

#mathscpdchat 14 December 2021

How has your maths teaching gone this term? Have you made any New Year resolutions?

Hosted by [Charlotte Hawthorne](#)

*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 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, 14 December, 7-8pm'. A central photo shows a male teacher pointing at a whiteboard while a young girl points at it. Below the photo, the text asks 'How has your maths teaching gone this term? Have you made any New Year resolutions?'. At the bottom, it says 'Hosted by Charlotte Hawthorne @mrshawthorne7' and 'nctm.org.uk/mathscpdchat'. The NCETM logo is in the bottom right corner.

The links shared during this discussion were:

[Christmas Chocolates](#) which is a Desmos activity by S Halls Barker. Students use statistical knowledge and understanding, and numerical calculation abilities. It was shared by [Charlotte Hawthorne](#)

[Mathematical Christmas Tree](#) which is an illustrated PDF document from think-maths.co.uk providing clear instructions for creating a fractal Christmas tree like the one in Charlotte's photos. It was shared by [Charlotte Hawthorne](#)

[The #GCHQ Christmas Challenge](#) which is GCHQ's official Christmas card from GCHQ's Director, Sir Jeremy Fleming. It contains puzzles to challenge some clear-thinking skills! It was shared by [Maryse](#)

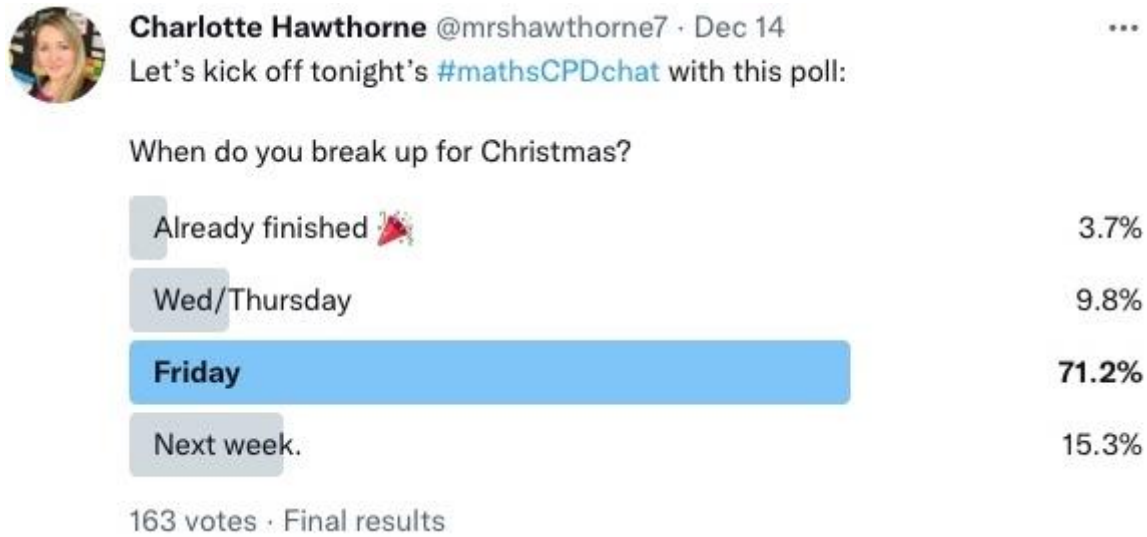
[Festive Fractals](#) which is a '2-lesson introduction to fractals' culminating in the making of pop-up fractal (Christmas) cards! It was shared by [Kirsty Fish](#)

[Santa's Reindeers - A Christmas game](#) which is a Christmas puzzle in which one uses numerical clues to work out the names of reindeers. It was shared by [Paula A](#)

[Knowledge Organisers](#) which is an article from Bradford Research School. It was shared by [Catherine Edwards](#)

A full illustrated summary of all the discussions follows below.

The host's first tweet ...



... indicated that most teachers who contributed to, or saw other people's contributions to, the chat were in the last week of their autumn term 2021.

Four responses to Charlotte's Question 1 ...



... were discussed. First, mathematical learning that may be generated by taking students 'to the food tech room' ...

