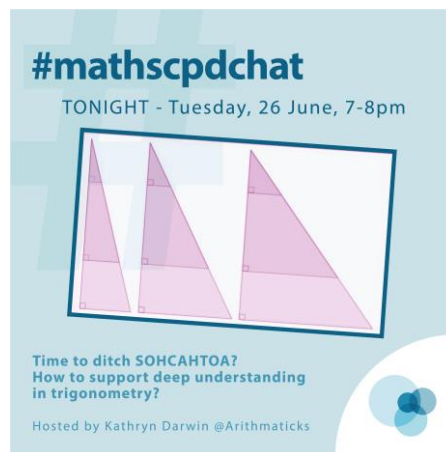


#mathscpdchat 26 June 2018

Time to ditch SOHCAHTOA? How to support deep understanding in trigonometry?

Hosted by [@Arithmaticks](#)

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 focused were:

- **first steps** in building the understanding of learners who have not previously encountered explicit trigonometric ideas;
- making **deep understanding** of simple trigonometry **accessible to** students who are aiming for **Foundation** tier GCSE;
- whether using **mnemonics**, such as SOHCAHTOA or formula triangles, gets in the way of achieving deep understanding;
- developing understanding of simple trigonometry out of **previously acquired deep understanding of fractions and ratios**, in particular of ratios between side-lengths of similar triangles;
- the role that the image of a **right-angled triangle with unit-length hypotenuse** can play in developing understanding;

- ways in which pupils can **derive for themselves exact values** of trigonometric ratios, such as $\sin 30^\circ$, $\cos 30^\circ$

A particularly interesting sequence of tweets, about one teacher's first steps for pupils when meeting explicitly trigonometrical ideas for the first time, followed from this tweet by [Jess Prior](#):

Jess Prior @FortyNineCubed Following

Replying to @Arithmaticks

Sorry I'm late! I spend a lot of time looking at triangles with angles of 30 and 60, using a similar triangles approach. Practise multiplying/dividing to find all missing sides. [#mathscpdchat](#)

including this one from [Kathryn Darwin](#)

Kathryn @Arithmaticks · 15h

Replying to @FortyNineCubed

Just in the nick of time! Sounds lovely.... ever mention SOHCAHTOA? Or just go for the ratio of sides? [#mathscpdchat](#)

this one from [Jess Prior](#)

Jess Prior @FortyNineCubed · 15h

Replying to @FortyNineCubed @Arithmaticks

And then introduce 'well, what if this angle was 40 degrees?' - then slowly begin to introduce using the sine ratio, before later introducing cos and tan. This has given it slightly more purpose than diving right in with SOHCAHTOA. [#mathscpdchat](#)

and this one from [Jess Prior](#)



Jess Prior @FortyNineCubed · 15h

Ha! But heard some talk at Maths Conf about introducing sine rule (at least with Higher) before right angles trig, on the basis the latter is a special case. Never thought about this before, but going to have a think before next time.

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

Among the links shared were:

[Trigonometry: new at Foundation tier. Two teachers discuss approaches to support deep understanding for all students](#) which is an article in NCETM's Secondary Magazine 148, shared by [@PardoeMary](#)

Another useful link is:

[Multiplicative Reasoning](#) which is an NCETM Microsite addressing teaching approaches to support pupils in deepening their understanding of many aspects of mathematics by learning to reason multiplicatively, shared by [@PardoeMary](#)