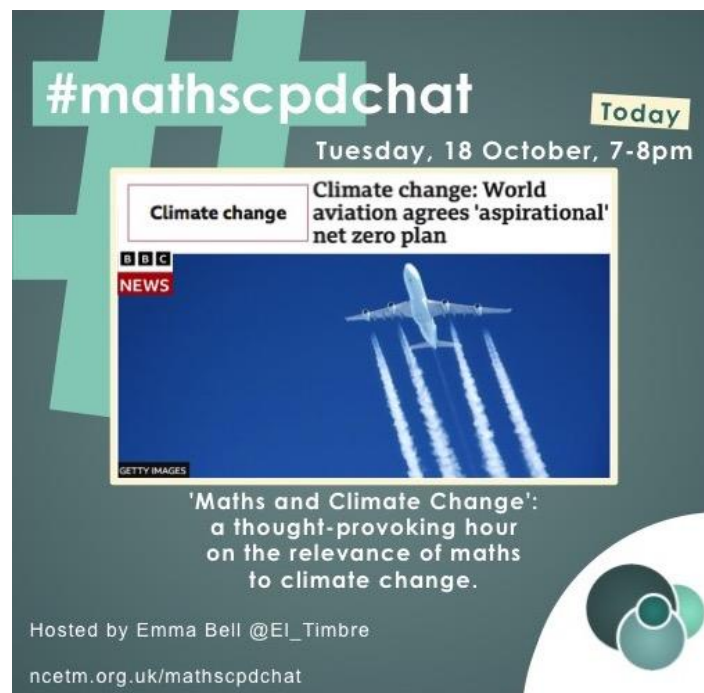


#mathscpdchat (On this occasion with #CoreMathsChat) 18 October 2022

‘Maths and Climate Change’: a thought-provoking hour on the relevance of maths to climate change.

Hosted by [Emma Bell](#)

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



The following questions from the host were addressed:

1. **Maths, Climate Change and You**: climate change can be an emotive topic – would you feel confident using it as a context in lessons?
2. **Maths, Climate Change and Context**: have you ever used climate change as a context in your maths lessons?
3. **Maths, Climate Change and Careers**: how can we encourage our students to pursue a career in climate science?
4. **Maths, Climate Change and Resources**: what sources/resources can you share that might help a maths teacher use a climate change context in their lessons?
5. **Maths, Climate Change and Hope**: by linking climate change and maths in your future lessons, what do you hope for?

A full illustrated summary of the discussions generated by these questions follows, after a list of the links shared during this #mathsCPDchat:

[Royal Meteorological Society and MEI Climate Change Resources](#) which is a suite of maths teaching and learning resources to engage young people with climate issues and show the relevance of maths to climate change and meteorology. It was shared by [Emma Bell](#)

[Protecting Our Planet Day: 10 November 2022](#) which will be an inspiring, new, live streamed event for primary and secondary schools consisting of live link-ups, talks and classroom activities. The day is presented by STEM Learning, in collaboration with the leading organisations and societies of the UK's [Climate Change Educational Partnership](#). Students can learn about current challenges, possible solutions and effective actions by joining the inspiring sessions and taking part in the exciting activities. It was shared by [Emma Bell](#)

[Protecting Our Planet Through Maths](#) which is part of [Protecting Our Planet Day](#). Participants will hear from an awesome panel in academia and industry who are working on environmental and cutting-edge research with the objective to protect our planet. It was shared by [Emma Bell](#)

[Green Careers Week 7-12 November](#) which is part of [National Careers Week](#). It is designed to help teachers and young people get to grips with emerging technologies and careers that will change the world for the better. It was shared by [Emma Bell](#)

[Try being a climate scientist - estimating and reasoning](#) which is part of the AMSP's [Where maths meets the world of work](#) series. In this video students will hear from Dr Sammie Buzzard how choosing to study A level Mathematics was essential in enabling her to pursue a career in climate science. The video is accompanied by various different sets of activities which students can choose to take part in. It was shared by [Cat van Saarloos](#) and [Jude Mortimer](#)

[Try being a 'Green' Engineer](#) which is interview in the AMSP's [Where maths meets the world of work](#) series. By watching this video students will find out how maths helped Ayantika develop a new material that can help fight climate change. The video is accompanied by various different sets of activities which students can choose to take part in. It was shared by [Cat van Saarloos](#)

[Visualising the Climate Crisis](#) which are resources from the AMSP. They highlight the environmental impact of fast fashion with a focus on the annual purchase of a Christmas jumper. Many schools have found these resources, when used at the end of the Autumn term, to be particularly eye-opening for students! It was shared by [Cat van Saarloos](#)

[Maths and climate change collection](#) which is a padlet created by [Cat van Saarloos](#) containing brief descriptions of, and links to, more than 20 exciting, varied and useful resources to use in teaching and learning about maths and climate change. It was shared by [Cat van Saarloos](#)

[Climate change](#) which is a different padlet, this one created by [Rebecca Atherfold](#), which also contains different brief descriptions of, and links to, more than 20 different exciting, varied and useful resources to use in teaching and learning about maths and climate change. It was shared by [Rebecca Atherfold](#)

[Quibans: Questions inspired by a news story](#) which are (presently) 106 well-illustrated resources (teacher guides) created by [Mark Dawes](#) in which he shows in detail how news items can be used to provoke mathematical questions and support learning. Lesson materials are provided for each of the 106 items/guides. It was shared by [Cat van Saarloos](#)

[Slow reveal graphs](#) which is a resource created by [Jenna Laib](#) on the Slow Real Graphs website. It uses a graph from *The Economist* which shows a record high temperature set in Antarctica. As more and more of a 'slow release graph' is revealed, students refine their interpretations and construct meaning, often in surprising ways. It was shared by [Cat van Saarloos](#)

[The unfiltered truth: cigarettes' hidden plastic problem](#) which is a very recent blog post by Alex Robinson on the [Hubbub website](#). The *Hubbub* group works to encourage and inspire people 'to create positive environmental change at the scale and speed needed'. It was shared by [Cat van Saarloos](#)

[Coastal Risk Screening Tool - Climate Central](#) which is where you will find interactive maps showing areas threatened by sea level rise and coastal flooding. During the chat [James Maloney](#) shared a newspaper article, '[New map of UK in 2050 predicts British seashores vanishing as parts submerged under water](#)' which used, as information sources, Climate Central maps. It was shared by [James Maloney](#)

[The Living Planet Report 2022](#) which is an article on the [WWF](#) website that reports, with graphs to support the findings, the fact that 'global wildlife populations have plummeted by 69% on average since 1970'. It was shared by [James Maloney](#)

[KS3 Maths - Egypt's Road Problem](#) which is a resource in which maths students apply Pythagoras' theorem to try to solve 'Egypt's road building conundrum'. The 2022 United Nations climate change conference ([COP27](#)) will be on 7 November. In the video at the start of this resource, which was screened at the end of COP26 in Glasgow, Egypt celebrates its road-building project. 'This resource explores efficient road designs and the climate impacts of car travel'. It was shared by [Alistair Bissell](#)

[UEA students urged to urinate in shower](#) which is a BBC news item. It was shared by [Rebecca Atherfold](#)

[The simple formula to cut your diet's carbon footprint](#) which is an article on the BBC website. Professor Mike Berners-Lee from the University of Lancaster, whose book *How Bad are Bananas?* Sets out the UK greenhouse gas footprint of many of our favourite foods, has created UK 'carbon equivalent' (CO₂e) data. This article includes his UK carbon data charts. It was shared by [Jude Mortimer](#)

