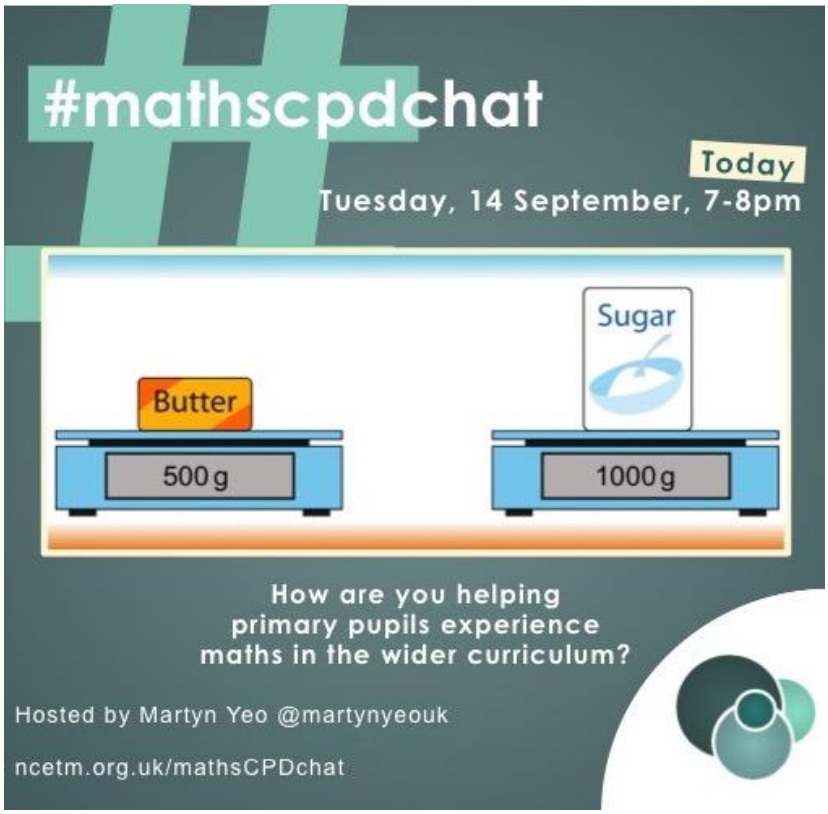
#mathscpdchat 14 September 2021

How are you helping primary pupils experience maths in the wider curriculum?
Hosted by Martyn Yeo

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



Among the links shared during the discussion were:

How Cross-Curricular Learning Can Bring Maths to Life for Primary School Pupils which is a Third Space Learning blog by Kerry Dalton (May, 2020). The author gives reasons 'why 'Cross-Curricular Learning' is important in primary maths' and provides examples of some mathematics that KS2 pupils might learn while exploring themes such as royal weddings and RSPB Big Garden Birdwatch projects. It was shared by Martyn Yeo

Some ideas for active maths through PE which is an illustrated blog by Kevin Peake. The author's suggested activities include associating multiplication facts with actions performed on

agility ladders, and playing a version of noughts and crosses using calculation and result cones arranged in a square grid. It was shared by Martyn Yeo

Dance Squared which is a video from the National Film Board of Canada made in 1961 by René Jodoin. Rectangles, squares and triangles combine, split, re-combine, and move about forming patterns, always in time to some very 'catchy' music! It was shared by Martyn Yeo

NCETM Primary Magazine Issue 34 which includes an article about paintings by the French artist Henri Matisse. It was shared by Martyn Yeo

How to Draw a Room Using One Point Perspective which is a set of illustrated, step-by-step (10 steps) instructions that are intended to enable students to create a drawing of the interior of a room using a vanishing point. It was shared by Atul Rana

Guitar Mathematics which is a 'lesson' (an article) on the Passy World of Mathematics website. It 'looks at the mathematics associated with the guitar in rock music' and includes sections with titles such as 'Pythagoras and Guitar Fret Spacings' and 'Vibration of Guitar Strings'. It was shared by Atul Rana

