



# Improving educational outcomes

## September 2018

### @maureen0207



# Background



- **Group established by former Cabinet Secretary**
- **Variety of backgrounds in the membership**
- **Met over a year – published interim report, a final report and a year on report**
- **Group are continuing to meet for two years following the final report (at least)**

# Three big recommendations



- **Transforming public attitudes to maths**
- **Improve confidence and fluency in learning and teaching of maths**
  - Role of local authorities including schools
  - Education Scotland
- **Promote maths as an essential skill for every career**
  - Role of employers
  - Family learning

# Public attitudes



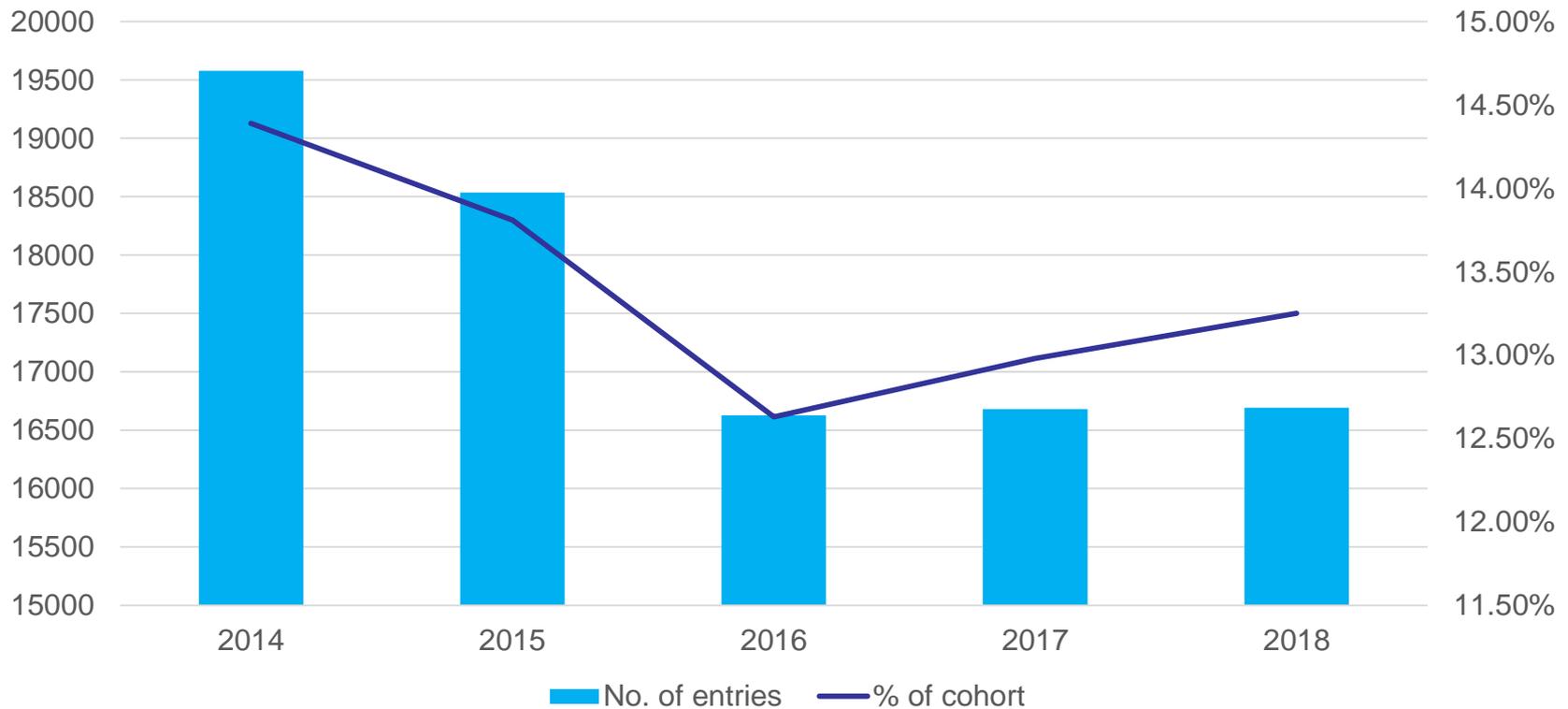
- ‘The OECD recommends that, unless the 2015 PISA results indicate otherwise, Scotland should give close attention to the issue of “maths anxiety”, not only regarding learners but also their teachers and at all levels.’
- Too easy for people to say – I wasn’t any good at maths
- Too easy for maths teachers to give out messages of difficulty

