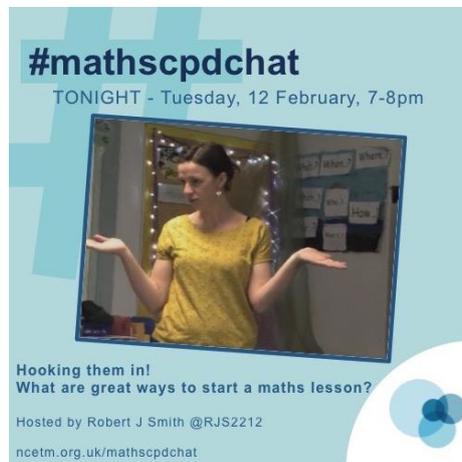


#mathscpdchat 12 February 2019

Hooking them in! What are great ways to start a maths lesson?

Hosted by [Robert J Smith](#)

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



Many contributors to the discussion interpreted the question ‘What are great ways to start a maths lesson?’ as ‘What ‘starters’ do you use?’, although wider ideas were expressed.

Some of the areas where discussion focussed were:

- whether **labelling components of lessons as ‘starters’** is helpful;
- not **taking time away** from ‘the key learning that needs to happen’ during the lesson;
- whether teachers feel **free to start lessons in any way that they like**, or if they feel **obliged to follow** department or whole-school **guidelines**;
- teachers **‘following their own path’ as a lesson evolves** ... rather than trying to follow a pre-planned lesson-structure, possibly prescribed by someone else;
- **distinguishing between** what happens at the start of a **new ‘learning journey’** and what happens at the start of **every lesson**;

- pupils liking routine and **knowing exactly what to do** when they come into the room **at the start of a lesson** ... greeting pupils;
- **building pupils' confidence** by focussing at the start of a lesson on a skill that they all have and which links to the lesson;
- **starting a lesson with a conjecture** that all pupils can understand, but which has the potential to generate learning at different levels ... **a low threshold, high ceiling task**;
- starting a lesson with a **'guiding question' for the topic of the lesson**, which aims to stimulate pupils' thinking, and is designed to spark curiosity about the lesson;
- starting a lesson by **asking very 'open' questions** to which **every pupil can respond at any level** ... pupils responses revealing their knowledge, understandings and thinking processes;
- starting a lesson with a **'hook' to get pupils talking and making connections** with previous learning;
- favourite **kinds of engaging 'hooks'** to use at the start of a lesson ... eg 'always, sometimes, never', 'which one doesn't belong', 'spot the mistake' and 'people maths' tasks;
- starting a lesson by **testing pre-requisite skills** with no agenda other than trying to ensure that the lesson will go smoothly ... **being prepared to change the focus of the lesson** if necessary;
- **using feedback from a weekly quiz** (test?) to determine which problems (from a pre-prepared bank) to present to pupils at the start of a particular lesson;
- starting every lesson with **some element of knowledge recall and some routine practice** being particularly effective for 'resit students';
- starting every lesson with some kind of **'retrieval practice' in order to 'settle' pupils**, followed by tasks (**'starters'**) **intended to engage pupils** and prepare them for the learning planned for the lesson;
- labelling a task provided for pupils during the first part of a lesson as **either a 'settler' or a 'starter'** ... that they are provided with **different aims**;
- whether lesson **'starters'** relate to the **learning planned for the lesson**, or to **pupils' prior learning**;
- **whether 'consolidation of prior learning' counts as learning** ... sometimes the 'revision' element of a 'starter' can lead to much learning by, for example, undoing misconceptions or deepening prior understanding;
- categorising 'memory starter problems' as **'last lesson', 'last topic', 'last term' and 'last year' problems**;

- what the **intended learning outcomes of pupils attempting ‘starter’ tasks** are ... new learning? ... knowledge recall relevant to the learning planned for the rest of the lesson? ... recall and application of prior learning that is not closely linked to the rest of the lesson?
- **how much time, or how large a part of the whole lesson**, is usually (or ought to be) spent on a ‘starter’ or ‘initial engagement’ task ... ‘if pupils are learning by engaging in a ‘starter’ task then that task should take up as much of the whole lesson as necessary’;
- starting lessons by using **planned ‘Do Nows’** to reactivate and review prior learning.