Free Functional Skills and Skills for Life Resources which is 'the home of free adult literacy, numeracy and Functional Skills resources'. It includes such resources as 'two PowerPoints that cover the properties of 2D and 3D shapes – faces, edges, vertices and line symmetry'. The 'second PPT can be printed off and used as a workbook'. It was shared by Catherine Edwards

Graph dancing math which is a YouTube video in which the red arms of an otherwise blue 'cartoon person' (which is drawn on a square grid without any marked axes) change their shapes so that, one after another, together they form the 'typical' shapes of graphs-drawn-on-Cartesian-grids of some common relationships between x and y, such as y = cos x and y = x^3 . It was shared by Catherine Edwards

Desmos activities for Geography which is a padlet created by Catherine van Saarloos, consisting of links to very many varied resources, categorised under thirteen headings such as 'Using Desmos', 'General screens to add to activities', 'Guess who (polygraph) games', 'Representing data', 'Modelling', and so on… . The resources themselves are imaginatively varied, including such delights as 'Alligator Investigation' and 'Starbucks locations'! It was shared by Mary Pardoe

Dancing with Maths which is an illustrated NRICH article by Chris Budd. The content of the article is relevant to the maths teaching and learning of pupils aged 7 to 16. It is about dance moves that correspond to transformations (symmetries) of the square. For example, reflection in

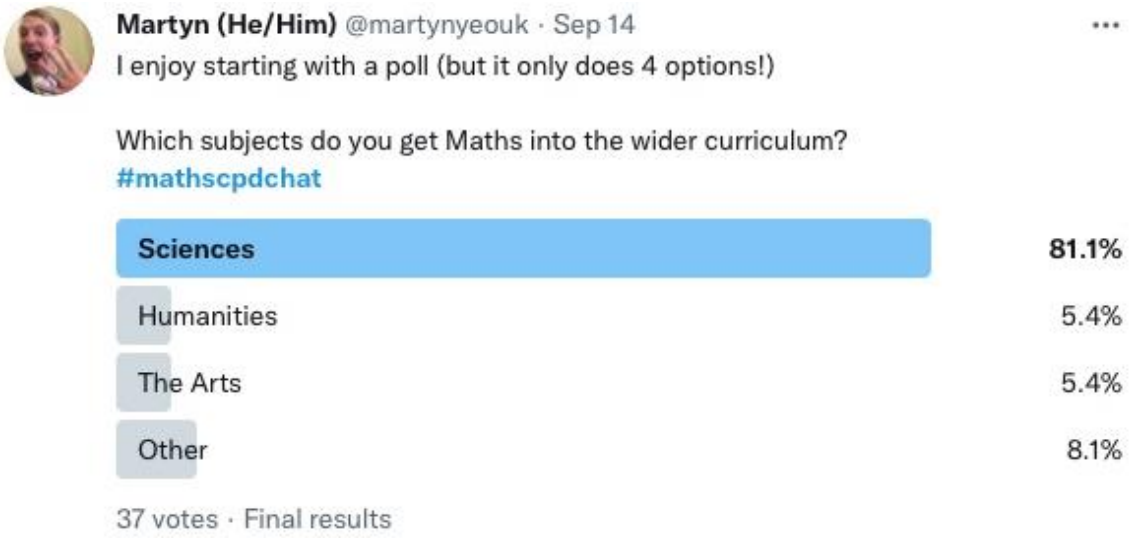
the ‘leading’ diagonal in which two of four ‘square dancers’ swap places is the ‘dos-e-dos’ or ‘inner-twiddle’ dance move! It was shared by Mary Pardoe

The Magic Flute which is a page of Marcus du Sautoy’s website relating to performances at the Royal Opera House in which Marcus explored, with singers and the audience, the mathematical and philosophical roots of the symbolism and ideas within Mozart’s *Die Zauberflöte*. It was shared by Mary Pardoe