***Badge of pride?***

# Data



## Higher Maths



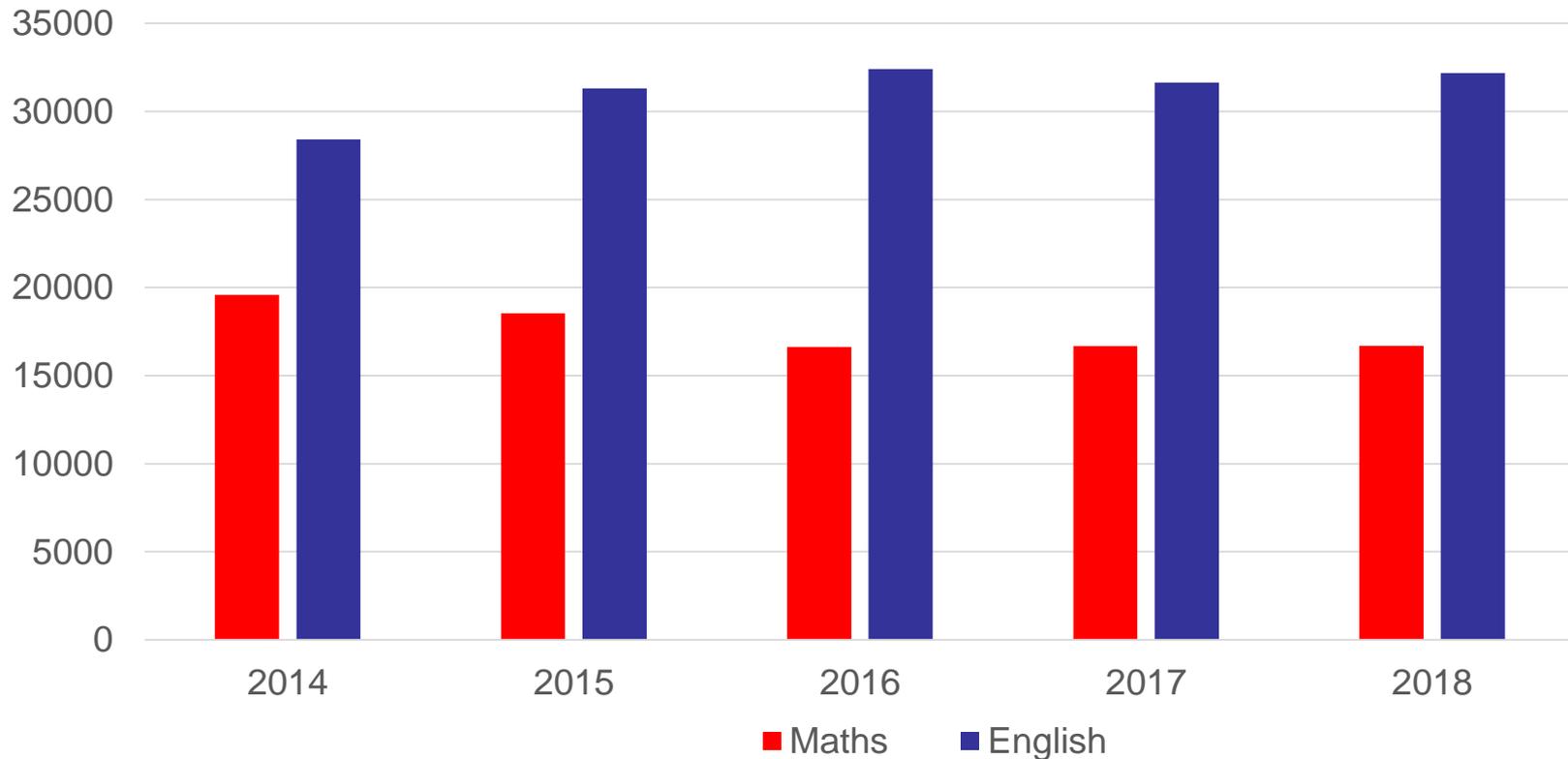
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# What about compared to English?