[What is climate change? A really simple guide](#) which is a BBC News item that includes a graph, The world is getting warmer, the source of which is given as the University of California Berkeley. It was shared by [Jude Mortimer](#)

[Beautiful news: Eco & Climate](#) which is a collection of links to climate-change related news items with headings such as *Apple has pledged to become carbon neutral by 2030*, *Landmark study concludes that marine life can be restored by 2050*, *Livestock fed seaweed emit less methane*, *We could soon be wearing artificial spider silk clothes*, It was shared by [Jude Mortimer](#)

[Worldometer](#) which is a very long list, presented under headings such as *World population*, *Environment*, *Health*, and so on. It is constantly updated and shows the present numbers of things such as *Water used this year (millions of litres)*, *Forest loss this year (hectares)*, *CO₂ emissions this year (tons)*, and so on. It was shared by [Mr Hawes](#)

[Climate Action Tracker](#) which is an online interactive line graph. An '**indicator**' (such as forest land area) in a **region** (such as United Kingdom) from a **sector** (such as forestry) in a **scenario** (such as 'historical') is plotted on the vertical axis against time on the horizontal axis. A user of this tool selects each of the indicator, region, sector and scenario from a given list of options, and the resulting line graph appears. It was shared by [Mary Pardoe](#)

[UK Grid Reference Finder](#) which is an online map of the UK. The user can enter a grid reference or a postcode or a location (road or town) to zoom to that location. The user can also draw a polygon on the map enclosing an area of land or sea or both, and numerical information about it appears, such as the area enclosed in reality (on the earth rather than on the map), or the perimeter in reality. It was shared by [Mary Pardoe](#)

[Woodland Trust: Climate change](#) which is the 'Climate Change' section of the *Woodland Trust* website. It was shared by [Mary Pardoe](#)

[BBC: Climate Change examples](#) which is a BBC News item. It was shared by [Mary Pardoe](#)

The host's 'welcome' tweet ...



Em Bell @EI_Timbre · 13h

...

Hello! Welcome to tonight's combined [#MathsCPDChat](#) and [#CoreMathsChat](#)

Our topic is Maths and Climate change, but first of all, who is here?
I'm Em - I work for [@MEImaths](#) and [@NCETM](#) focusing on Post-16 GCSE/FSQ

(Please use both hashtags tonight, [#MathsCPDChat](#) & [#CoreMathsChat](#))



... prompted the following replies from some of the contributors to / observers of the chat:



Rebecca Atherfold @becatherfold · 13h

...

Replying to [@EI_Timbre](#) [@MEIMaths](#) and [@NCETM](#)

Me! I work in FE [#mathscpdchat](#) [#coremathschat](#)



Em Bell @EI_Timbre · 13h

...

Replying to [@becatherfold](#) [@MEIMaths](#) and [@NCETM](#)

Lovely to see you! [#MathsCPDChat](#) [#CoreMathsChat](#)



Cat van Saarloos @CoreMathsCat · 13h

...

Replying to [@EI_Timbre](#) [@MEIMaths](#) and [@NCETM](#)

Hello, Cat here in Liverpool. Work on Core Maths at AMSP and have been creating resources on maths in Psychology too.

[#mathscpdchat](#) [#CoreMathsChat](#)



Em Bell @EI_Timbre · 13h

...

Replying to [@CoreMathsCat](#) [@MEIMaths](#) and [@NCETM](#)

WAVES Hi Cat =) [#MathsCPDChat](#) [#CoreMathsChat](#)



Jude Mortimer @Littlemissmath5 · 13h

...

Replying to @El_Timbre @MEIMaths and @NCETM

Hi I'm Jude, AMSP coordinator in SE London & teach maths to adults
#coremathschat #mathscpdchat



Em Bell @El_Timbre · 13h

...

Replying to @Littlemissmath5 @MEIMaths and @NCETM

Evening Jude => #MathsCPDChat #CoreMathsChat



Alistair Bissell @comparagrams · 13h

...

Replying to @El_Timbre @MEIMaths and @NCETM

Hello, I'm Alistair in Cornwall. Work for @MEIMaths #MathsCPDChat
#CoreMathsChat



Em Bell @El_Timbre · 13h

...

Replying to @comparagrams @MEIMaths and @NCETM

Good evening Alistair => #MathsCPDChat #CoreMathsChat



Cat van Saarloos @CoreMathsCat · 13h

...

Replying to @comparagrams @El_Timbre and 2 others

Any more exciting filming happening...?



Alistair Bissell @comparagrams · 13h

...

Replying to @CoreMathsCat @El_Timbre and 2 others

I'm afraid not. Apparently Beyond Paradise will be out in Feb, so you'll get to see our house then!



James Maloney @JamesWMaloney · 13h

...

Replying to @El_Timbre @MEIMaths and @NCETM

Evening, sorry I'm late! I work in FE and for the AMSP. #CoreMathsChat
#MathsCPDChat



Em Bell @El_Timbre · 13h

...

Replying to @JamesWMaloney @MEIMaths and @NCETM

#MathsCPDChat #CoreMathsChat



The (linked-to-Twitter) screenshots below show all the replies to Emma's QUESTION 1, and the discussions that it generated. Teachers discussed the extent of people's concern about climate change, their aims in helping students to use maths to make sense of it, and working with teachers in other curriculum areas.

In the following part of the summary **only**, showing all the single replies and discussions that were in response to QUESTION 1, you can **click on any screenshot-of-a-tweet to go to that actual tweet on Twitter**. This was that first main question from [Emma Bell](#):



Em Bell @El_Timbre · 13h

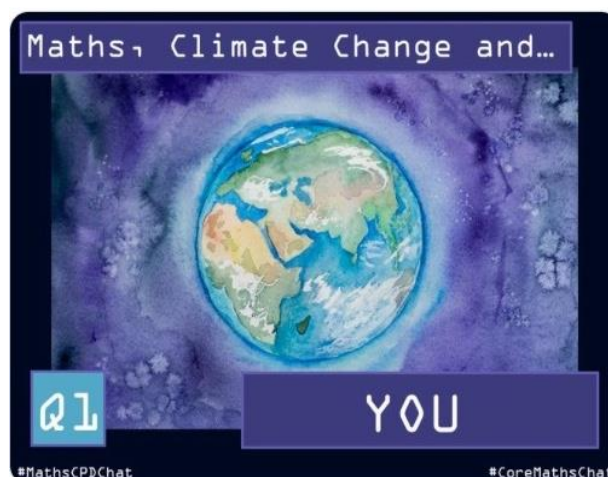


Straight in with question 1...

Q1 - Maths, Climate Change and You

Climate change can be an emotive topic - would you feel confident using it as a context in lesson?

[#MathsCPDChat](#) [#CoreMathsChat](#)



In the following conversation [James Maloney](#), [Emma Bell](#), [Cat van Saarloos](#), [Rebecca Atherfold](#), [Mary Pardoe](#), [Alistair Bissell](#) and [Birstall Birder](#) discussed emotions, the degree of concern about climate change typically felt or expressed by themselves and other adults compared with that felt or expressed by children and adolescents, and the great variety and extent of climate change issues:

(Would you feel confident using climate change as a context in lessons?)



James Maloney @JamesWMaloney · 13h

...

Replying to @EI_Timbre

Yes, though I am becoming more conscious that perhaps I shouldn't be. It is sure a big context with so many avenues to explore. [#CoreMathsChat](#) [#MathsCPDChat](#)



Em Bell @EI_Timbre · 13h

...