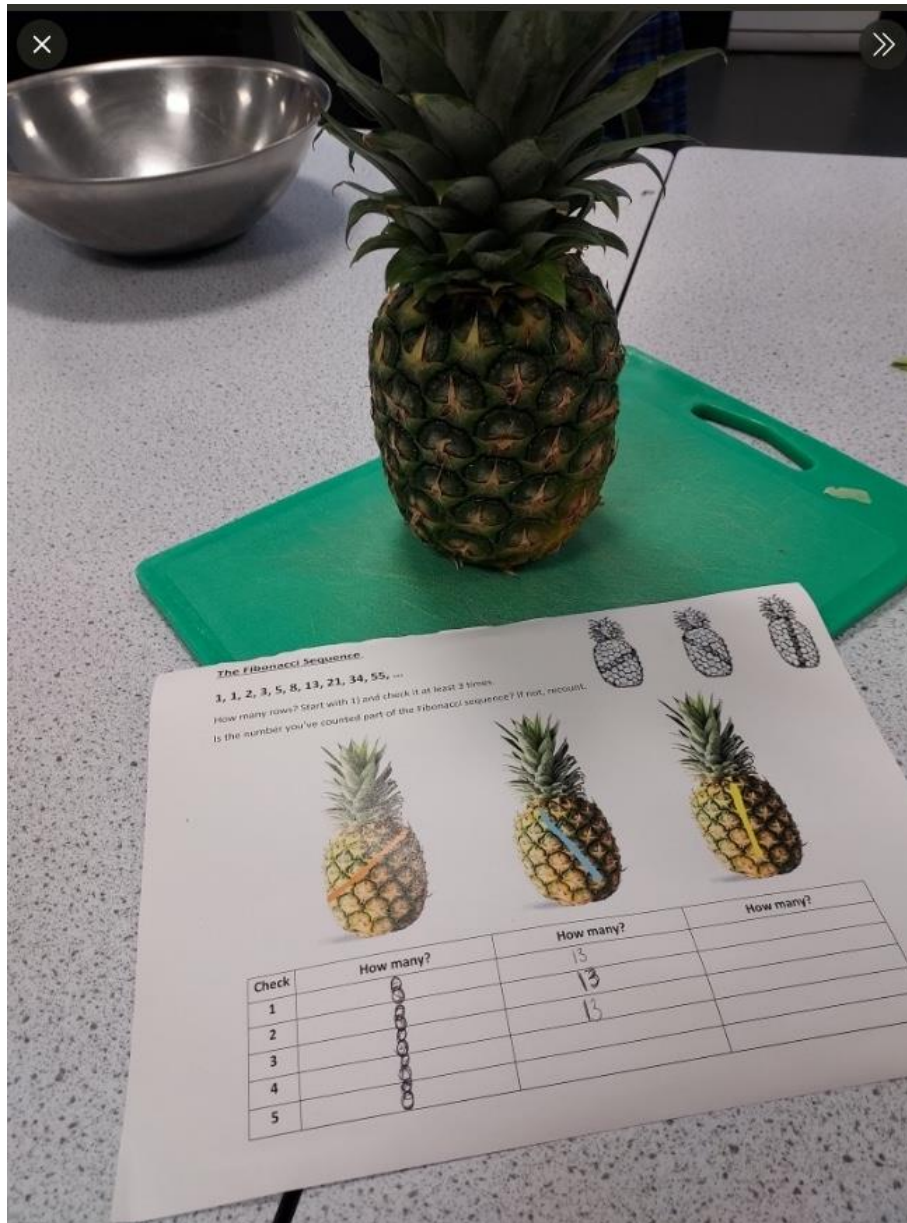


Miss Ward-Gow @mcwardgow · 16h

...

Replying to @mrshawthorne7

I decided to take a risk and take my Y10s to the food tech room to find the Fibonacci sequence within pineapples 😊 it went really well and the students have commented later how much they enjoyed the lesson
#mathscpdchat



Maryse #Antiracist @AllThingsMaths · 16h

...

Nice! Ratio problems are good in the food tech room too. And measures and converting.

#mathscpdchat



Miss Ward-Gow @mcwardgow · 16h ...

Great suggestions - will have to look into planning our next visit to food tech 😊 #mathscpdchat

... and creating GCSE-practice examples for Y11 students ...