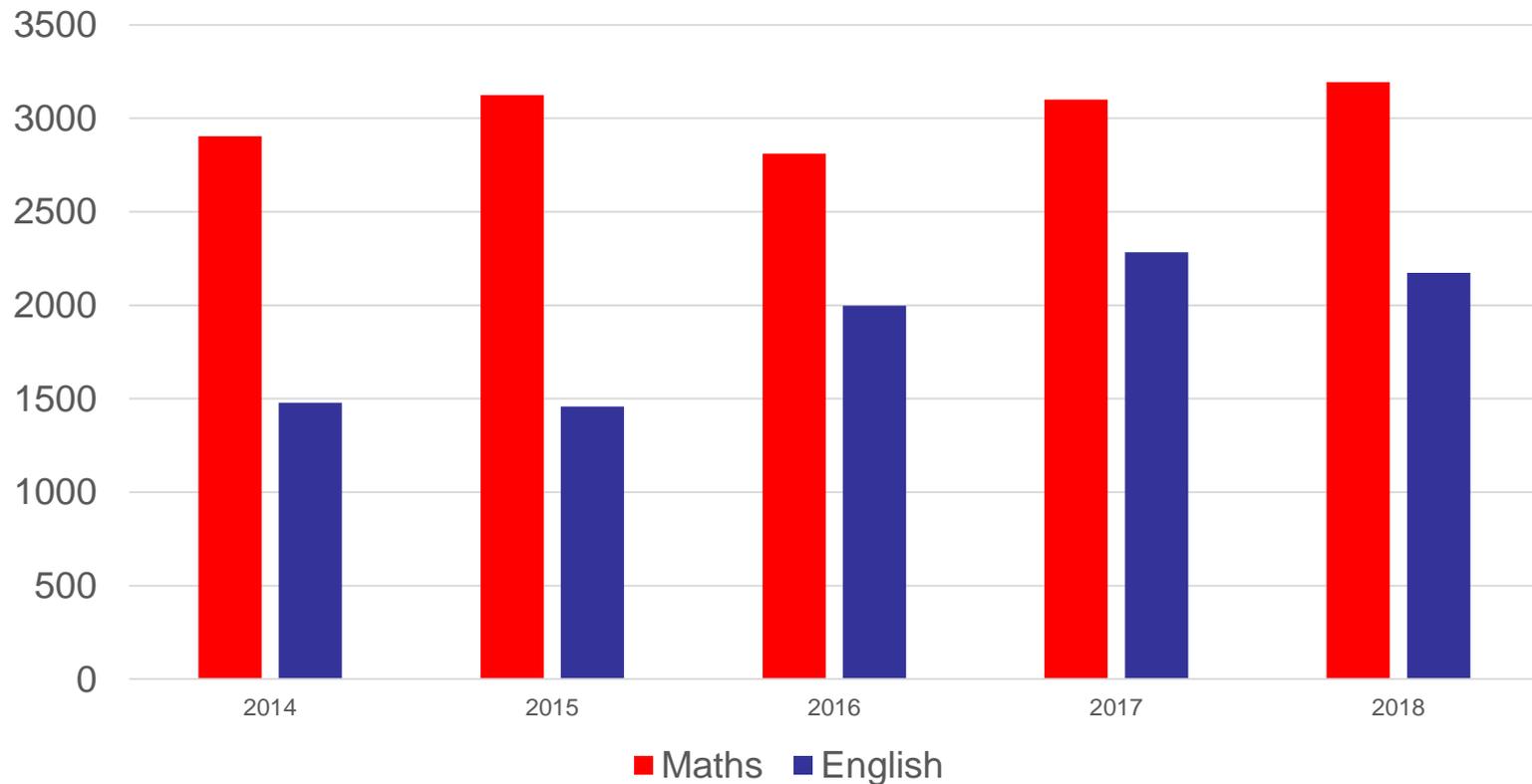
Numbers of Entries at Higher



# Not all bad news



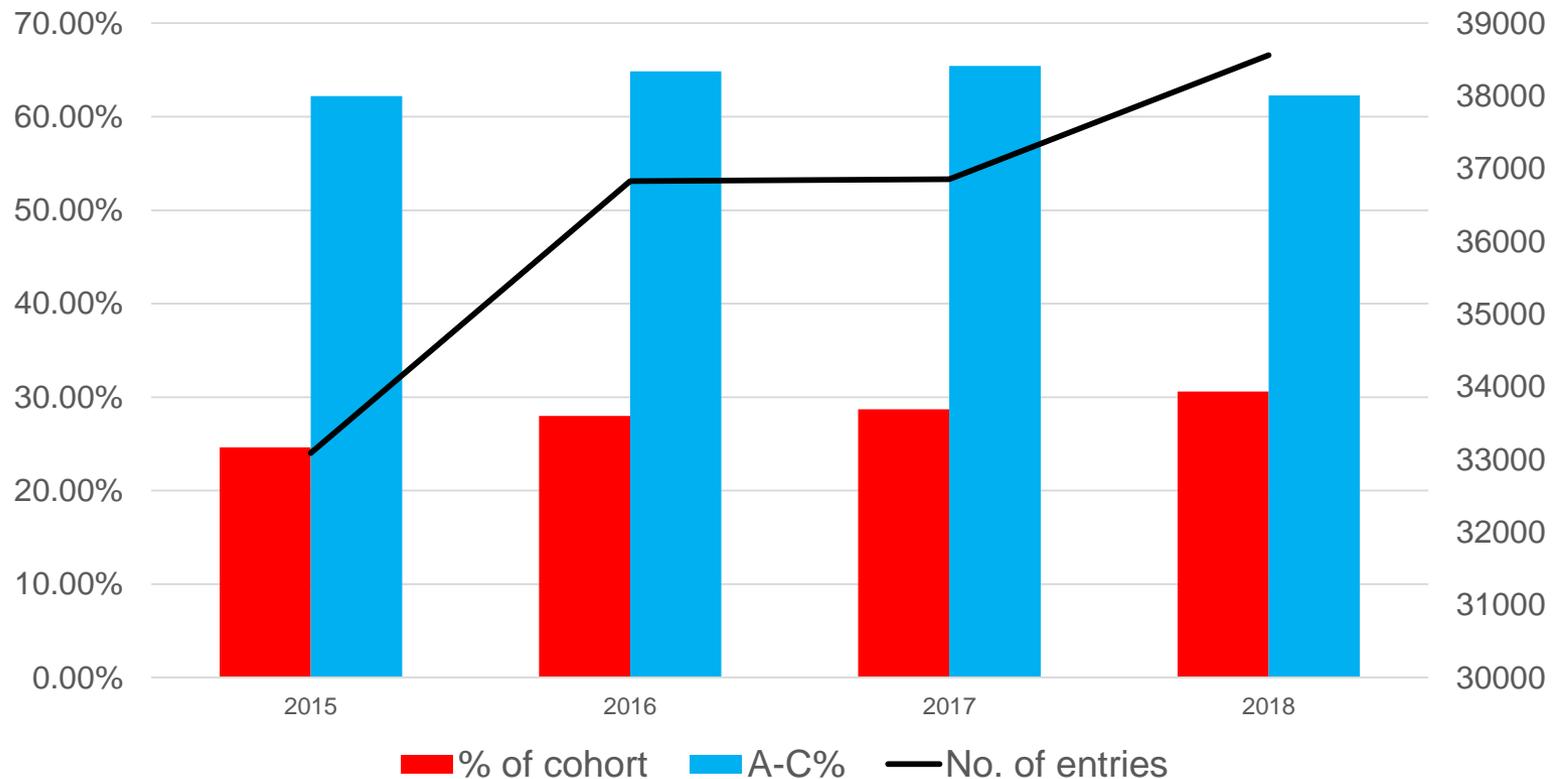
## Numbers of Entries at Advanced Higher



# National 5 – better news - pass rate steady, entries increasing



### National 5 mathematics



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# So what?