Replying to @JamesWMaloney

Many avenues, streets, lanes, roads and cul-de-sacs [#MathsCPDChat](#) [#CoreMathsChat](#)



Cat van Saarloos @CoreMathsCat · 13h

...

Replying to @JamesWMaloney and @EI_Timbre

I feel more conscious at the minute that life is very tough for a lot of people. I think a balance is needed between serious contexts and light hearted ones. [#mathscpdchat](#)



Em Bell @EI_Timbre · 13h

...

Replying to @CoreMathsCat and @JamesWMaloney

Yes - balance is key. [#MathsCPDChat](#) [#CoreMathsChat](#)



Rebecca Atherfold @becatherfold · 13h

...

Replying to @CoreMathsCat @JamesWMaloney and @EI_Timbre

Totally agree - important not to sound judgey too [#coremathschat](#) [#mathscpdchat](#)



James Maloney @JamesWMaloney · 13h

...

Replying to @CoreMathsCat and @EI_Timbre

I do like to mix it up! I do think climate change is perhaps less emotive for our students than it is for us. [#CoreMathsChat](#) [#MathsCPDChat](#)



Mary Pardoe @PardoeMary · 13h

...

Replying to @JamesWMaloney @CoreMathsCat and @EI_Timbre

Yes ... for example trees aren't very threatening to them? woodlandtrust.org.uk/climate-change/



Climate change

When it comes to climate change, our message is clear: native woods and trees are one of the best ways to tackle the climate crisis.



Em Bell @El_Timbre · 13h

...

Replying to @JamesWMaloney and @CoreMathsCat

That's a really interesting point James. Why do you think that is?
[#MathsCPDChat](#) [#CoreMathsChat](#)



James Maloney @JamesWMaloney · 13h

...

Replying to @El_Timbre and @CoreMathsCat

It's a topic they've encountered from primary school. Whereas all we had was the Blue Peter appeals for milk bottle tops and stamps! 😊
[#CoreMathsChat](#) [#MathsCPDChat](#)



Alistair Bissell @comparagrams · 13h

...

Replying to @El_Timbre @JamesWMaloney and @CoreMathsCat

I'm intrigued by this too - I wonder if students perhaps don't have the same understanding of the world and potential effects? Or perhaps students' experience of the world is one of climate change not yet having affected them? [#MathsCPDChat](#) [#CoreMathsChat](#)



Birstall Birder @BirstallBirder · 11h

...

Replying to @comparagrams @El_Timbre and 2 others

It's a moving baseline. For example, young people today aren't used to seeing lots of insects about, because there never have been in their lifetime. Some of us old enough to remember gardens full of butterflies when we were young can't believe their absence.



James Maloney @JamesWMaloney · 13h

...

Replying to @comparagrams @El_Timbre and @CoreMathsCat

Oh, I think they're more aware of it than we are. Generalising... but it's my and my parents' generation that say things like, 'Oh we had hotter summers. And colder winters.' And are less likely to look at the data.
[#CoreMathsChat](#) [#MathsCPDChat](#)



Birstall Birder @BirstallBirder · 11h

...

Replying to @JamesWMaloney @comparagrams and 2 others

I would disagree. I take part in actions at every opportunity and talk about climate change and mass extinction regularly in the classroom. Most think this odd.



Em Bell @El_Timbre · 13h

...

Replying to @JamesWMaloney @comparagrams and @CoreMathsCat

The issue of climate change is more 'part of life' now? [#MathsCPDChat](#) [#CoreMathsChat](#)


 **James Maloney** @JamesWMaloney · 13h ...
Replying to @El_Timbre @comparagrams and @CoreMathsCat
Absolutely! Better put than me! #CoreMathsChat #MathsCPDChat

 **James Maloney** @JamesWMaloney · 13h ...
Replying to @JamesWMaloney @comparagrams and 2 others
Students are more open to looking at the potential effects. I think it's really important for us to teach them how to quantify and assess those affects. Quantifying risk that far ahead is hard. #CoreMathsChat #MathsCPDChat

In this discussion, involving [Mr Hawes](#), [Emma Bell](#), [Alistair Bissell](#) and [Cat van Saarloos](#), the focus was on linking across curriculum areas, maths with Geography in particular ...

(Would you feel confident using climate change as a context in lessons?)

 **MrHawesMaths** @HawesMaths · 14h ...
Replying to @El_Timbre
Yes, I am looking to link up with hod geography and do some project based work on temperature and rainfall #mathscpdchat

 **Em Bell** @El_Timbre · 14h ...
Replying to @HawesMaths
The idea of linking up across curriculum areas makes a lot of sense. Joined up thinking for us and the students? #MathsCPDChat #CoreMathsChat

 **MrHawesMaths** @HawesMaths · 14h ...
Replying to @El_Timbre
Gives me an insight as to how the geog dept deliver their statistical analysis of data and we can then get some consistency. Now to bring science on board as well #mathscpdchat

 **Alistair Bissell** @comparagrams · 14h ...
Replying to @HawesMaths and @El_Timbre
This sounds like a great idea - I wonder how to get the students wanting to ask and answer their own questions about temperature and rainfall. #MathsCPDChat #CoreMathsChat

 **MrHawesMaths** @HawesMaths · 14h ...
Replying to @comparagrams and @El_Timbre
We have about ten thermometers placed around the schools site and we do an investigation project with temps around the site at different times and see if there are some micro climates etc. #mathscpdchat. Links in well with time, averages, graphing, data collection etc.

 **Cat van Saarloos** @CoreMathsCat · 16h ...
Brilliant idea! #mathscpdchat

... and [Cat van Saarloos](#) and [Emma Bell](#) mentioned students and teachers exploring data together:

(Would you feel confident using climate change as a context in lessons?)



Cat van Saarloos @CoreMathsCat · 14h

...

Replying to @EI_Timbre

Yes but only in a sense of "let's investigate this data together" rather than "listen to me, I have all the knowledge" Very important to be open about what you don't know I think.

[#mathscpdchat](#)



Em Bell @EI_Timbre · 14h

...

Replying to @CoreMathsCat

That's a really good point Cat. I like the idea of data exploration.

[#MathsCPDChat](#) [#CoreMathsChat](#)

[Alistair Bissell](#), in an interchange with [Emma Bell](#), focussed on wanting to support students in making sense of climate change ...

(Would you feel confident using climate change as a context in lessons?)



Alistair Bissell @comparagrams · 14h

...

Replying to @EI_Timbre

I think so yes, mainly because it is so important - particularly to young people. I think it could make maths meaningful, relevant and engaging. I'd need to be prepared for differences of opinion :) [#MathsCPDChat](#)

[#CoreMathsChat](#)



Em Bell @EI_Timbre · 14h

...

Replying to @comparagrams

Yes Alistair - Climate Change is something that all students can engage with, isn't it? [#MathsCPDChat](#) [#CoreMathsChat](#)



Alistair Bissell @comparagrams · 14h

...

Replying to @EI_Timbre

It certainly will affect all students, so it feels to me like something I'd want to support them to make sense of - as [@becatherfold](#) said.

... and there were single-replies to Question 1 from [Jude Mortimer](#) and [Birstall Birder](#):

(Would you feel confident using climate change as a context in lessons?)



Jude Mortimer @Littlemissmath5 · 14h

...