Catherine Edwards @Edwards08C · 16h ...

Replying to @mrshawthorne7

Using my "Do Now" time to repeatedly practice thirty bespoke 1/2 markers for Y11 set 5. Really impacted their mock performance and confidence.

#mathscpdchat



Charlotte Hawthorne @mrshawthorne7 · 16h ...

Nice! Do you write these bespoke to your class or use a resource?

#mathsCPDchat



Catherine Edwards @Edwards08C · 16h ...

Generate in excel and use mail merge or Rmarkdown to make the sheets. Need to do a new batch from the latest mock data. #mathscpdchat



Nathalie Leighton @LeightonM4ths · 16h ...

Would love to know more on how you do this - new sheet every lesson or a booklet for a 1/2 term?



Catherine Edwards @Edwards08C · 16h ...

I was doing as a PowerPoint, but I'm going to do booklets for next half term. 6 questions each lesson, 30 questions over the week. Focusing on the first two pages of the GCSE papers. #mathscpdchat

... and focussing on 'mathematical talk' ...



Heather Pehrson @pehrson_heather · 16h ...

Replying to @mrshawthorne7

#mathscpdchat This term I've focused more on mathematical talk. It's now embedded in our classroom culture and I'm quite pleased.

... and mentoring students in teacher training:



Maryse #Antiracist @AllThingsMaths · 16h ...

Replying to @mrshawthorne7

I've mentored a PGCE student for the first time in 6 years. Loving it. The discussions, new ideas, enthusiasm. #mathscpdchat



Charlotte Hawthorne @mrshawthorne7 · 16h ...

Oh I miss mentoring, it's been too long. It's lovely to see that enthusiasm! Any particular ideas stand out? #mathsCPDchat



Maryse #Antiracist @AllThingsMaths · 16h

...

It's reinforced my own development tbh. After 20 yrs I needed an injection of enthusiasm. It's sharpened me. Preventing misconceptions. Teaching neg numbers. Theory. Research. [#mathscpdchat](#)

The screenshots below show conversations generated by replies to Charlotte's second question. Teachers discussed Christmas-themed tasks that they have enjoyed working on with their students. **Click on any of the following screenshots-of-a-tweet to go to that actual tweet on Twitter.**

These conversations were all generated by this poll, question and invitation from the host, [Charlotte Hawthorne](#):



Charlotte Hawthorne @mrshawthorne7 · Dec 14

...

Poll number 2 and possibly a controversial one...

Do you do Christmas activities in lessons?

Please add comments below to clarify :)

[#mathsCPDchat](#)



228 votes · Final results

and included this reply from [Maryse](#):



Maryse #Antiracist @AllThingsMaths · 16h

...

Replying to [@mrshawthorne7](#)

We used to do surface area and nets at this time. Wrapping presents and making decorations. Loved it. We moved around the SoW so certain topics were at certain times of year. [#mathscpdchat](#)

this conversation between [Alice Ward-Gow](#), [Charlotte Hawthorne](#) and [Maryse](#):