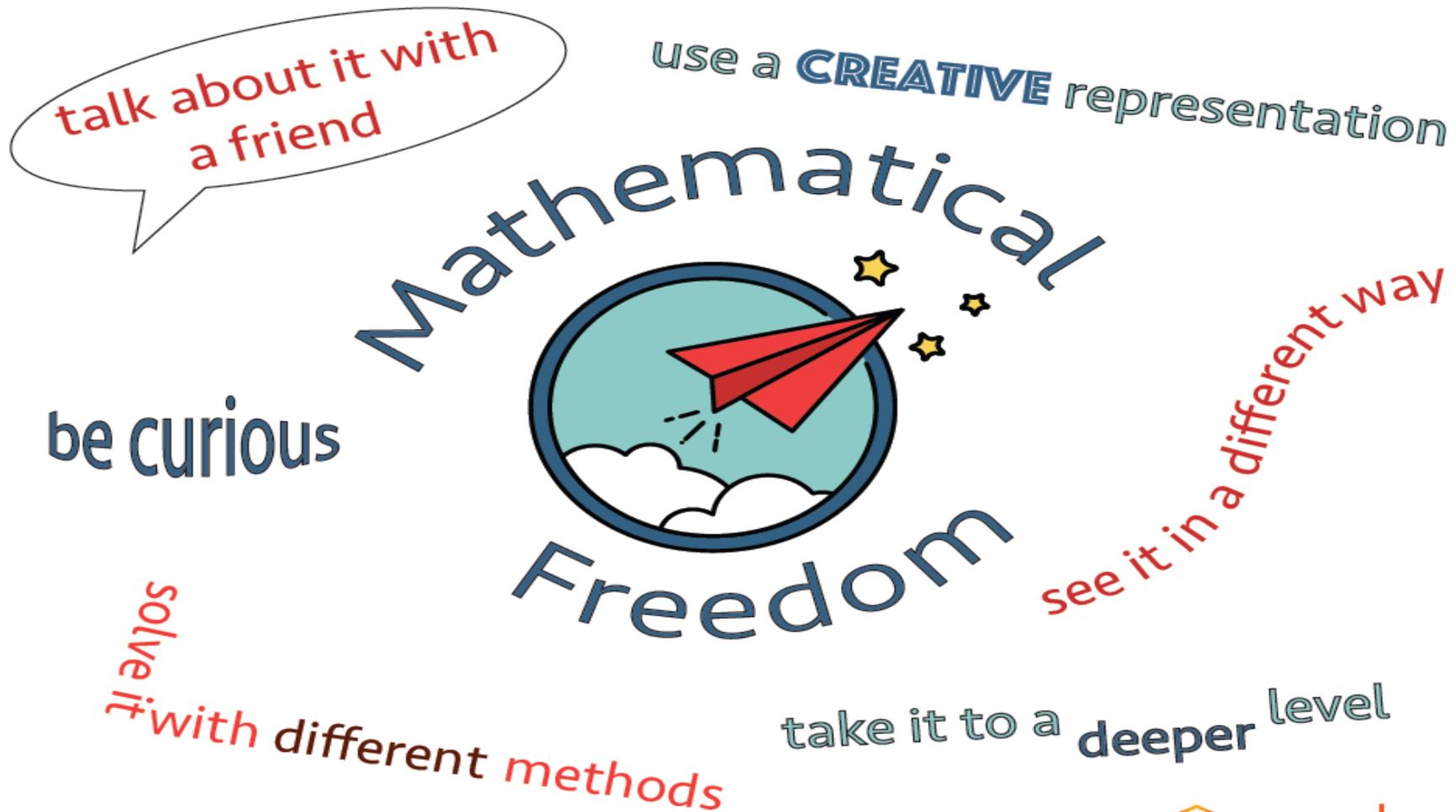
- **Demonstrates impact of a poor paper in an age where media matters**
- **We all have a role to play in changing public attitudes – in and out of our classrooms**
- **And we have started to do so!**
- **Thanks to you all and we need to keep going**

# #morethansums



- **Do all teachers and practitioners really understand that maths is more than sums?**
- **What about maths across the curriculum?**
- **Do we take every opportunity to teach maths as a language?**
- **How positively do we talk maths? Does having a 'maths mindset' matter?**

# Jo Boaler and 'youcubed.com'



# Scaffolding learning and using mistakes positively



# What exactly do we want?



- **Scotland to be a maths-positive nation**
- **all to believe that everyone, whatever their circumstances in life, has the ability to become proficient at maths**
- **young people who are mathematical thinkers, pattern spotters and problem solvers**
- **Teachers to empower our young people as mathematicians encouraging all to see and understand the value of mathematics**

# Scottish Open @ScottishOpen · 13 Jul 2017

Golfing stars, FM @NicolaSturgeon, @MartinGilbert83 tee it up to #MakeMathsCount at the #AAMSO 🧠 with @MathsScot abdn.am/2tjvXpx





**Henry Hepburn** @Henry\_Hepburn · 3 Nov 2017

Maths wasn't like this in my day... [@aap03102](#) [@TESScotland](#) [#MathsChopper](#)

everywhere to arrange speakers who talked passionately about how maths was vital in their everyday careers. Deputy first minister and education secretary John Swinney set daily maths challenges, created by the Scottish Mathematical Council.