Replying to @EI_Timbre

Yep totally. And have done. Don't have to express an opinion-but there's a multitude of charts and graphs to investigate [#coremathschat](#)

[#mathscpdchat](#)



Birstall Birder @BirstallBirder · 12h

...

Replying to @El_Timbre

We need to stop worrying about this and use maths to demonstrate why we are in a mess.

[Rebecca Atherfold](#) and [Emma Bell](#) discussed giving students some of the tools needed to make sense of the world:

(Would you feel confident using climate change as a context in lessons?)



Rebecca Atherfold @becatherfold · 14h

...

Replying to @El_Timbre

Yes. I believe that a significant part of maths education is giving students some of the tools they need to make sense of the world and they need to practise that [#mathscpdchat](#) [#coremathschat](#)



Em Bell @El_Timbre · 14h

...

Replying to @becatherfold

What tools do you think could be explored with your learners using Climate Change ?? [#MathsCPDChat](#) [#CoreMathsChat](#)



Rebecca Atherfold @becatherfold · 14h

...

Replying to @El_Timbre

Interpreting data is the obvious one but I like to get them to think about what story the numbers are being used to tell [#coremathschat](#) [#mathscpdchat](#)



Em Bell @El_Timbre · 14h

...

Replying to @becatherfold

That sounds like rich learning =) And leads nicely to my next question... [#MathsCPDChat](#) [#CoreMathsChat](#)

In the remaining part of the summary screenshots of tweets are not linked to Twitter.

QUESTION 2 from the host ...



Em Bell @El_Timbre · 15h

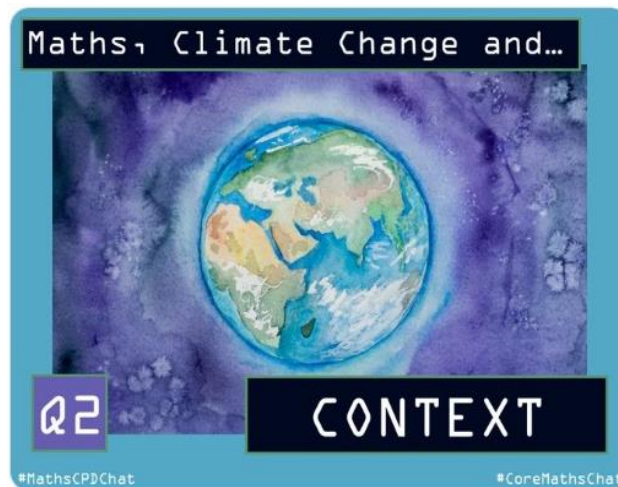
...

Q2 - Maths, Climate Change and Context

Have you ever used Climate Change as a context in your maths lessons?

Tell us about it?

[#MathsCPDChat](#) [#CoreMathsChat](#)



... prompted four conversations and a single reply. in this conversation a resource was shared that is designed to help a teacher slowly reveal a graph while asking targeted questions about it ...



Rebecca Atherfold @becatherfold · 15h

...

Replying to @El_Timbre

I've used [@CoreMathsCat](#) excellent Visualising the Climate Crisis resources. Which led me to Mona Chalabi, and I use her Instagram posts quite a lot to get my class talking [#mathscpdchat](#) [#coremathschat](#)



Em Bell @El_Timbre · Oct 18

...

Replying to @becatherfold and @CoreMathsCat

I love [@MonaChalabi](#)'s visualisations! [#MathsCPDChat](#) [#CoreMathsChat](#)



Cat van Saarloos @CoreMathsCat · 14h

...

Replying to @becatherfold and @El_Timbre

I did a slow reveal graph of her firework one today 😊 [#mathscpdchat](#)



Rebecca Atherfold @becatherfold · 14h

Replying to @CoreMathsCat and @El_Timbre

I'm not sure I've seen that! How did you slow reveal?! #coremathschat #mathscpdchat



Cat van Saarloos @CoreMathsCat · 14h

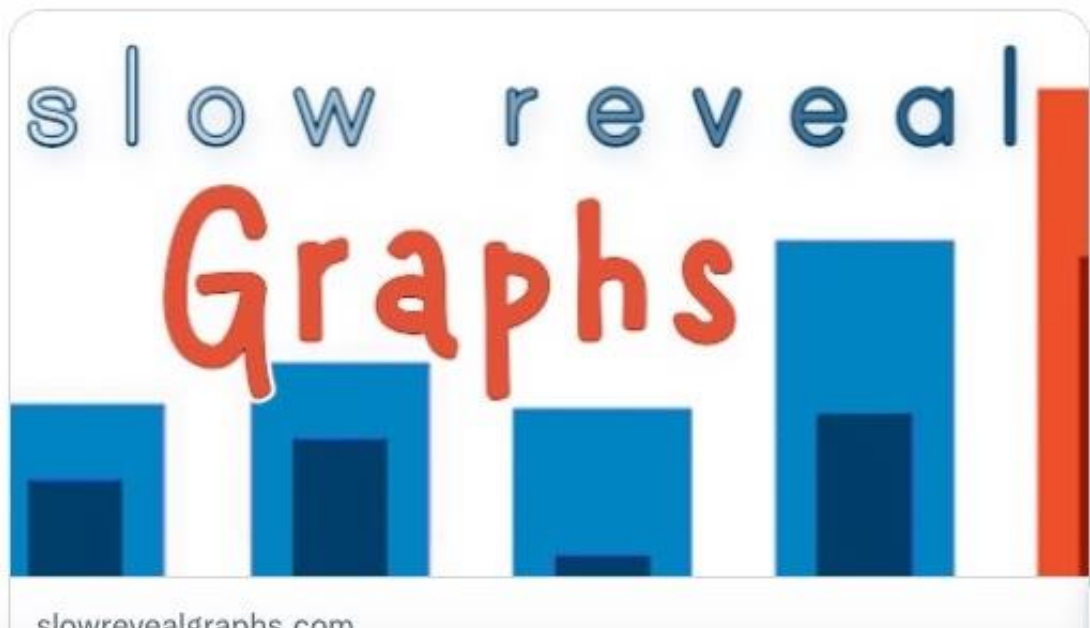
Replying to @becatherfold and @El_Timbre

If you click on "slide deck" on this page you will see an example:

slowrevealgraphs.com/2022/04/18/rec...

Basically covering up lots of parts of the graph and revealing one by one with targeted qns.

#mathscpdchat



Rebecca Atherfold @becatherfold · 14h

Replying to @CoreMathsCat and @El_Timbre

Fantastic thank you! #coremathschat #mathscpdchat



Em Bell @El_Timbre · 15h

Replying to @CoreMathsCat and @becatherfold

Love this. Thank you! #MathsCPDChat #CoreMathsChat

... and Emma suggested the possibility of challenging students to explore/estimate some impacts of increasing reliance on renewable sources of energy:



MrHawesMaths @HawesMaths · 15h ...

Replying to @El_Timbre

I have mentioned it when we look at line graphs and talk about extrapolation of data, what might temp be like in 10 years times. Sparks some good debate. Some students feel like it won't be a problem as renewables will be heavily invested in. #mathscpdchat



Em Bell @El_Timbre · 15h ...

Replying to @HawesMaths

It would be interesting to ask students for estimated impacts of renewables wouldn't it?? 🤔🤔 #MathsCPDChat #CoreMathsChat

A *Visualising the Climate Crisis* resource from the AMSP was mentioned (link provided above):



Cat van Saarloos @CoreMathsCat · 15h ...