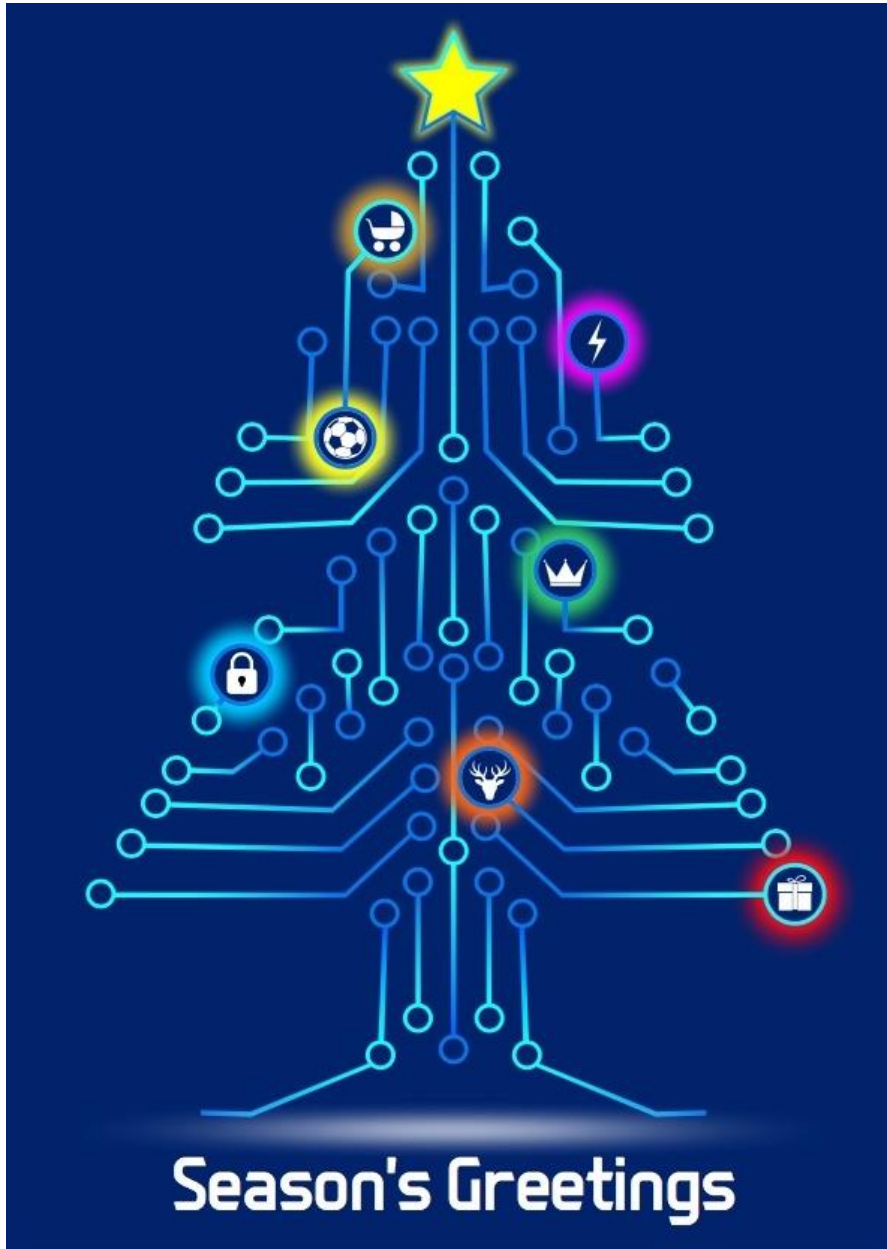


Miss Ward-Gow @mcwardgow · 16h

...

Replying to @mrshawthorne7

Only on the last day/last lesson for that class (in line with department directions) 😊 with the exception of the GCHQ Christmas Challenge yesterday #mathscpdchat



Charlotte Hawthorne @mrshawthorne7 · 16h

...

Ooh, I haven't had chance to look at it yet. Is it good? #mathsCPDchat



Miss Ward-Gow @mcwardgow · 16h

...

Yes pretty good and a nice variety of difficulties 👍 some of our students managed to complete the challenge, so got some certificates to hand out this week 😊 #mathscpdchat



Maryse #Antiracist @AllThingsMaths · 16h
Replying to @mcwardgow and @mrshawthorne7
gchq.gov.uk/news/christmas...

...

Cheers for the nudge. Just shared with the team.

[#mathscpdchat](#)



gchq.gov.uk
The #GCHQChristmasChallenge is here!
We reveal this year's Christmas card which comes with a twist



Miss Ward-Gow @mcwardgow · 16h
We opened it up to staff too... had one complete it so far 😊
[#mathscpdchat](#)

...

a long 'branching' conversation that started with these interchanges between [Tom De Fazio](#), [Charlotte Hawthorne](#) and [Mary Pardoe](#):



Tom De Fazio @Mathemagician4U · 16h
Replying to @mrshawthorne7

...

I love to tie the holidays in to Math.

A good exercise is how many gifts were given in the 12 days of Christmas. A little more complicated is figuring out the cost of the 12 days of Christmas (unit prices given). Christmas & Holiday logic puzzles are amazing. And Math eqns:





Charlotte Hawthorne @mrshawthorne7 · 16h

...