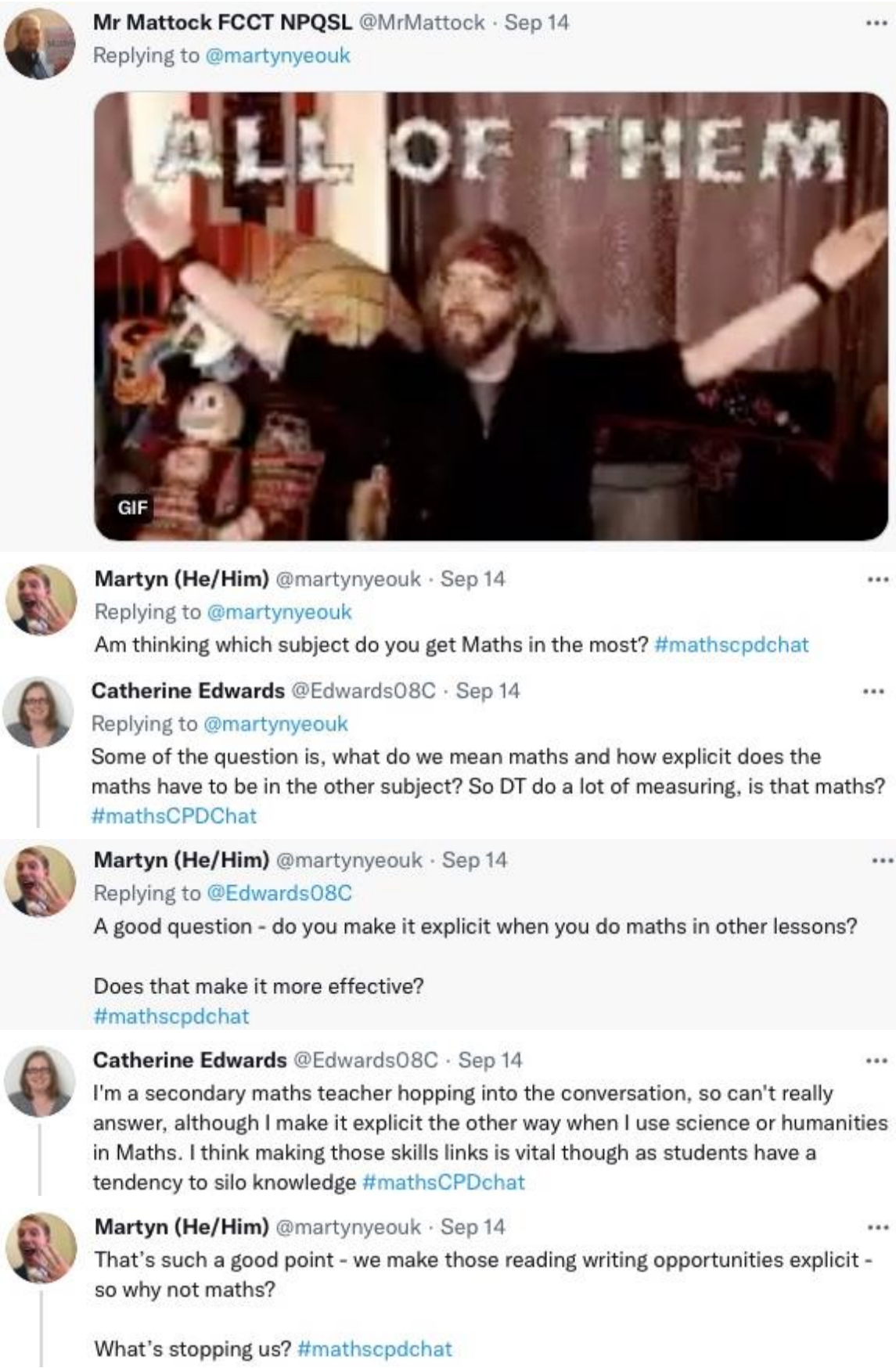
#mathsCPDchat summary 29 June 2021 which is the summary of a Twitter-chat hosted by Martyn Yeo, in which the questions discussed were ‘What material (such as guidance on websites, books, schemes and research reports) is proving to be most helpful in your primary-phase maths teaching? How is it helping?’. It was shared by Mary Pardoe