Replying to @El_Timbre

I have used these with Year 6 and older Secondary students:
amsp.org.uk/resource/visua...

They try to strike a balance between serious and lighthearted.
#mathscpdchat



Em Bell @El_Timbre · 15h ...

Replying to @CoreMathsCat

Thanks Cat => #MathsCPDChat #CoreMathsChat

Climate change contexts can provide excellent opportunities for students to focus on the justification of their statements/conclusions ...



James Maloney @JamesWMaloney · 15h ...

Replying to @El_Timbre

Yes. Commonly use it for critical analysis. Graphs for starters (that sometimes extent into the lesson.) It's really good for getting students to practise justifying their answers. #CoreMathsChat #MathsCPDChat



Em Bell @El_Timbre · 15h ...

Replying to @JamesWMaloney

The 'WHY' is so important. #MathsCPDChat #CoreMathsChat

...for example, this single reply to QUESTION 2 pointed to resources that might prompt students to apply mathematics, and justify their conclusions, in explorations of the 'carbon footprints' of various foods:



Jude Mortimer @Littlemissmath5 · 15h



Replying to @El_Timbre

I've used @MikeBernersLee How bad are bananas? and looked at carbon footprints of various things. Also [bbc.co.uk/food/articles/...](http://bbc.co.uk/food/articles/) Lots of charts on @OurWorldInData #mathscpdchat #coremathschat



bbc.co.uk

The simple formula to cut your diet's carbon footprint

With food accounting for about 26 percent of the global carbon footprint, we need to make changes to what we eat in order to achiev...

Emma's QUESTION 3 ...



Em Bell @El_Timbre · 16h

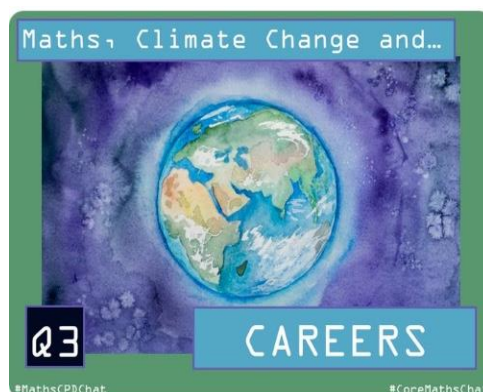


Changing direction slightly before coming back to resources...



Q3 - Maths, Climate Change and Careers

How can we encourage our students to pursue a career in climate science?

#MathsCPDChat #CoreMathsChat



... prompted thoughts about careers in which good mathematical understanding is ‘pretty essential’:

-  **Alistair Bissell** @comparagrams · 16h ...
Replying to @El_Timbre
A good understanding of maths is important for a career in climate science, as it is for many careers. Also important to be aware there are many other careers potentially relating to climate - not exclusive to STEM subjects
[#MathsCPDChat](#) [#CoreMathsChat](#)
-  **Em Bell** @El_Timbre · 16h ...
Replying to @comparagrams
Do you think that strong mathematicians veer towards other areas rather than climate science or meteorology? [#MathsCPDChat](#) [#CoreMathsChat](#)
-  **Alistair Bissell** @comparagrams · 16h ...
Replying to @El_Timbre
Strong mathematicians can turn their hands to anything! Politics, social sciences, poetry, music! All of these could help to tackle climate issues. But maths is pretty essential for climate science and meteorology.
[#MathsCPDChat](#) [#CoreMathsChat](#)
-  **Em Bell** @El_Timbre · 16h ...
Replying to @comparagrams
I think I want to use that as a tag line Alistair!
[#MathsCPDChat](#) [#CoreMathsChat](#)

There were other thoughts about supporting students with their career plans, such as these suggestions ...

-  **Jude Mortimer** @Littlemissmath5 · 16h ...
Replying to @El_Timbre
Let them talk to people currently doing it. Maybe get ambassadors from [@STEMLearningUK](#)
Also of course this [amsp.org.uk/resource/Estim...](https://amsp.org.uk/resource/Estimote)
[#mathscpdchat](#) [#coremathschat](#)
-  **Em Bell** @El_Timbre · 16h ...
Replying to @Littlemissmath5 and @STEMLearningUK
Agree Jude. Hearing directly is so powerful [#MathsCPDChat](#)
[#CoreMathsChat](#)

... and these ...



James Maloney @JamesWMaloney · 16h

...

Replying to @El_Timbre

I've tended to highlight to my students how climate change will affect their career if they continue in their vocational field. So, Animal Management students how CC will affect conservation, habitats, etc. Agric how it will change harvests, crops etc [#CoreMathsChat](#) [#MathsCPDChat](#)



Em Bell @El_Timbre · 16h

...

Replying to @JamesWMaloney

That's a great approach James! [#MathsCPDChat](#) [#CoreMathsChat](#) Linking to vocation is vital across all of FE maths isn't it?

... and this thought ...



Mary Pardoe @PardoeMary · 16h

...

Replying to @El_Timbre

Get them to think about what is being lost?

bbc.co.uk/news/science-e...

[#mathscpdchat](#) [#CoreMathsChat](#)



Climate change



ANDRE SEALE VIA GETTY IMAGES

| Coral cannot survive when the water gets too warm

... and this question ...



MrHawesMaths @HawesMaths · 17h

...

Replying to @EI_Timbre

Do they have educational visits to wind/solar farms? That could be cool?
[#mathscpdchat](#)

... and these interesting and engaging sources of support (links provided above):



Cat van Saarloos @CoreMathsCat · 17h

...

Replying to @EI_Timbre

. @Green_Careers is coming up! Lots of great ideas and resources
[#mathscpdchat](#)



Cat van Saarloos @CoreMathsCat · 17h

...

Replying to @CoreMathsCat @EI_Timbre and @Green_Careers

Would be a great time to show students these: youtu.be/TWGgqmQAfvM
[#mathscpdchat](#)



youtube.com

An interview with a digital tech engineer about ho...

This video is part of our 'Where maths meets... the world of work!' series, which you can access on th...



Cat van Saarloos @CoreMathsCat · 16h

...

Replying to @CoreMathsCat @EI_Timbre and @Green_Careers

And the brilliant @TreacherosBuzz:
youtu.be/HZND8Fas8Uw

[#mathscpdchat](#)



youtube.com

An interview with a Climate Scientist about how m...

This video is part of our 'Where maths meets... the world of work!' series, which you can access on th...



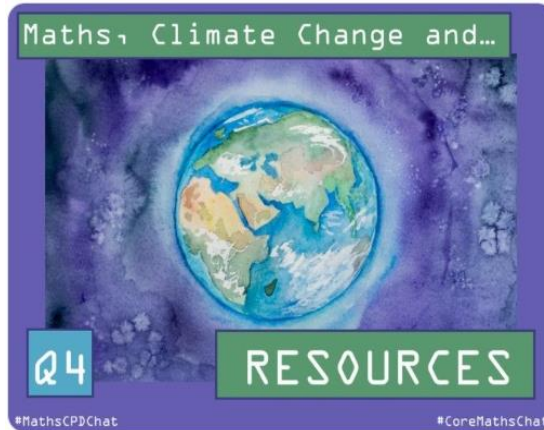
Em Bell @EI_Timbre · 17h

I've been looking forward to this question!

Q4 - Maths, Climate Change and Resources

What sources/resources can you share that might help a maths teacher use a climate change context in their lessons?

#MathsCPDChat #CoreMathsChat



... generated many replies. For example, in this thread people provided links to tools and resources to initiate and aid exploration ...



