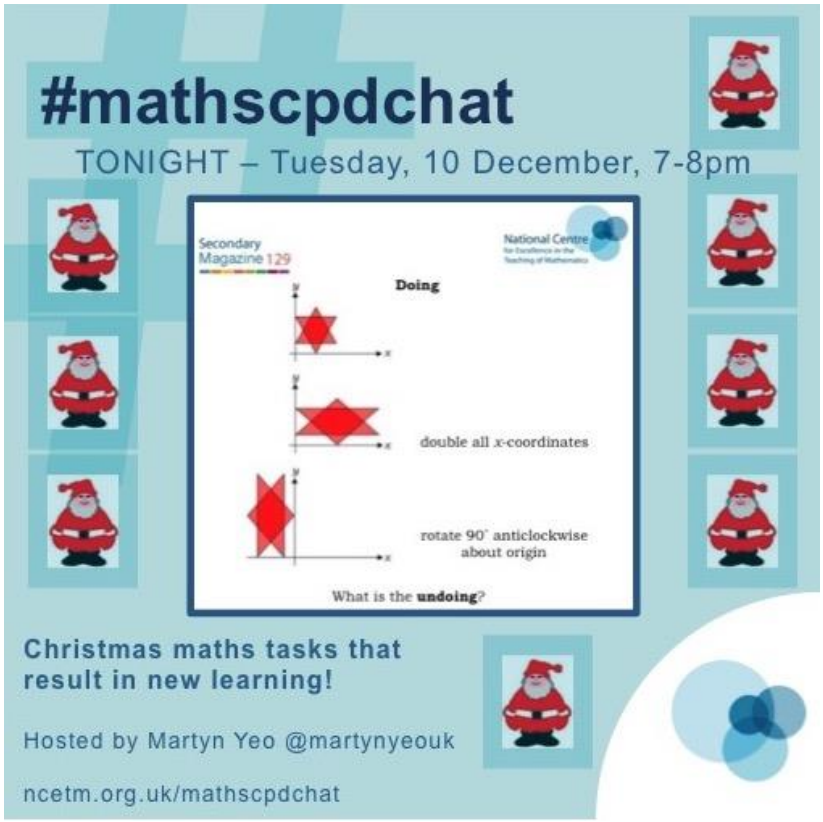
National Centre for Excellence in the Teaching of Mathematics

#mathscpdchat 10 December 2019

Christmas maths tasks that result in new learning!

Hosted by Martyn Yeo

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



Some of the areas where discussion focussed were:

- characteristics of a good Christmas resource … it must have a **genuine mathematical learning-purpose** (for example NOT just 'drawing a '7' as a snowman's nose(!));

- Christmas maths tasks that **have worked well**, and the groups with which they worked well, for example … ‘shrinkflation’ tasks involving chocolates and percentage-change, with any year-group from Year 6 upwards … investigating the ‘climate impact’ of creating Christmas jumpers … graphical representation of data about the duration of Christmas celebrations in different countries … mathematics in the ‘Twelve days of Christmas’ song;
- **avoiding looking for or creating any resources for maths learning at all with a Christmas theme,** and pupils’ reactions to that;
- Christmas tasks that can be **starting points for extended explorations** … such as those comprising ATM’s ‘Midwinter Mathematics’ and in MEI’s Primary Newsletter (links given below);
- constructing geometrically, or using a real or virtual spirograph to create, multi-varied **geometrical ‘stars’ and ‘snowflakes’**;
- **using materials** … linking-cubes to create ‘fractal snowflakes’ … tangram pieces to create ‘Christmas scenes’ … curve-stitching to create Christmas trees and other delights … green card to create fractal Christmas trees!

In what follows, click on any screenshot-of-a-tweet to go to that actual tweet on Twitter.