The screenshots below, of chains of tweets posted during the chat, show parts of three conversations about looking out for opportunities for pupils to do (work on) some mathematics in school subjects other than maths itself. **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 Martyn Yeo:



and included these from Peter Mattock, Martyn Yeo and Catherine Edwards:



Catherine Edwards @Edwards08C · Sep 14

Certainly a secondary lack of knowledge of where/when mathematical skills as delivered across the curriculum.
Time pressure to get content delivered. In some cases lack of staff confidence in explaining those links.
#mathsCPDchat

Martyn (He/Him) @martynyeouk · Sep 14

And yet with everything the pupils have missed - we need to get every opportunity in - is your school doing anything? Maybe cross subject meetings with science?
#mathscpdchat

Catherine Edwards @Edwards08C · Sep 14

It was my NPQSL project last year, mostly focused on the graphs used, hoping we'll have a little working party taking it further this year .
#mathscpdchat

Martyn (He/Him) @martynyeouk · Sep 14

That sounds a great project - what did you discover and recommend to others from your work? #mathscpdchat

Catherine Edwards @Edwards08C · Sep 14

focussing a lot on really accurate language selection and fine details. Making sure when we say line of best fit for example we all mean the same thing in different areas. curriculum sequencing, DT wondered why Y7 couldn't use compasses, but they come up in Y8 maths #mathscpdchat

these from Simon Ball, Mary Pardoe, Peter Mattock and Atul Rana:

Simon Ball @ballyzero · Sep 14

Replying to @martynyeouk

I'm thinking you've got them in a good ascending order there: most in Science, with the subject retreating as you go down the list! #mathscpdchat

Mary Pardoe @PardoeMary · Sep 14

What about Art … can get lots of maths into artistic creations?!
#mathscpdchat

Simon Ball @ballyzero · Sep 14

Replying to @PardoeMary and @martynyeouk

You can - if it's introduced that way. I don't remember any maths in the Art lessons I did as a student at any stage… so I would encourage people to give me examples and change my mind! #mathscpdchat

Mary Pardoe @PardoeMary · Sep 14

Replying to @ballyzero and @martynyeouk

I ran maths-art lessons at one time (Y9) … pupils loved them … had regular exhibitions of what pupils created in Worthing library!
#mathscpdchat

Simon Ball @ballyzero · Sep 14
I would have absolutely loved that. One of the realisations I've come to over the years is how beautiful and artistic mathematics can actually be! #mathscpdchat

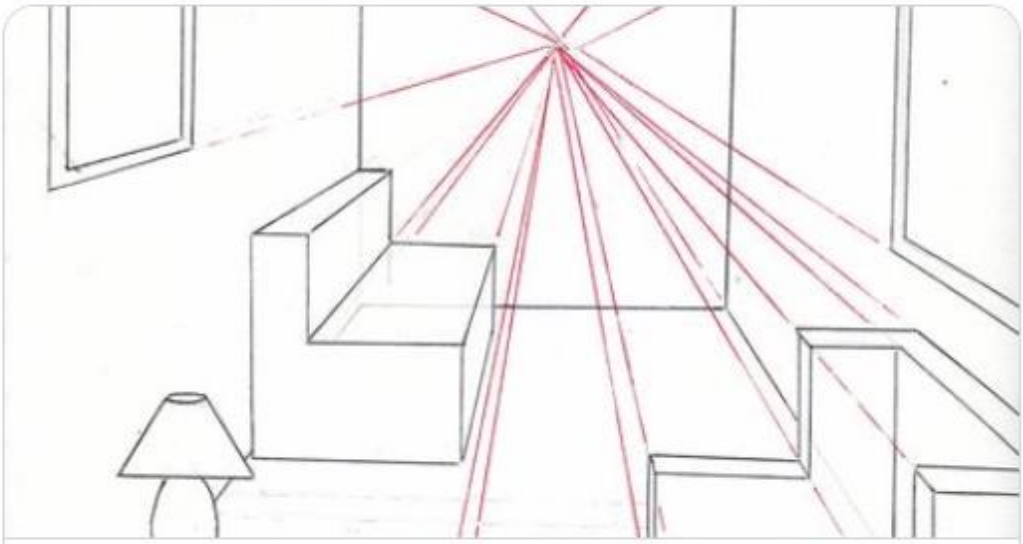
Mr Mattock FCCT NPQSL @MrMattock · Sep 14
You never examined symmetry or perspective in Art, Simon? #mathscpdchat