James Maloney @JamesWMaloney · 18h

Replying to @EI_Timbre

This was in the news this week. [mirror.co.uk/news/uk-news/p...](https://www.mirror.co.uk/news/uk-news/p...)
Leading me to this. tinyurl.com/4vjpapae

#MathsCPDChat #CoreMathsChat



[mirror.co.uk](https://www.mirror.co.uk)

New map of UK in 2050 predicts seaside vanishing as parts submerg...

A new climate change map shows holiday hotspots and transport routes completely underwater and experts are now warning that ...



Jude Mortimer @Littlemissmath5 · 19h

...

Replying to @JamesWMaloney and @EI_Timbre

Yep i like using the news - there are lots of climate articles and some charts on bbc news website eg bbc.co.uk/news/science-e...
[#mathscpdchat](#) [#coremathschat](#)



bbc.co.uk

What is climate change? A really simple guide

World temperatures are rising because of human activity, and climate change now threatens every aspect of human life.



Em Bell @EI_Timbre · 19h

...

Replying to @JamesWMaloney

Using absolutely up-to-date news is very powerful [#mathscpdchat](#)
[#coremathschat](#)



Mary Pardoe @PardoeMary · 17h

...

Replying to @JamesWMaloney and @EI_Timbre

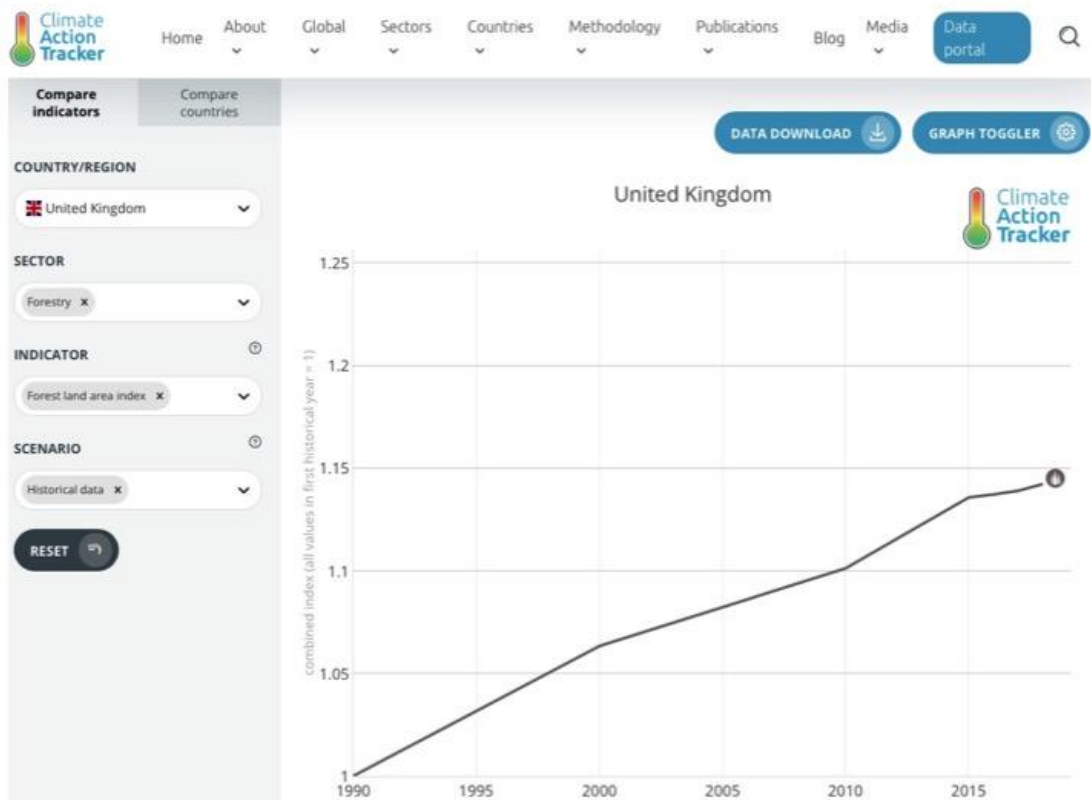
This is a fun resource, when thinking-about/exploring what's happening in the uk?

gridreferencefinder.com

... using this:

climateactiontracker.org/data-portal/

[#mathscpdchat](#) [#CoreMathsChat](#)





James Maloney @JamesWMaloney · 17h

Replying to @PardoeMary and @EI_Timbre

Love this! Being able to explore the effect on different sectors.
[#mathscpdchat](#) [#coremathschat](#)

... and there was a reminder (from its creator) of this vast padlet, containing (links to) so many great resources ...



Cat van Saarloos @CoreMathsCat · 17h

Replying to @EI_Timbre

I have a padlet... 😊

padlet.com/catherine_vans...

[#mathscpdchat](#)



FURTHER MATHS
PHYSICS
CHEMISTRY

padlet.com
Maths and climate change collection
Resources and information about using social justice contexts when teaching mathematics

... and this very useful one:



Rebecca Atherfold @becatherfold · 17h

...

Replying to @El_Timbre

I have a padlet but I haven't been great at remembering to add to it. It's here anyway



padlet.com
Climate change
Made with Padlet

Other links shared were ... this ...



Cat van Saarloos @CoreMathsCat · 19h

...

Replying to @El_Timbre

Lots of brilliant @mdawesmdawes resources have a climate focus:

[docs.google.com/spreadsheets/d/..](https://docs.google.com/spreadsheets/d/...)

#mathscpdchat



docs.google.com

Quibans list

Sheet1 Title/Link,Further info,Maths

topics,Suggested usage Quibans 95: The 50p at ...



Em Bell @El_Timbre · 19h

...

Replying to @CoreMathsCat and @mdawesmdawes

👏👏 #MathsCPDChat #CoreMathsChat

... and this ...



Cat van Saarloos @CoreMathsCat · 19h



Replying to @El_Timbre

I think there is potential in this:

hubbub.org.uk/Blog/the-unfil...

#mathscpdchat



hubbub.org.uk

The unfiltered truth: cigarettes' hidden plastic problem

New Hubbub research reveals that only 1 in 4 smokers (28%) realise that cigarette butts are made from plastic. Find out how Hubbub have ...

... and this ...



MrHawesMaths @HawesMaths · 19h



Replying to @El_Timbre

worldometers.info #mathscpdchat



worldometers.info

Worldometer - real time world statistics

Live world statistics on population, government and economics, society and media, environment, food,...

... and this ...



Jude Mortimer @Littlemissmath5 · 19h



Replying to @El_Timbre

Lots of places! Some nice infographics for starting points here

[informationisbeautiful.net/beautifulnews/...](https://informationisbeautiful.net/beautifulnews/)

#mathscpdchat #coremathschat



informationisbeautiful.net

Beautiful News

Unseen trends, uplifting stats, creative solutions — a new chart every day. From Information is Beautiful.



