional " sums up aims for this year!  
[#mathscpdchat](#)

 **Atul Rana** @atulrana · Sep 7 ...  
That's a relief as at the moment I am just making it up as I go along with spreadsheets 😊 #MathsCPDchat

 **Catherine Edwards** @Edwards08C · Sep 7 ...  
With something new, I think that's the best way really, you've got to see what works and what doesn't. Then you can go back and reflect, refine and reorganise [#mathscpdchat](#)

 **Atul Rana** @atulrana · Sep 7 ...  
Replying to @Arithmaticks and @Edwards08C  
I find that tutees like the sense of control when programming even something simple like cell A1+ cell B1 = 'cell C1'. Then some constraint like the total in cell C1 to be ten. For primary that can consolidate number bonds. For secondary, linear programming etc.  
[#MathsCPDchat](#)

 **Atul Rana** @atulrana · Sep 7 ...  
So constrain the total of two numbers to be ten on spreadsheet. Choose whatever numbers work to get the total to be ten. Then plot the series of data in cell A1 and B1. Turns out to be a straight line; link it up to  $y=mx+c$  etc.  
[#MathsCPDchat](#)

and these from [Kathryn Darwin](#) and [Richard Dare](#):

 **Richard Dare** 🐘 @dare\_richard · Sep 7 ...  
Replying to @Arithmaticks  
I was really taken by @ollie\_lovell's interview with @totteridgeacad's Sammy Kempner. I want to look more at 'activating learners as instructional resources for one another' as @dylanwiliam puts it.  
[#mathscpdchat](#)

 **Kathryn MCCT** 🧑🏫 @Arithmaticks · Sep 7 ...  
Replying to @dare\_richard @ollie\_lovell and 2 others  
How are you planning to implement this? Where will you get the support?  
[#mathscpdchat](#)

 **Richard Dare** 🐘 @dare\_richard · Sep 7 ...  
A) Incrementally!  
B) I'm starting my @NCETMsecondary Mastery Specialist training, so I hope to draw on the considerable expertise of the @LSE\_MathsHub.

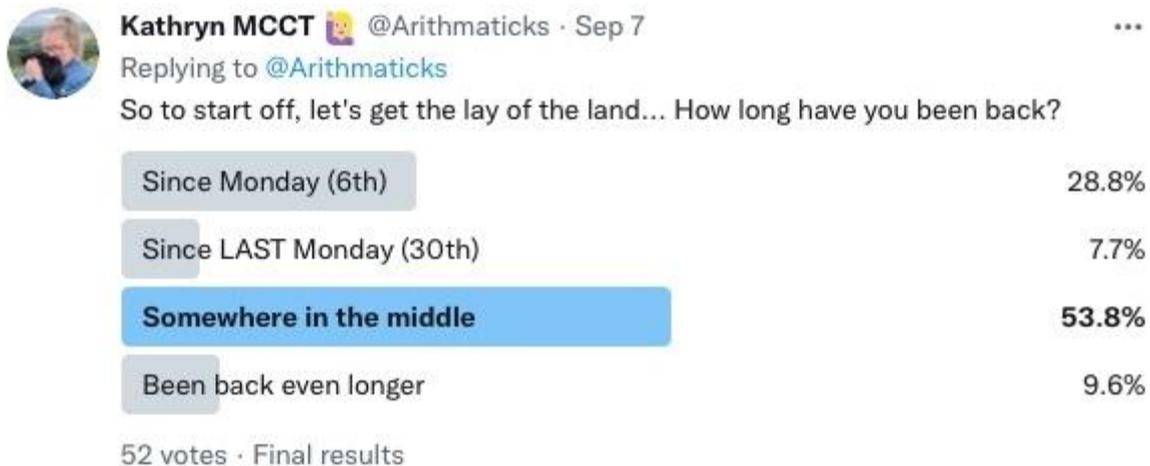
 **Kathryn MCCT** 🧑🏫 @Arithmaticks · Sep 7 ...  
Amazing! I have loved the SMS training so much!  
The Hubs have lots of great programmes :) [#mathscpdchat](#)

 **Richard Dare** 🐘 @dare\_richard · Sep 7 ...  
Replying to @dare\_richard @Arithmaticks and 3 others  
I'm also trying to bring in more of the methods SK describes to emphasize to students their own accountability and agency in the learning process.

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

Other areas where discussion focussed were:

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



the host's first question challenged teachers to share their maths teaching 'goals' for the 2021/22 school year ... although some responses to this challenge are included in the sequence of tweets reproduced above, other views and interests were shared:

- at least one teacher's expressed aim is to **enable colleagues to develop professionally continually** by working 'together in classrooms across the year to improve the day-to-day provision for all pupils';
- several teachers agreed that **sustained changes in practice are not usually established 'in an instant'** ... that most are achieved over time ... for example:



**Catherine Edwards** @Edwards08C · Sep 7

With something new, I think that's the best way really, you've got to see what works and what doesn't. Then you can go back and reflect, refine and reorganise

- teachers discussed what they would regard as **indications that their strivings to achieve their goals had been successful**, for example:

 **Kathryn MCCT** @Arithmaticks · Sep 7 ...  
I like that! How will you know you have been successful? :) #MathsCPDChat

1    ↻    ♥    ↗

 **Catherine Edwards** @Edwards08C · Sep 7 ...  
Retrieval is easiest- do I have an actual plan of when to do what questions  
Manipulatives similar- which ones to use when and how  
Notes- more qualitative, do I feel more confident? Are the students more independent? Are the students able to use their notes?  
[#mathscpdchat](#)

- many people mentioned that they want to **make ‘greater use of resources and manipulatives’**;
- others agreed that they are aiming to **focus more directly ‘on self-awareness / self-care’** ... ‘Think if I am emotionally ready my teaching is better’;
- **changes in ways of planning for pupils’ learning** were discussed by some teachers, for example:

 **Karen** @karenshancock · Sep 7 ...  
Replying to @Arithmaticks  
Better planning of full topics (including all resources) before I start teaching them. Increased use of worked examples. #MathsCPDChat

 **Karen** @karenshancock · Sep 7 ...  
Replying to @Arithmaticks  
Usually I overview plan the topic - find too many resources and then plan lesson to lesson - so much time wasted handing out sheets every lesson, so this year - one pack of sheets/handouts at start of topic all page numbered with space for date. Hoping to gain teaching time.