Simon Ball @ballyzero · Sep 14
In Art lessons, when I was a pupil - no. #mathscpdchat

Mr Mattock FCCT NPQSL @MrMattock · Sep 14
Maybe a product of your school curriculum at the time. What about techniques for drawing using circles and polygons a la the Simpsons?
content://com.android.chrome.FileProvider/images/screenshot/1631643855074362796831482774064 9.jpg

Simon Ball @ballyzero · Sep 14
I wouldn't be surprised - I entered Year 7 thirty years ago. It's to be hoped that things have moved on since then! #mathscpdchat

Atul Rana @atulrana · Sep 14
I show links between single perspective drawings/photos when looking at enlargements for the first time. Stuff like that is here:
instructables.com/How-To-Draw-A-...
#MathsCPDchat



How to Draw a Room Using One Point Perspective
How to Draw a Room Using One Point Perspective: By making a drawing using one point perspective, students will learn to make a two-dimensional space ...
instructables.com

and these from Peter Mattock, Simon Ball, Martyn Yeo, Mary Pardoe and Atul Rana:

Mr Mattock FCCT NPQSL @MrMattock · Sep 14
Not forgetting that all of music ia basically maths #mathscpdchat

Simon Ball @ballyzero · Sep 14
I hear/read that an awful lot - but never hear/see those links made explicit to students. Perhaps this is my position in a sixth form college working against me! 😅 #mathscpdchat

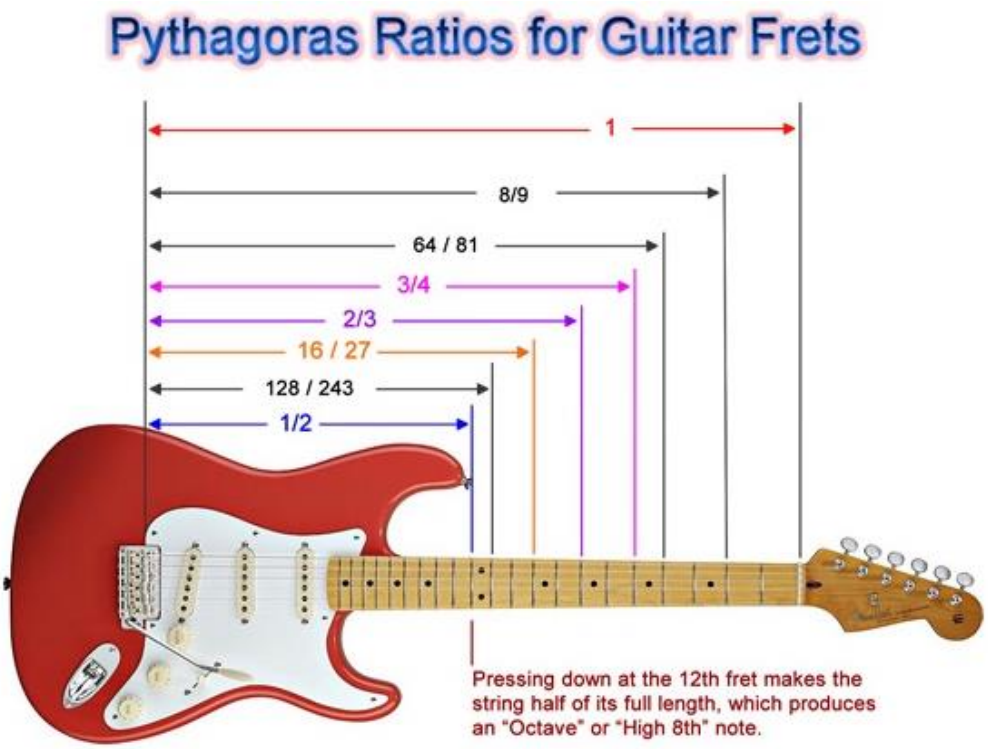
Martyn (He/Him) @martynyeouk · Sep 14
Yes! A friend of mine is a great mathematician and musician - definitely a correlation! #mathscpdchat