Em Bell @El_Timbre · 19h



Replying to @Littlemissmath5

Oh I agree Jude - infographics can really hook students... #mathscpdchat

#coremathschat

... and this:

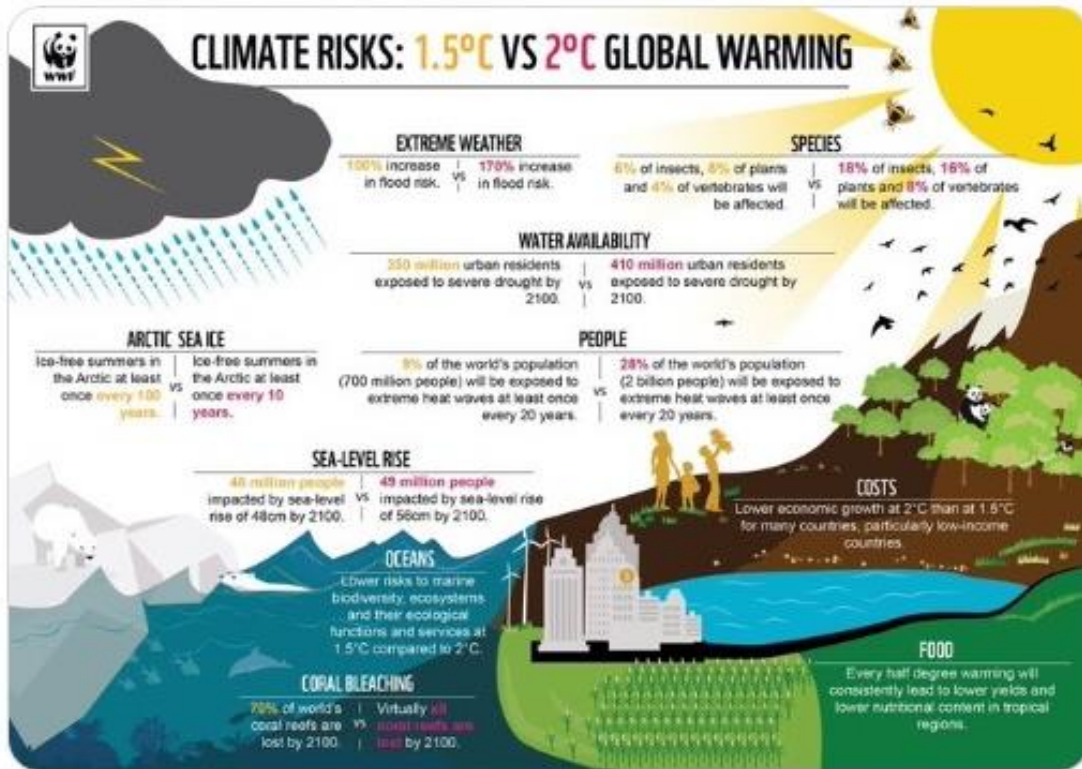


James Maloney @JamesWMaloney · 19h

Replying to @El_Timbre and @Littlemissmath5

This would make a nice starting point. www.wwf.org.uk/updates/our-wa...

#mathscpdchat #coremathschat



Jude Mortimer @Littlemissmath5 · 6h

Replying to @JamesWMaloney and @El_Timbre

This is really nice! 👍

The following suggestion prompted a conversation ...



Jude Mortimer @Littlemissmath5 · 18h

Replying to @El_Timbre

I'm currently reading How to Spend a Trillion Dollars by @rowhoop and Ch3 discusses how/whether this amount of money would allow us to move to zero-carbon. I think it would be a fascinating project to look at what it would take and the costs. #mathscpdchat #coremathschat



Cat van Saarloos @CoreMathsCat · 18h

Replying to @Littlemissmath5 @El_Timbre and @rowhoop

This sounds brilliant

 **Rowan Hooper** ローワン フーパー  @rowhoop · 18h ...
Replying to @CoreMathsCat @Littlemissmath5 and @El_Timbre
I assure you it really is! 😊

 **Rebecca Atherfold** @becatherfold · 18h ...
Replying to @CoreMathsCat @Littlemissmath5 and 2 others
You'll be sold as soon as he mentions that educating all girls would have a beneficial impact on the planet #coremathschat #mathscpdchat

 **Cat van Saarloos** @CoreMathsCat · 18h ...
Replying to @becatherfold @Littlemissmath5 and 2 others
I am sold!

 **Rowan Hooper** ローワン フーパー  @rowhoop · 18h ...
Replying to @becatherfold @CoreMathsCat and 2 others
AND it could be done for shockingly small amounts of money (at least in the context of having a trillion bucks to spend)

 **Jude Mortimer** @Littlemissmath5 · 18h ...
Replying to @rowhoop @becatherfold and 2 others
we just need @elonmusk on board, right? ;-) #mathscpdchat #coremathschat

... and this 'interesting' example was shared:

 **Rebecca Atherfold** @becatherfold · 17h ...
Replying to @El_Timbre
If you want to keep it light hearted? #mathscpdchat #coremathschat
[bbc.co.uk/news/uk-englan... |](https://bbc.co.uk/news/uk-englan...)

| | |
|---|---|
|  | <p>bbc.co.uk UEA students urged to urinate in shower University students are being urged to urinate in the shower in a bid to save water.</p> |
|---|---|

 **James Maloney** @JamesWMaloney · 17h ...
Replying to @becatherfold and @El_Timbre
Yep, Fermi and modelling actions that can be taken. Two we've done at college are: "If it's yellow, let it mellow. If it's brown, flush it down!" Or could we collect rainfall from the college roofs for flushing toilets.
#mathscpdchat #coremathschat



Rebecca Atherfold @becatherfold · 17h
Replying to @JamesWMaloney and @El_Timbre



Finally in response to Emma's QUESTION 4 there was this ...



Mr Devlin @devlin_maths · 19h
Replying to @El_Timbre

We did a full lesson on climate change last year for KS3 maths . One lesson a half term is a cultural capital lesson (non curriculum) . Students & staff really enjoy them.

... and this:



jo loss #fe @1josiejo1 · 19h

Replying to @El_Timbre

@JChillingworth for the CoP? Some good stuff in this thread.



Jane Chillingworth @JChillingworth · 16h

Replying to @1josiejo1 and @El_Timbre

Thanks, Jo.

The host's final question, QUESTION 5 ...

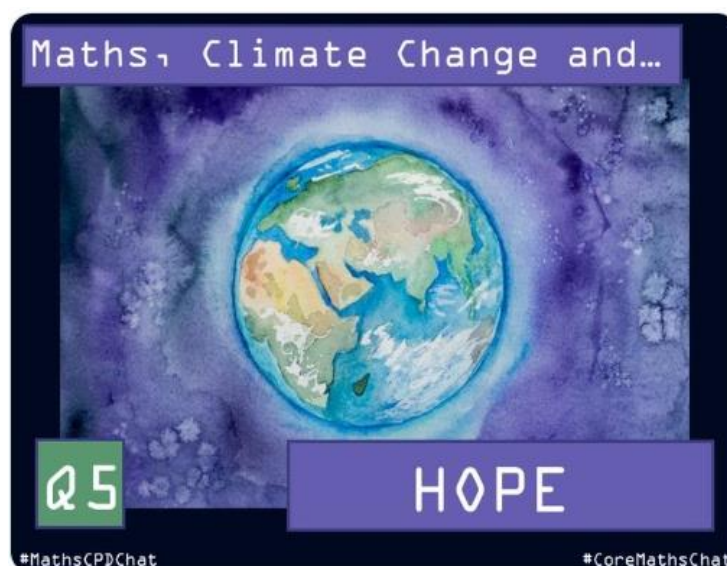


Em Bell @El_Timbre · 20h

Q5 - Maths, Climate Change and Hope

Final question tonight - by linking climate change and maths in your future lessons, what do you hope for?

#MathsCPDChat #CoreMathsChat



... prompted two conversations and two single replies. Agreement was expressed ...



Alistair Bissell @comparagrams · 20h

...