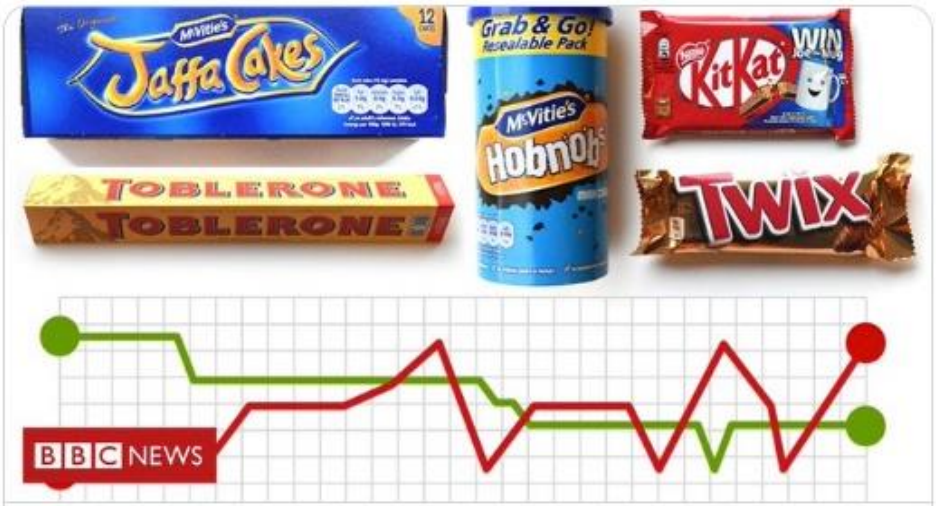
These are some of the many varied tweets showing and describing tasks that have worked well during the run-up to Christmas. The conversation was generated by this tweet from Martyn Yeo:

and included these from Catherine van Saarloos and Martyn Yeo:

Catherine van Saarloos @CoreMathsCat · 16h

Replying to @martynyeouk @mathscpdchat and 2 others

Perhaps I associate holidays with chocolate too much but love a shrinkflation activity for % change. Cover up values for students to calculate old, new values or %'s. bbc.co.uk/news/uk-428646.... Again useful for other subjects as well as well as any group from Y6+ #mathscpdchat



The truth about our shrinking snacks

While treats may be getting smaller - research has found that some prices are falling too.

bbc.co.uk

Catherine van Saarloos @CoreMathsCat · 17h

Replying to @martynyeouk @mathscpdchat and 2 others

Do you agree with the Nation's favourite quality street? Rank them in order of preference then plot on scatter plot and discuss. If Year12+ can work out correlation coeff. telegraph.co.uk/christmas/2018... Can use with other subjects too that do Spearman's rank #geographyteacher #biology

The votes are in! All 12 Quality Street chocolates ranked from worst to best

Recent outraged cries of "shrinkflation!

telegraph.co.uk

Martyn @martynyeouk · 16h

I am noticing a theme with your activities!
#mathscpdchat

these from Mary Pardoe, Martyn Yeo, Gerry McNally and Ashley Compton:

Mary Pardoe @PardoeMary · 19h

This always worked well with pupils I've taught! #mathscpdchat Presented here in MEI's Primary newsletter: mailchi.mp/mei/november-p... by @AlisonHopperMEI

Remembering that on the second day she received 2 turtle doves **and** a partridge in a pear tree etc., how many presents did she actually get over the 12 days of Christmas?
How many times did she receive 5 gold rings?
How many birds did she own by the 12th day?