Some authorities relished the chance to run ambitious, large-scale team challenges. Angus, for example, had maths-based relay races, a treasure hunt and a logic puzzle whereby pupils had to



**BBC Scotland Learning** @BBCScotLearn · Sep 12

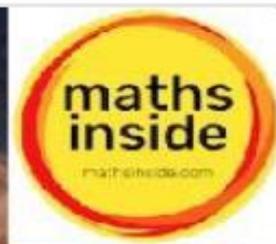
Want to check out how today's **#MathsWeekScot** challenge adds up? Asif's outfit has had some people feeling pretty smart! [@JohnSwinney](#) [@aap03102](#)  
[blogs.gov.scot/making-maths-c...](https://blogs.gov.scot/making-maths-c...)





**St Columba's HS Maths** @stcfifemaths · Sep 21

A homemade chicken pie by S3's Felicity Johnston for **#MathsWeekScot** photo competition . It's called 'Flicks Chick Pi'



2

1



10

KPSS and 3 others Retweeted



**John Swinney** @JohnSwinney · Sep 13

I hope you are enjoying [#mathsweekscot](#) as much as I am. Here is my fourth daily maths challenge: [bit.ly/2OcLLt6](https://bit.ly/2OcLLt6). Tweet me with your answers.

## Deputy First Minister's Maths Week Scotland Challenge



### Puzzle 4 is now live!



3

60



55

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SCILT @scottishcilt · Sep 12

It's **#MathsWeekScot** and we all know engineers need maths. But did you know they need languages too?

Find out more...

[scilt.org.uk/ResourceView/t...](http://scilt.org.uk/ResourceView/t...)





**MrsWilsonTech** @tech\_mrs · Sep 11

Measuring and marking out circles in S2 Practical Woodwork @LHSMathematics

#MathsWeekScot #harderthanitlooks



3



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**Sumdog** @sumdog · Sep 14

Congratulations to all the pupils in Scotland who took part in our Maths Week contest! It was our biggest Scotland contest ever!

Special congratulations to our winning class [@stlouisprimary](#), and our winning pupil [@eastfieldschool](#)! 🏆

[#MathsWeekScot](#) [#sumdogscotland](#)

answered  
20,038,463  
maths questions!

**GIF** [mathsweekscot](#) [#sumdogscotland](#)



**New Machar P3H** @newmachar3H · Sep 17

Last week we created our own sequences counting forwards and backwards in groups [#MathsWeekScot](#)



2



7



**Gillian Olford** @GillianOlford · Sep 13

Today @MissCalderKPS @KnightsridgePr1 we were all about maths and numeracy in context. It's amazing what you talk about whilst making Apple Pie Puffs! 🍏 🍏 Fractions, counting, 2D and 3D shape, not to mention food hygiene and kitchen safety. #learningtheplayway #MathsWeekScot





**Engage for Education** @engagefored · Sep 13

This morning DFM @JohnSwinney opened the new Maths Library at @VictoriaPrimSch - a fantastic resource full of games, activities and maths based books for pupils to enjoy at home or in school.

Great to see so many pupils in #MathsWeekScot fancy dress too!

@falkirkcouncil



# Lots and lots of activities



- **Maths Week Scotland – Twitter @MathsScot**
- **Chris Smith – Maths Wi Nae Borders**
- **Daily Maths Challenge, Christmas Challenge, Local authority challenges**
- **National Numeracy Day 16<sup>th</sup> May 2018**

**How do we continue to build on this and what are you doing to change public attitudes for maths?**

# What about the other two priorities??



- **Improve confidence and fluency in learning and teaching of maths**
  - Role of local authorities including schools
  - Education Scotland
  - GTCS
  - ITE providers
- **Promote maths as an essential skill for every career**
  - Role of employers
  - Family learning

# On a journey ...



- **Good start**
- **Now we need to pick up the pace**
- **Major challenges still exist**
  - Shortage of maths teachers
  - Assessments driving learning too much
  - Confidence of primary teachers
- **We need to keep an unrelenting focus on learning and teaching**

# And finally,



- **Thank you for your contributions – we are making a difference**
- **What else do we need to do?**
- **Questions?**