Replying to @El_Timbre

Working on maths and climate together in lessons helps students to see maths as meaningful, helps to understand the complexity of climate issues, develops their criticality and empowers them to make their voice heard.
[#MathsCPDChat](#) [#CoreMathsChat](#)



Cat van Saarloos @CoreMathsCat · 20h

...

Replying to @El_Timbre

Engagement, curiosity, healthy cynicism and an awareness of the utility of maths. [#mathscpdchat](#)



Jude Mortimer @Littlemissmath5 · 20h

...

Replying to @El_Timbre

Informed students. An ability to analyse and make sense of data. Curiosity. Discussion. Investigation. I'm sure there's plenty more. [#coremathschat](#)
[#mathscpdchat](#)



James Maloney @JamesWMaloney · 20h

...

Replying to @Littlemissmath5 and @El_Timbre

Agreed. And the pressure on govts and people to act turned up a notch.
[#mathscpdchat](#) [#coremathschat](#)



Em Bell @El_Timbre · 20h

...

Replying to @Littlemissmath5

nods in approval [#MathsCPDChat](#) [#CoreMathsChat](#)

... and memories were shared:



Rebecca Atherfold @becatherfold · 20h

...

Replying to @El_Timbre

To quote the awesome @d_spiegel "informed citizens". Here is a photo cropped to look like @Littlemissmath5 and I are close friends with him sharing a joke [#mathscpdchat](#) [#coremathschat](#)



Jude Mortimer @Littlemissmath5 · 20h



Replying to @becatherfold @El_Timbre and @d_spiegel

I love this pic!! And I always remember that term 'informed citizens' So important to aim for that. #mathscpdchat #coremathschat

Note:



Covid by Numbers
David Spiegelhalter
and Anthony Masters

...  **Following**

David Spiegelhalter
@d_spiegel

Statistician: + evidence, risk, probability, chance, uncertainty. Chair, Winton Centre. Author Art of Statistics, co-author Covid by Numbers. Own opinions.

📍 Cambridge, England statslab.cam.ac.uk/~david/
📅 Joined September 2009

330 Following **89.2K** Followers

During the chat Emma posted some information tweets that were not replies to any of her five main questions, or in any conversations generated by them. They are shown next in this summary. There was a reply to this one:



Em Bell @El_Timbre · 20h

...

A4 - Earlier this year @MEIMaths produced resources commissioned by the Royal Meteorological Society @RMetS focused on maths and climate change for Key Stage 3 and Core Maths: mei.org.uk/rmets-and-mei-...
[#MathsCPDChat](#) [#CoreMathsChat](#)



mei.org.uk

RMetS and MEI Climate Change Resources - MEI

We're delighted to be working with the Royal Meteorological Society (RMetS) on an exciting project to develop a suite of...



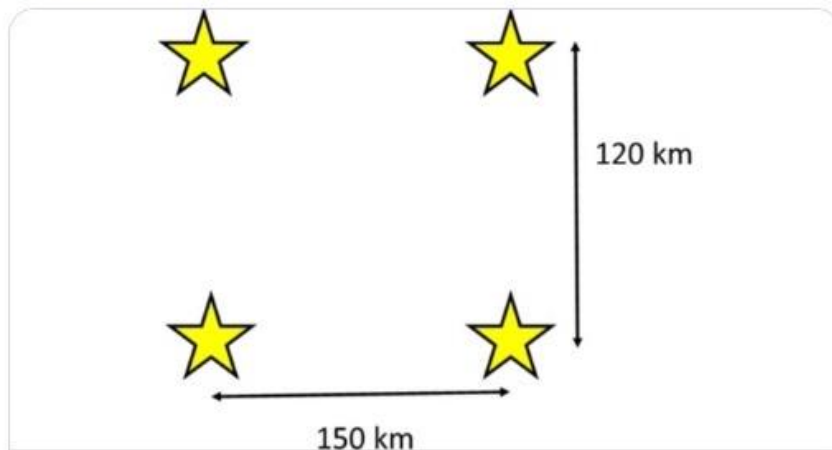
Alistair Bissell @comparagrams · 20h

...

Replying to @El_Timbre @MEIMaths and @RMetS

And here's another focused on Egypt's road building challenges, ahead of COP27 in Egypt: metlink.org/resource/ks3-m...

[#MathsCPDChat](#) [#CoreMathsChat](#)



metlink.org

MetLink - Royal Meteorological Society KS3 Maths - Egypt's Road Pro...
COP27 linked resource applying pythagoras' theorem and the Steiner problem.



Em Bell @El_Timbre · 20h

...

This is great! [#MathsCPDChat](#) [#CoreMathsChat](#)



Alistair Bissell @comparagrams · 20h

Replying to @El_Timbre @MEIMaths and @RMetS

And here's another focused on Egypt's road building challenges, ahead of COP27 in Egypt: metlink.org/resource/ks3-m...

[#MathsCPDChat](#) [#CoreMathsChat](#)

These two were posted together near the end of the chat ...



Em Bell @El_Timbre · 20h

...

A4 - Protecting our Planet Day is on 10th November, presented by [@STEMLearningUK](#) with partners such as [@MEIMaths](#) [@esa](#) [@RoyalSociety](#) [@RMetSprotectingourplanet.org.uk](#) [#POP22](#) [#MathsCPDChat](#) [#CoreMathsChat](#)



Em Bell @El_Timbre · 20h

...

Replying to @El_Timbre

[#POP22](#) includes a session: Protecting Through Maths. Details here: eventbrite.com/e/protecting-a.. [#MathsCPDChat](#) [#CoreMathsChat](#)



eventbrite.com

PROTECTING OUR PLANET THROUGH MATHS

Be inspired by hidden heroes revealing their career paths from school to working on innovations and projects protecting our planet

... and this was tweeted earlier in the chat:



Em Bell @El_Timbre · 17h

A3 - You might find this interesting... Green Careers Week runs from 7th to 12th November. greencareersweek.com [#MathsCPDChat](#) [#CoreMathsChat](#)



greencareersweek.com
Green Careers Week - Green Careers Week
Save The Date: 7th – 12th November for Green Careers Week Social Media Graphics Countdown Graphics Partner Graphics Resource Pac...

The host's last tweet of this #mathsCPDchat prompted some replies:



Em Bell @El_Timbre · 20h

Thank you all so much for joining in with [#MathsCPDChat](#) [#CoreMathsChat](#) tonight.

A summary of the chat, including links to the shared resources, will be published soon here: [ncetm.org.uk/news-features/...](https://ncetm.org.uk/news-features/)

Bye for now!

Em.



[#MathsCPDChat](#)

[#CoreMathsChat](#)



James Maloney @JamesWMaloney · 20h

...

Replying to @El_Timbre

Excellent chat. Loads of ideas and resources to take away. Thanks for hosting, Em. #mathscpdchat #coremathschat



Em Bell @El_Timbre · 20h

...

Replying to @JamesWMaloney

Thank James =)



mathscpdchat @mathscpdchat · 20h

...

Replying to @El_Timbre

VERY many thanks, Emma, @El_Timbre, on behalf of #mathscpdchat, for hosting a fascinating chat tonight. And many thanks to all contributors! Look out for a summary that will include all links shared tonight.



Cat van Saarloos @CoreMathsCat · 20h

...

Replying to @mathscpdchat and @El_Timbre

Thank you @El_Timbre! 🌟



Em Bell @El_Timbre · 20h

...

Replying to @CoreMathsCat and @mathscpdchat

Had a fab time =)