Replying to @Mathemagician4U

Yes! The twelve days of Christmas is a great problem! #mathsCPDchat

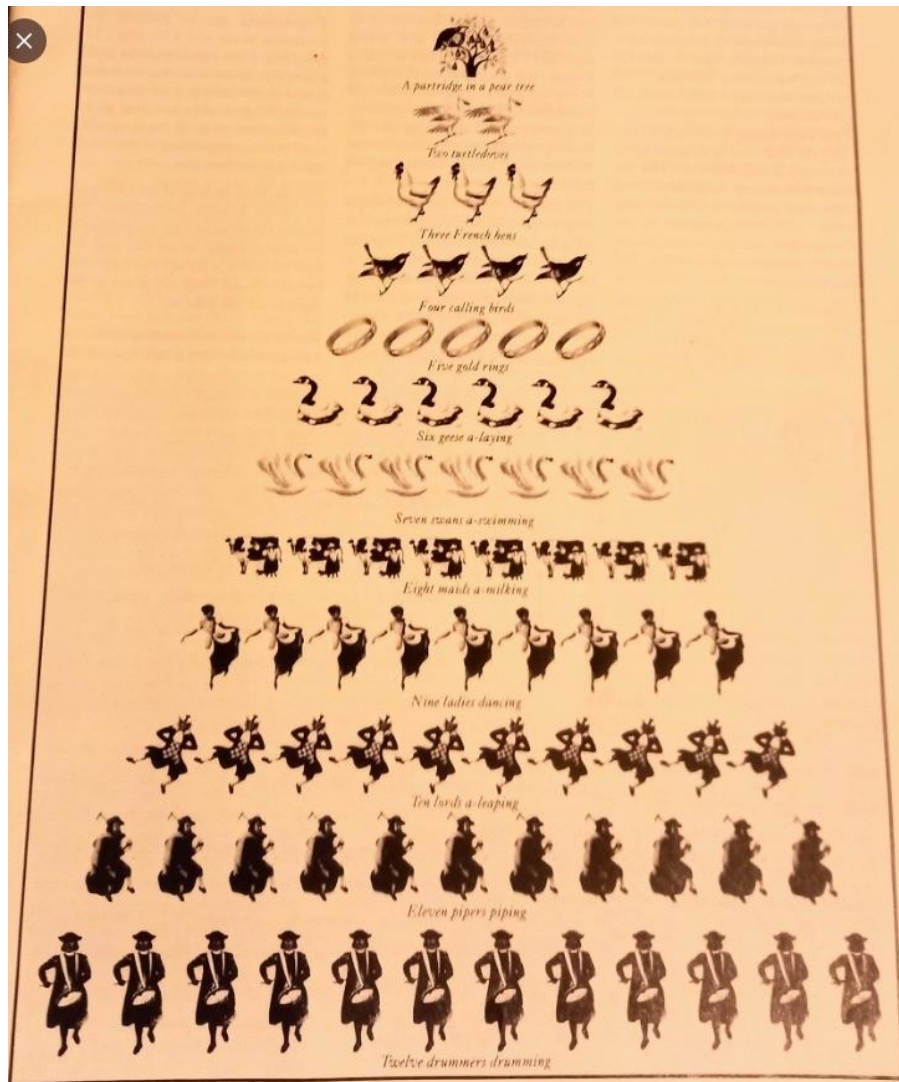


Mary Pardoe @PardoeMary · 15h

...

From MT108, 1984 ...

#mathCPDchat



Tom De Fazio @Mathemagician4U · 15h


...


Classically beautiful! Pascal himself would love it!

and continued with this dialogue between [Heather Pehrson](#) and [Charlotte Hawthorne](#):

 **Heather Pehrson** @pehrson_heather · 17h ...
Replying to @Mathemagician4U and @mrshawthorne7
Very excited about the @QualityStreetUK maths lesson I've created for our A Level students using our Chrome books, excel and @Desmos. Last year I just did a GCSE and Core Maths version - now the A Level students can join in the tradition. #mathscpdchat

 **Charlotte Hawthorne** @mrshawthorne7 · 18h ...
Sounds great! Is this a demos lesson? If so are you able/willing to share the link? #mathsCPDchat

 **Heather Pehrson** @pehrson_heather · 17h ...
Replying to @mrshawthorne7 @Mathemagician4U and 2 others
I did make a Desmos lesson for Core Maths last year but mostly used a ppt I made. I managed to link every Core Maths skill we'd learned so far. #mathscpdchat

 **Heather Pehrson** @pehrson_heather · 18h ...
The A level lesson is actually instructions embedded into a google sheet. The idea is to expose them to some spreadsheet/Desmos skills with a simple, approachable data set to prepare them for meeting the LDS next term.