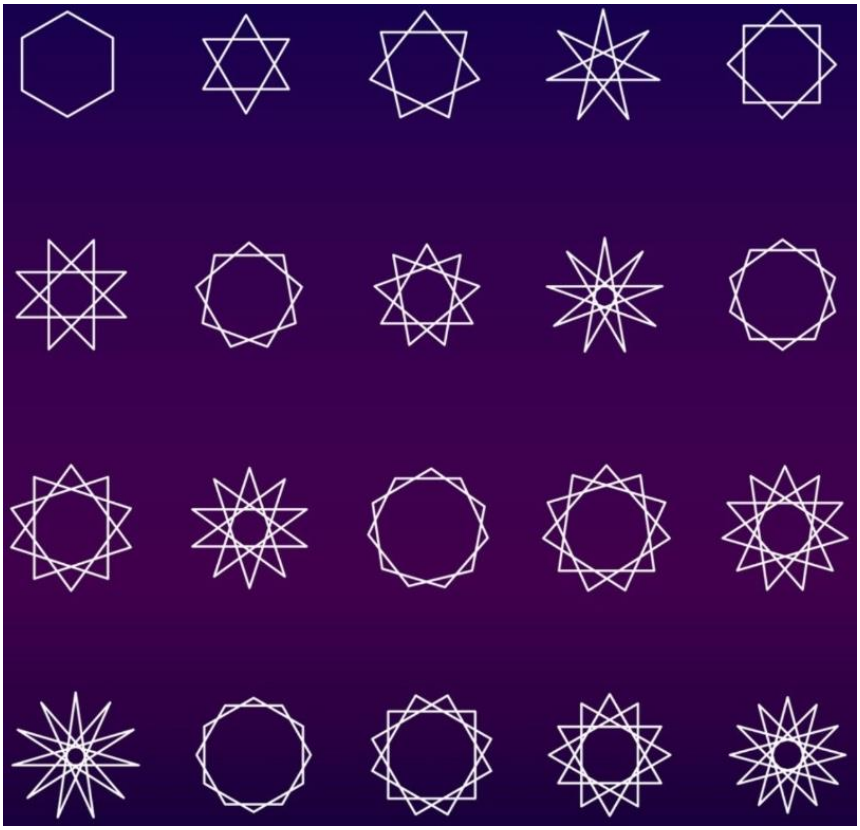
1 partridge in a pear tree
2 turtle doves
3 French hens
4 calling birds
5 gold ring
6 geese a-laying
7 swans a-swimming
8 maids a-milking
9 ladies dancing
10 lords a-leaping
11 pipers piping
12 drummers drumming

Martyn @martynyeouk · 17h

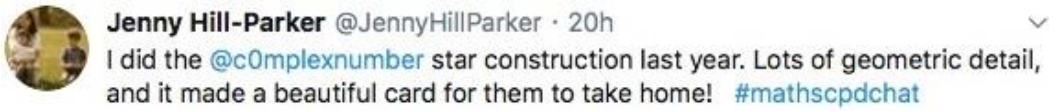
Replying to @PardoeMary and @AlisonHopperMEI
I set this as my first ever whole school challenge when I was at @Whitestoneinfs
It really challenged the children (and the parents!)
#mathscpdchat