An interesting ‘conversation’ of tweets, about building confidence at the start of a lesson, and being prepared to respond to pupils’ actions and responses by changing the course of a lesson, followed from this tweet by [Sheena](#):

Sheena @Sheena2907
 Replying to @RJS2212 @MrMattock and 8 others
 My year 7s have a numeracy ninjas routine. It settles them, they love the belts and they have very much needed times tables practise at the beginning of every lesson. They also feel successful and more confident to start new content #mathscpdchat

including these from [Robert J Smith](#) and [Sheena](#):

 **Robert J Smith** @RJS2212 · 18h
 So in this Tweet, @Sheena2907 seems to be suggesting that SUCCESS and CONFIDENCE are important at the start of a lesson... Discuss #MathsCPDChat

 **Sheena** @Sheena2907 · 18h
 Replying to @RJS2212 @MrMattock and 9 others
 I think it's important for students to experience being stuck and to learn problem solving skills. But for many students, maths is a huge source of anxiety and having success at the beginning and end of the lesson is important to them, with the stickier bits being in the middle!

these from [Kathryn](#) and [Helen Scott](#):

 **Kathryn** @Arithmatics · 21h
 I also really like an “old school” approach of testing pre-requisite skills with no agenda other than making sure the lesson will go smoothly.... #mathscpdchat

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 **Helen Scott** @HelenScott88 · 21h
 Did this once before a lesson on loci, realised that students couldn't draw a circle with a compass. Abandoned the loci and spent an hour drawing circles. It was wonderful!

these from [Hannah](#) and [Mike Thain](#):



Hannah @missradders · 21h

Replying to @RJS2212 @PardoeMary and 10 others

Starters; use the feedback to guide the rest of the lesson. If that means ripping up the lesson plan - do it. If it means accelerating them faster to more challenging material it applications - do it.



Mike Thain @ThainMike · 20h

As much as possible I want at least one of 3 or 4 Qs to directly link to the learning about to happen. It saves teaching time, makes explanations focused on what they need to focus on and maximises practice time.

and these from [Stephen Connolly](#):



Stephen Connolly @MrConnolly_Pri · 20h

Replying to @ThainMike @RJS2212 and 7 others

Couldn't agree more. I start with a low threshold, high ceiling task that all children can access. This is usually in the form of a conjecture.



Stephen Connolly @MrConnolly_Pri · 20h

Replying to @Arithmatics @RJS2212 and 5 others

I use them to build confidence within the class. Start with a skill that they can all do, which links to the lesson. Shows progress and makes them more motivated.

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

Among the links shared were:

[Mathematical Hooks](#), which is a very varied collection of stimuli for mathematical thought and discussion from Julia Smith (@tessmaths). It was shared by [Tess Maths](#)

[Dolt-TwistIt-SolvIt: Teaching for Mastery](#), which is a blog (January 2019) by Steve Lomax (@MaxTheMaths) about designing 'examples and exercises to secure and deepen pupils' understanding of mathematical ideas'. It was shared by [SteveL](#)

[Koalastothemax](#) which is an interactive poster involving circles. It was shared by [Sharon Malley](#)

[People Maths: Hidden Depths, e-book](#), which is a e-book from the Association of Teachers of Mathematics (ATM) that describes 43 different 'activities' in which people are used as pieces of a puzzle, sum or diagram; the focus is on the 'hidden depths' of the activities which include the value of discussion generated by the activities, shared by [Mary Pardoe](#)

[Asking open questions](#) is a page of the NCETM 'Preparing for learning: Key stage 3: Embedding in Practice' Self-evaluation tool that provides examples of questions which allow learners to respond at the level with which they are comfortable. It was shared by [Mary Pardoe](#)

[Mammoth Starter Packs](#), which is a 'huge selection of GCSE starter tasks'. It was shared by [PixiMaths](#)

[Tools for Maths Teachers](#), which is a collection of resources by MathsBot.com. It was shared by [Mr Mattock FCCT](#)

[Addition game](#), which is an online game from mathster.com. It was shared by [Robert J Smith](#)

[Transum](#), which is collection of 'free mathematical activities, puzzles, problems, visual aids, investigations and lots more'. It was shared by [Robert J Smith](#)

[Questions and Quizzes](#), which is a collection of 'Diagnostic Questions'. It was shared by [Robert J Smith](#)

[Miss Banks Resource Shop](#), which is a collection of material. It was shared by [Kerry Dunton](#)