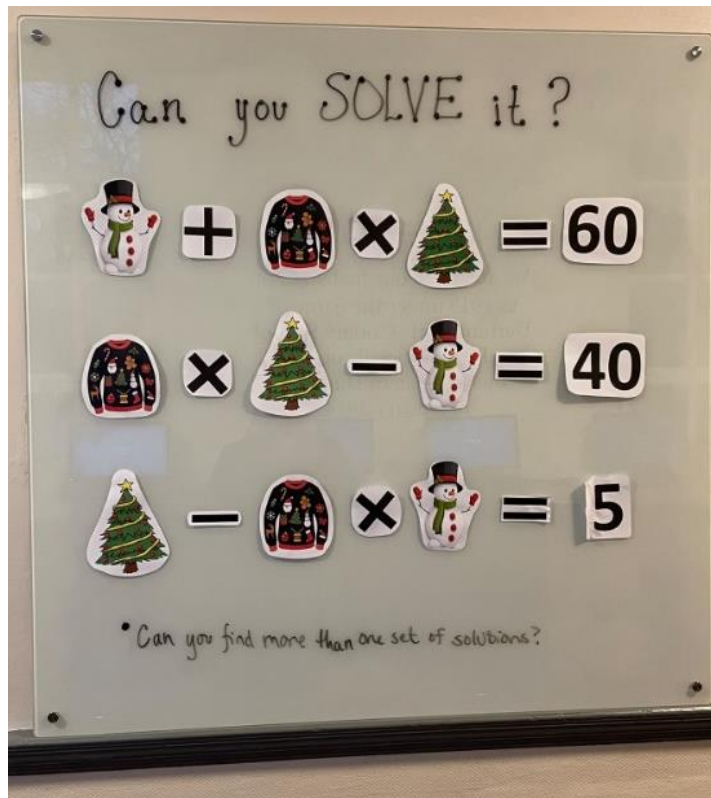
 **Charlotte Hawthorne** @mrshawthorne7 · 18h ...
Replying to @pehrson_heather @Mathemagician4U and 2 others
I've used this lesson with Core Maths students before about Christmas chocolates teacher.desmos.com/activitybuilder... #mathsCPDchat



teacher.desmos.com
Christmas Chocolates
by Shallsbarker@swchs.net

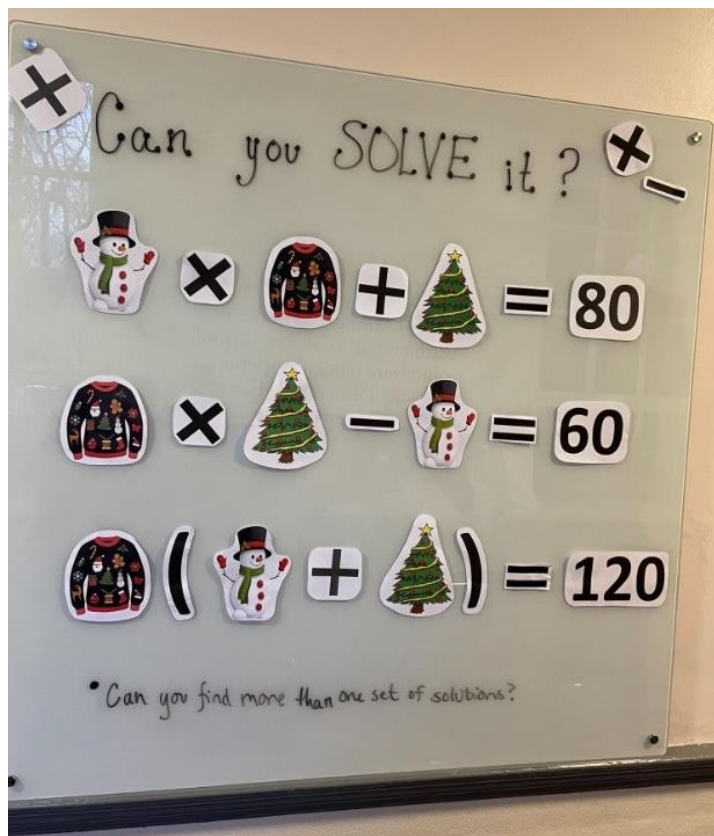
and then this conversation between [Heather Pehrson](#) and [Tom De Fazio](#):