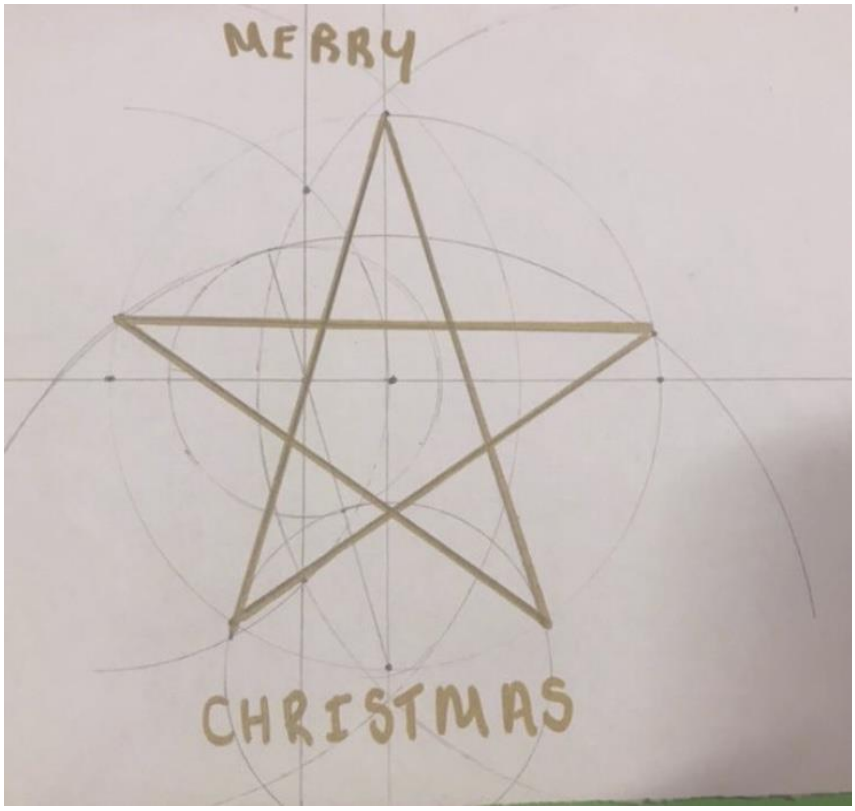
Gerry McNally @mcnally_gerry · 19h

These stars can be drawn by spacing points evenly around the circumference of a circle. Apart from the obvious themes of polygons & angles, there are links to factors and primes. What other stars could be drawn?#mathscpdchat



and these from Jenny Hill-Parker, GLOW Maths Hub and Gerry McNally:





GLOW Maths Hub @GLOWMaths · 19h

Replying to @PardoeMary and @martynyeouk

Too late for #mathscpdchat but great end of term activity is the @Glowmaths #ChrisMathsTree competition using the wonderful resources from @thinkmaths #GetInvolved @mathshubs @ncetm #mathschat https://t.co/2O3ktADEXc

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

Among the links shared were:

Christmas 2019 which is a large collection by Colleen Young of online Christmas maths resources. It was shared by Martyn Yeo

A-Level Calculated Colouring Christmas 2019 which is a document created by Tom Bennison that contains mathematics questions accessible to Year 12 mathematicians, the answers to which lead to the correct colouring of a Christmas picture. It was shared by Tom Bennison

Festive Fractal Trees which is a *Think Maths* webpage containing photos of festive fractal Christmas trees, from which there are links to resources to help your pupils create their own such trees! It was shared by the GLOW Maths Hub

Biscuits and Chocolates Take the 'Shrinkflation' Test which is a BBC news item that includes data about changes in the weights of chocolate snacks between 2014 and 2018. It was shared by Catherine van Saarloos

Visualising the Climate Crisis which are resources created by the AMSP designed to raise awareness of the impact of fast fashion on the climate. It was shared by Catherine van Saarloos

All I want for Christmas ... is data which contains various representations of data about when many different countries start and end their Christmas celebrations. It was shared by Catherine van Saarloos

Quibans: Questions inspired by a news story ... Ferrero Rocher chocolates which is a Christmas-themed article in the collection by Mark Dawes of news-related items that can be used to provoke mathematical questions. It was shared by Catherine van Saarloos

Voting for Quality Street chocolates which is an article from *The Telegraph* newspaper that gives the results of a survey of people's individual chocolate preferences. It was shared by Catherine van Saarloos

'Twelve Days of Christmas' Game which is a seasonal task involving algebra. It was shared by Mars @ MarsMaths #FE

How to make mathematical Christmas cards which is an illustrated article in The Guardian newspaper by Alex Bellos showing how to use mathematical curve-stitching to create beautiful Christmas card decorations. It was shared by Gerry McNally

ATM Midwinter Mathematics which is a lovely collection from the *Association of Teachers of Mathematics* of seasonal starting points to generate mathematical activity. It was shared by Mary Pardoe

MEI November Primary Newsletter which is a newsletter from MEI containing some nice seasonal tasks from Alison Hopper. It was shared by Mary Pardoe

Sunrise and sunset times which is an interesting tweet with a lovely 'live' image from Neil Kaye. It was shared by Gerry McNally

Inspirograph which is a virtual spirograph. It was shared by Gerry McNally

The 12 Days of Christmas which is an interesting blog by Angelos Sphyris about mathematical aspects of that famous Christmas song. It was shared by Angelos Sphyris

Maths Link Cubes (for Van Koch Snowflake) which is a pack of cubes from *Outstanding Outcomes*. It was shared by Heather Scott

Maths Bulletin – Christmas Edition which gives links to some online Christmas resources. It was shared by Roseanne Leeming

Cully Education: Special Days which contains links to resources from *Cully Education* that are suggested for use at Christmas time. It was shared by Rachel