 **Dan Draper** @MrDraperMaths · Sep 7 ...  
Forward planning much more than I would have done before (e.g. at the moment I’m thinking about negatives even though they don’t appear explicitly in the curriculum for a few weeks yet) I need thinking time! 😂

- at least one teacher wants ‘to look more at **“activating learners as instructional resources for one another”**’:

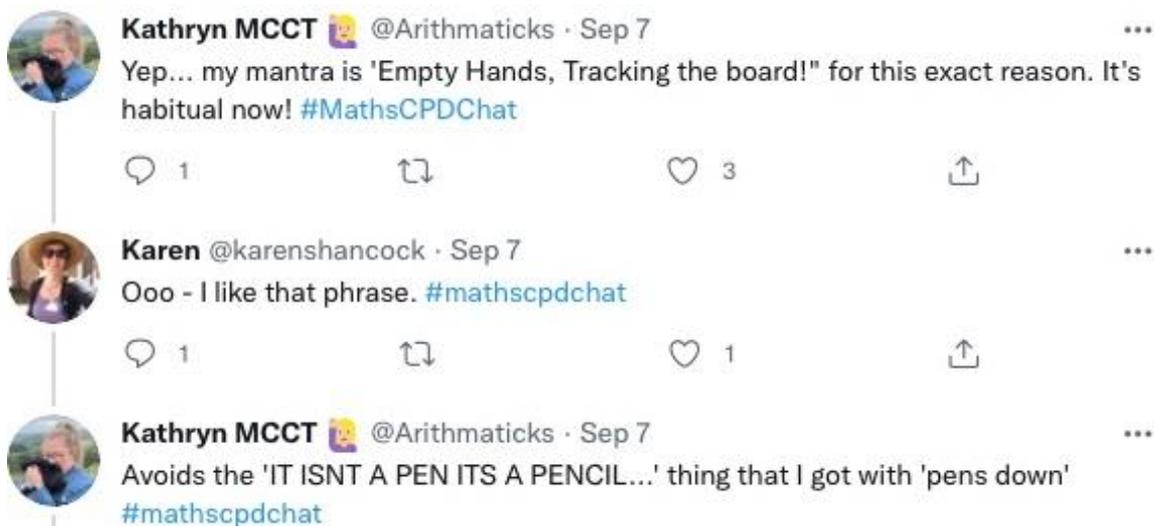


the host's second question asked more directly whether teachers are 'planning on trying something new in their classroom this year' ... although all the discussions that it prompted are shown in the sequences of screenshots-of-tweets given above, there was also this comment, which was nevertheless appreciated by others:



the host invited contributors to share anything that they have noticed only since returning to school this term that they want to improve:

- a tweet 'conversation' resulted about **ways of getting the full attention of all pupils** when the teacher wants to talk-to / engage-with the whole class together;



- a short discussion about 'reading lists' was generated when the host asked what support teachers felt they required in order to make their desired changes:

 **Kathryn MCCT** 🗣️ @Arithmaticks · Sep 7 ...  
What have you been reading to support this development? :) #mathscpdchat

1      ↻      ❤️ 2      ⬆️

 **Catherine Edwards** @Edwards08C · Sep 7 ...

Blogs and Twitter  
Retrieval Practice  
Visible Maths  
Generative learning  
Dual coding for teachers  
From galimafray to curriculum  
Cognitive load theory

My blog backlog is massive!  
[#mathscpdchat](#)

there were four responses to the host's final question:

 **Kathryn MCCT** 🗣️ @Arithmaticks · Sep 7 ...

Last question... Development does take time, but sometimes we are so busy looking for complex solutions, we forget to look at what is right in front of us! Is there one small change could you make tomorrow to make a BIG impact on your students?  
[#mathscpdchat](#)

 **Catherine Edwards** @Edwards08C · Sep 7 ...

Replying to @Arithmaticks

Narrate the Positive, I started doing it more intentionally ( that word again!) At the end of last year. Mostly classroom behaviour, but I think doing it for mathematical behaviour too would make a positive impact.  
[#mathscpdchat](#)

 **Peter Williams** 🎓 @MathsImpact · Sep 7 ...

Replying to @Arithmaticks

My big change this year has been to start modelling in a physical exercise book with my visualiser.

The immediate improvement in students presentation and note taking has been amazing.



**Atul Rana** @atulrana · Sep 7

...

Replying to @Arithmaticks

To think long term & to remember the power of compounding. To use language like "you are a mathematician as you are doing maths "/"You will have real fun with this idea at A-level maths" I found bottom set primary tutees beaming with joy on this future vision.

[#MathsCPDchat](#)



**Karen** @karenshancock · Sep 7

...

Replying to @Arithmaticks

Probably get a bit more sleep, drink a bit less coffee. :-) [#mathscpdchat](#) (That's not a facetious as it sounds. Us being awake and well rested is important for teaching at our best)