Mary Pardoe @PardoeMary · Sep 14
Replying to @martynyeouk @MrMattock and @ballyzero
... and Marcus du Sautoy is interesting re music/maths ...
e.g. simonyi.ox.ac.uk/performances/t...

#mathscpdchat

Atul Rana @atulrana · Sep 14
The story of Pythagoras is also interesting, not just the theorem of course but things like his contribution to music theory. Especially if there's a guitar involved. Makes for an excellent hook #MathsCPDchat

Guitar Mathematics
Image Copyright 2012 by Passy's World of Mathematics
Here at Passy's World we love playing guitar. What is ...
passyworldofmathematics.com



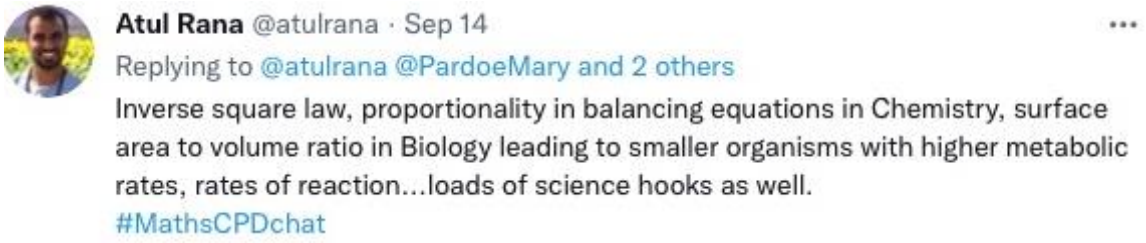
(to read the discussion-sequence generated by any tweet look at the 'replies' to that tweet)

There were only a few other areas where discussion focused. The poll that Martyn (the host) tweeted at the start of the chat generated most of the discussions that constituted the whole hour-long chat.

The main content of the discussions that were in response to the poll is indicated by the extracts from threads of tweets that are reproduced above as sequences of screenshots:

- however, in response to the poll there were also some comments about not trying to address-at-the-same-time too many of the mathematical ideas that can arise when the focus is on a particular curriculum area other than maths;

- also, some subject areas other than those discussed in the tweets reproduced above were mentioned;



- a previous recent #mathsCPDchat that had included discussion about using stories as starting points for mathematical learning was also mentioned (link provided above);

tweets that might have been responses to the host's 'Q 1' had already been generated by his poll-tweet, but 'Q 1' did prompt a short discussion:

Tom Oakley @ThatMathsMan · Sep 14

I like to see maths,particularly measures, applied in DT and cookery at school.

Personally I'm not very good at wood work, but the old rule of 'measure twice and cut once' seems to help.

#mathscpdchat

> **Martyn (He/Him)** @martynyeouk · Sep 14
> Q1
> So how do you use maths in other areas of the curriculum?
>
> How effective is it?
>
> #mathscpdchat

Martyn (He/Him) @martynyeouk · Sep 14

Replying to @ThatMathsMan

And would you make it explicit you are doing maths or just keep it quiet?
#mathscpdchat

1 1

Tom Oakley @ThatMathsMan · Sep 14

Depends on what I'd want the children to think about in the lesson.

In a lesson that focuses on the correct use of cutting tools measuring will come up… but if I want to avoid cutting accidents, best to avoid the maths qs at that crucial first hacksaw cut… 😬

#mathscpdchat

the host asked if there was anything (else!) that teachers would not recommend doing: