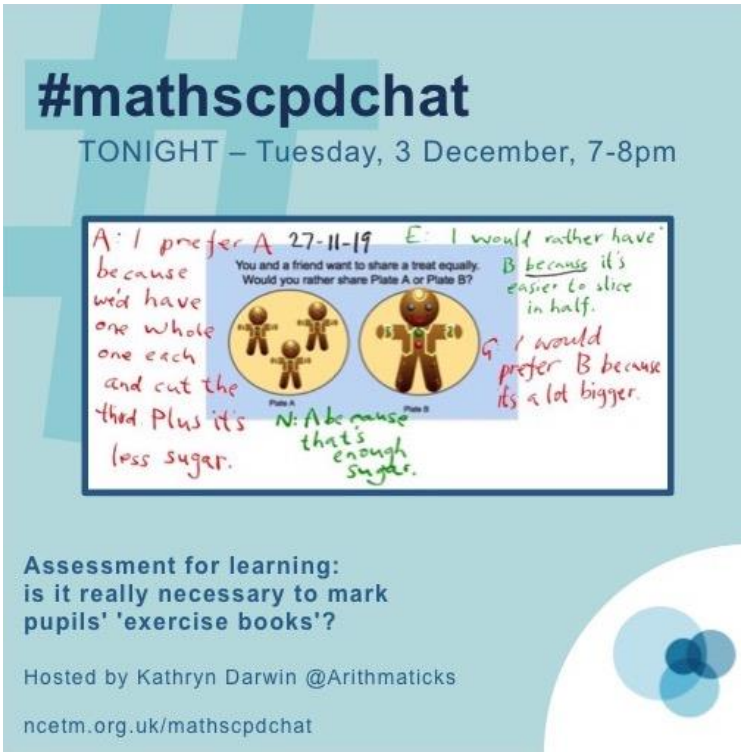
#mathscpdchat 3 December 2019

Assessment for learning: is it really necessary to mark pupils' 'exercise books'?
Hosted by Kathryn Darwin

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:

- **variation in how frequently pupils' exercise books are marked** … every lesson by choice, marking them as I go round during the lesson … one piece of work every two weeks, with no expectation to mark anything else … mark with comments every six lessons … never, but scan them for quantity and quality of work, attaching target stickers to identify learning that needs checking … never, quizzes are marked once a week … never, mark rigorously assessments that are given every fortnight …

marking is light-touch (tick/cross, circle errors, with comment only if error is unusual or very specific) … write feedback in pupils' exercise books during lessons, 'picking up' pupils who need more explanation … just 'look over' pupils' homework books … never, but give verbal feedback to pupils during lessons;

- **wanting the 'journey of a student's mathematical thinking' to be represented in a (an exercise) book**, as a diary of how they are progressing … that it is powerful to observe how this 'diary' develops over time … that their books are records of both pupils' mathematical activity and their 'conversations' (with the teacher and possibly other pupils) about learning … that the teacher can point out to pupils how they have progressed, e.g. 'look here … now look here …';
- in all work **trying to make time for conversations with pupils about their learning** … for example asking them to explain how they are interpreting a diagram … giving them guidance about their learning habits, with the aim of enabling them to make better progress;
- that it can be **difficult to 'make' learning happen at a particular time** … being alert to when it happens, and focussing on (responding to) it then;
- **giving feedback about general mathematics-learning skills,** such as 'You are becoming more accurate', 'You are developing a systematic strategy here', 'Would a diagram help?', 'What information have you decided to use? Why?';
- that **verbal feedback 'as I go round the classroom' is impactful**, whereas written feedback is not;
- that assessment is facilitated by **asking specific students specific questions** … for example asking 'Why?' 'How do you know that?' 'What would happen if …?' 'who agrees with …?' 'Why do you disagree?';
- gaining insight into pupils' thinking by challenging them to **write explanations**, for example in response to 'Explain why …', or 'How did you reach that conclusion?' **as preparation for their giving verbal explanations** to a small group or to the whole class;
- pupils thinking **individually** about a stimulus, such as a problem, then discussing their thoughts/responses in **small groups**, then opening it up to **whole-class** discussion;
- that it is important to provide **time for pupils to reflect on feedback** that has been given to them in any way, be it, for example, verbal feedback, teacher writing in an exercise book, or quiz marking;
- obtaining information about pupils' learning by observing their responses (to questions and challenges) that they show on their **individual mini-whiteboards** … when pupils are using mini-whiteboards to show their working on tasks, circulating

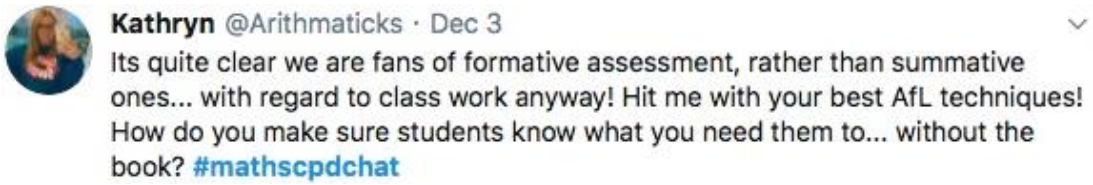
and listening, sharing pupils' good ideas with the whole class, individual pupils talking to the whole class, or using a visualiser;

- 'live marking' during every lesson, then **using 'exit tickets'** at the end of every 'chunk of learning' (pupils sit in silence and 'do' the few questions on the exit ticket about that 'chunk of learning') … that it takes only ten minutes to mark a class set of 'exit tickets';
- calling upon **pupils who have demonstrated understanding to 'support' pairs or groups who are struggling** … doing this as an aspect of (during) DIRT (Directed/Dedicated Improvement/Independent Reflection Time);
- that **'feedback lessons' may have the following structure** … pupils have previously done a 'low-stakes quiz' or an end-of-term assessment … each pupil is given (a) target(s) as a consequence of their quiz-responses … pupils work on the topics to which they gave poor quiz-responses, as work towards their target(s) … pupils attempt the new quiz-questions set for their target(s);
- that pupils' responses to test items may be categorised as **pink** (pupil needs more help), **amber** (could be better) or **green** (adequate or good) … pupils then attempt new assessment items selected appropriately from items that are categorised as either **pink, amber or green** … 're-teaching' something if all pupils in a lesson are attempting 'pink' re-test items;
- students marking their homework online … students seeking support if their answers do not match those given online or by their teacher … that **providing answers** may prompt a conversation with other students or with the teacher when the student's answer and the provided-answer don't match … that students may work profitably for longer when answers are provided;
- **giving 'unit tests'; with consequent detailed feedback** … follow-up lesson in which each pupil is given a **worked example** of each kind that they 'got wrong', each with a follow-up question or two for them to attempt (having studied the worked example);
- providing feedback to pupils **using ticks placed appropriately in a table on a sheet** listing 'Assessment objectives' as the first column-heading, with the other columns being 'you are able to …', 'you are almost able to …' and 'you are not yet able to …';
- that **'hinge questions'** are questions posed to see whether or not pupils have understood a particular mathematical idea or technique … posing 'hinge questions' as multiple-choice questions in order to **reveal anticipated common misconceptions** … having 'not sure' as the first option;

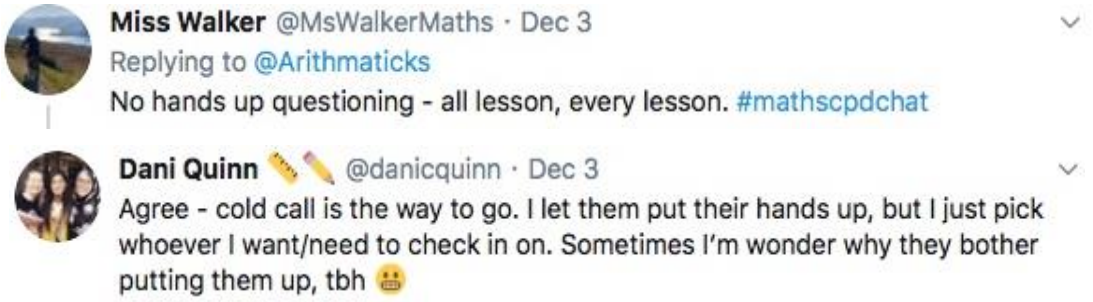
- ‘no-hands-up’ questioning, all lesson, every lesson … asking for ‘hands-up’ when students have worked-out the correct answer to a question, then **generating discussion about what the students with hands still down are thinking and have been reasoning**;
- that an **important aim** in mathematics teaching is to enable pupils habitually to **seek the authority-that-provides-feedback-about-‘correctness’ within mathematics itself**, rather than always regarding the teacher, textbook or online answers as the only ‘correctness judge’;
- **proposing a new maths marking policy to SLT … what is it, and how do you justify it?** …the only policy, provide feedback that leads to improvement … feedback sooner rather than later, to try to prevent the embedding of misconceptions … that marking is only one aspect of providing feedback to pupils … a ‘no marking’ policy with teachers continually reacting to the feedback that students are giving them … looking at pupils’ exercise books every couple of lessons, and using what is seen formatively … whole-class feedback with key misconceptions in focus … finding gaps in pupils’ knowledge and planning how to fix them (with no teacher-writing in pupils’ books being necessary) … recognising that every learner is different and therefore every class is different, so the teacher is the best person to decide how, when, and how frequently, to provide feedback.

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

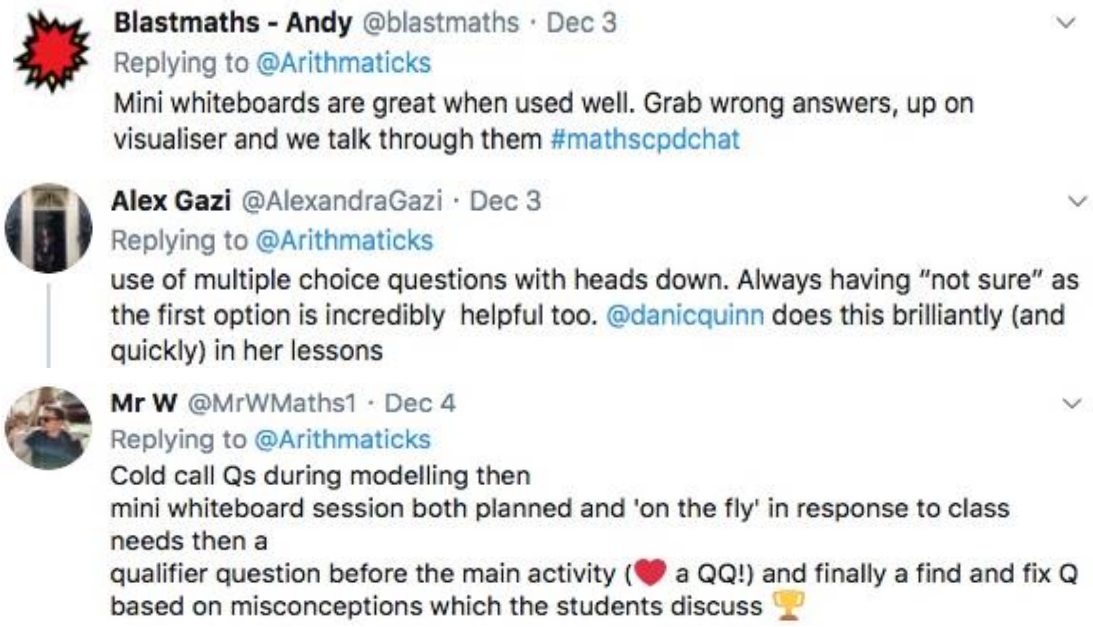
This is part of a long ‘conversation’ of tweets about various ways of assessing pupils’ learning during lessons, including questioning selected pupils, and observing what pupils show on individual mini-whiteboards. The conversation was generated by this tweet from Kathryn Darwin:



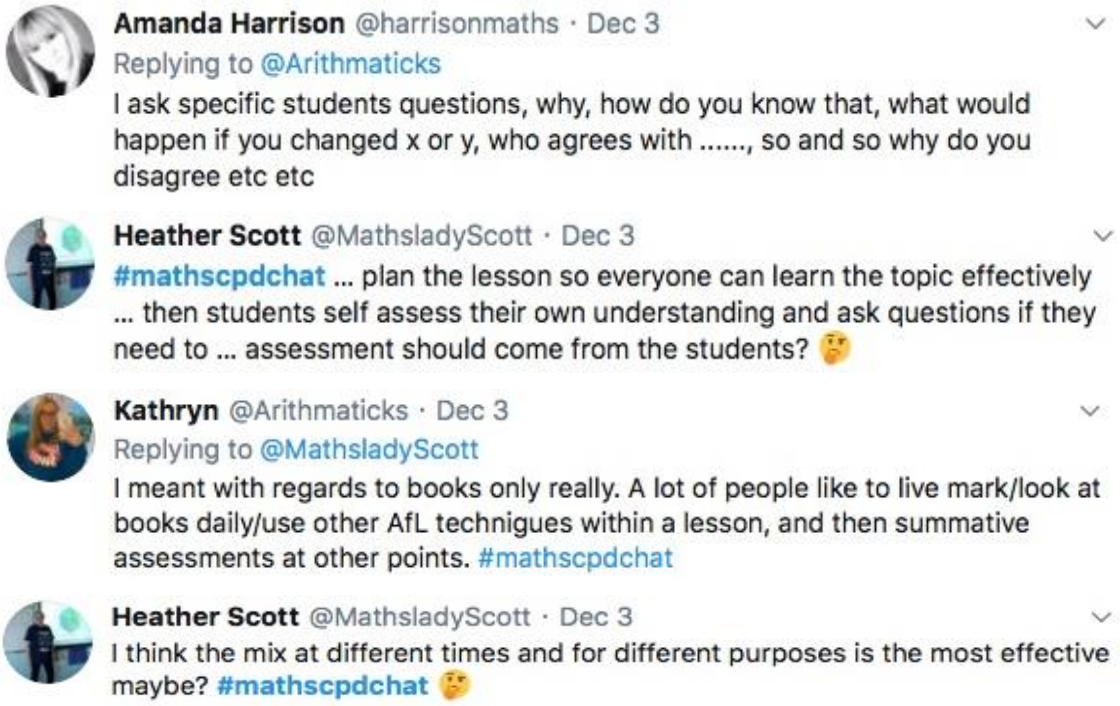
and included these from Miss Walker, and Dani Quinn:



these from Blastmaths - Andy, Alex Gazi and Mr W:



and these from Amanda Harrison, Heather Scott and Kathryn Darwin:



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

Among the links shared were:

The NCETM Secondary Assessment Materials which provide support for mathematics teachers in assessing students at KS3. They will enable you to make judgements on the

degree to which students have mastered various components of the KS3 maths curriculum. It was shared by Mary Pardoe

The NCETM Primary Assessment Materials which is a collection of questions, tasks and activities supporting teaching for mastery of the mathematics curriculum in Years 1 to 6. It was shared by Mary Pardoe

Maths Lesson Principles and Structures which is a blog by Blastmaths - Andy in which he shows in a detailed way his thoughts about principles for mathematics lesson creation It was shared by Blastmaths - Andy