 **Heather Pehrson** @pehrson_heather · 17h ...
Replying to @pehrson_heather @Mathemagician4U and 3 others
Also enjoying seeing students dig into these puzzles I've posted in the hallway. #mathscpdchat



Heather Pehrson @pehrson_heather · 17h


Replying to @pehrson_heather @Mathemagician4U and 3 others
And another, more challenging, holiday puzzle. #mathscpdchat



-  **Tom De Fazio** @Mathemagician4U · 17h ...
This truly makes them think outside the box, to look at the "big picture," to see all the moving parts. . . . I love this. This is what helps make Algebra students! This is so important! And I wanna put in a plug for Number Theory, too, so neglected.
-  **Heather Pehrson** @pehrson_heather · 17h ...
Replying to @pehrson_heather @Mathemagician4U and 3 others
I haven't had any students solve this one yet... maybe too difficult?
[#mathscpdchat](#)
-  **Tom De Fazio** @Mathemagician4U · 17h ...
I don't think it's too hard. If they use the DP on #3 & combine with #1 and #2, they'll get that tree = snowman + 20. Because sweater is the multiplier in all 3, that has to be low and likely even, so why not choose 2. Then guess & check finishes it off. I think it's very doable.

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

Maths teachers' New Year Resolutions, shared in response to Charlotte's Question 3 ...

-  **Charlotte Hawthorne** @mrshawthorne7 · 16h ...
Question 2:
What are your teaching New Years Resolutions?
- It's nearing the end of term, what are you hoping to start or re-set in January?
- [#mathsCPDchat](#)



included developing the use of knowledge organisers ...



Catherine Edwards @Edwards08C · 16h

...

Replying to @mrshawthorne7

We're starting using Knowledge Organisers, first leg of my big whole school project. The booklets look great and now putting all that hard work into use.
[#mathscpdchat](#)



Charlotte Hawthorne @mrshawthorne7 · 16h

...

I've heard mixed things about knowledge organisers, particularly in maths, how have you found them? What do you think the key to useful ones are?
[#mathsCPDchat](#)



Catherine Edwards @Edwards08C · 16h

...

We'll see how it goes using them. I used a lot of the research from
[@BradResearchSch](#)

The real key things are

- 1) making sure it is completely aligned with your curriculum and methods
- 2) actually teaching the kids to use them in a consistent manner.

[#mathscpdchat](#)



Catherine Edwards @Edwards08C · 16h

...

[researchschool.org.uk/bradford/news/.](https://researchschool.org.uk/bradford/news/)

[#mathscpdchat](#)



researchschool.org.uk

Knowledge Organisers: Organising the Organiser

Mark Miller, Head of Bradford Research School, explores how we can organise information

... and 'more multi-base teaching' ...



Atul Rana @atulrana · 16h

...

Replying to @mrshawthorne7

More multi-base teaching at earlier stages of teaching mathematics. That's it for a resolution!

[#MathsCPDchat](#)



Charlotte Hawthorne @mrshawthorne7 · 16h

...

And what a fantastic resolution that is... can we all make this one please?

[#mathsCPDchat](#)

... and thinking deeply about ways of providing feedback to students:



Heather Pehrson @pehrson_heather · 16h

...

Replying to @mrshawthorne7

Teaching New Years Resolution: think deeply about maximising the cost/benefit of feedback. [#mathscpdchat](#)



Charlotte Hawthorne @mrshawthorne7 · 16h

...

Ooo great one! Will you try different things with some classes, a bit of action research maybe? It's so important we don't spend valuable time of things that don't have the impact we'd want! [#mathsCPDchat](#)



Heather Pehrson @pehrson_heather · 16h

...

Currently I 'mark' homework for completion. I'm torn on it's usefulness. On one hand, I am able to praise/target students according to my findings but it's time consuming. I don't know the answers yet but, as I said, I'm committed to thinking deeply about it. [#mathscpdchat](#)

Replies to Charlotte's fourth question ...



Charlotte Hawthorne @mrshawthorne7 · 17h

...

Question 3:

Christmas wish list.

Let's pretend money is no issue, what would be top of your Christmas wish list to make your teaching life easier in January?

[#mathsCPDchat](#)

... included desiring a large whiteboard in the classroom ...



Mark Greenaway @suffolkmaths · 17h

...

Replying to @mrshawthorne7

Fairly modest but I would love an old fashioned very large whiteboard across the front of my room :-)

... a very long list of desired things ...



Catherine Edwards @Edwards08C · 17h

...

Replying to @mrshawthorne7

Class set of equipment comprising of

- 1) calculator
- 2) iPad/tablet
- 3) appropriate manipulatives
 - beadstrings
 - algebra tiles
 - double sided counters
 - plastic money
 - numicon
- 4) erasable resources
 - ten frames
 - numberlines
 - part part whole

Think that's it 🙌

[#mathscpdchat](#)



Charlotte Hawthorne @mrshawthorne7 · 17h

...

Not a long list then 😊 [#mathsCPDchat](#)



Catherine Edwards @Edwards08C · 17h

...

Already thought of something missed

Timetable Rockstar and numbots subscription

[#mathscpdchat](#)

... manipulatives, and support for teaching maths more effectively online ...



Atul Rana @atulrana · 17h

...

Replying to @mrshawthorne7

Real manipulatives, more manipulatives, loads of different type of manipulatives!

[#MathsCPDchat](#)



Atul Rana @atulrana · 17h

...

Also v keen to train other tutors to learn how to tutor online. What one can do through online tutoring is incredible. Reaching pupils and adult learners all over the globe. So many more people have buy in to online tutoring than they did pre-pandemic.

[#MathsCPDchat](#)



Charlotte Hawthorne @mrshawthorne7 · 17h

...

Yes, teaching effectively online is certainly something that all teachers now need to know how to do [#mathsCPDchat](#)

... and more time!



Maryse #Antiracist @AllThingsMaths · 17h

...

Replying to [@mrshawthorne7](#)

Additional time to prep individual practice questions. Really forensic responses to assessment.

[#mathscpdchat](#)



Charlotte Hawthorne @mrshawthorne7 · 17h

...

Ah, more time! That would be wonderful! [#mathsCPDchat](#)

Charlotte's final question ...



Charlotte Hawthorne @mrshawthorne7 · 18h

...

Ok, final question of the night.

A few people replied to the Christmas lesson poll with ideas about how they do festive maths lessons.

What's your favourite Christmas maths activity?

[#mathsCPDchat](#)

... generated a variety of ideas. Logic puzzles were mentioned again. Mathematical Advent calendars are enjoyed, and ...



Alison Hopper @AlisonHopperMEI · 15h

...

Replying to [@mrshawthorne7](#)

[@MEIMaths](#) tweeted some last week with [#MEIChristmas](#). Might be worth a look [#mathscpdchat](#)

... and fractals!



Catherine Edwards @Edwards08C · 18h

...

Replying to [@mrshawthorne7](#)

I really enjoyed making the fractal Christmas trees last year, but I have very different groups this year and I don't think it would work as well.

[#mathscpdchat](#)



Charlotte Hawthorne @mrshawthorne7 · 18h

...

Ah! These ones: think-maths.co.uk/sites/default/ ? I enjoyed this last year too. #mathsCPDchat



Charlotte Hawthorne @mrshawthorne7 · 18h

...

This was our effort 🎄 ✨ #mathsCPDchat





Catherine Edwards @Edwards08C · 18h

...

Yours looks a lot sturdier than ours ! It was fun . I only did it last year because attendance was so low, will have to see how we go this week.
[#mathscpdchat](#)



Kirsty Fish @Kirstymaths · 15h

...

Replying to [@mrshawthorne7](#)

Another fractal activity - these Christmas cards are really fun to make
tes.com/teaching-resou.. (you can skip straight to part 4 if you don't want to drag it out over 2 lessons!) [#mathsCPDchat](#)