

Passion For Teaching and Learning
Grade 1: The Brownie Dilemma
Student Math Strategies

SPEAKER 1: In my classroom one of the things that we've been developing all year long you can see along the top of the board here are student strategies for mental math and solving math, you know, and it started with really simple strategies at the beginning of the year and they've sort of developed and gotten more complex as the year's gone on and you can even see this was one of the strategies that we referred to during our rec and rack lesson this morning. When a student sort of comes up with a big idea in number sense, it's so much fun to capture that big idea on one of these pieces of paper and even put their name on it. So, for the rest of the year, the students actually refer to Halcadan's strategy or Mateo's strategy. I think the names help them remember the strategy, and it gives them a thinking point. And then these strategies are something they can go back and forth to all year long. We have other math walls that come up in the room, and sometimes it's strategies that they can use to get them unstuck when they're doing a problem. Like today when they were doing the brownie problem I had one group that was really stuck at the beginning and then remembered that a strategy that can get them unstuck is drawing a picture, and I think that remembering that from the math wall that's over in the other side of the room. The daily math rack lessons actually give me tonnes of assessment every day. Usually when I'm doing my math rack lessons, I'll have a sheet of all the students' names and as students are sharing strategies I'll make a quick note of what strategy they've actually developed and shared, and so, you know, at the end of a couple of weeks I usually have a sheet filled with the different strategies that students have developed and are able to use. It's perfect for informing my assessment, but I can also check in on it all the time and see who hasn't shared much with me and then that might be the perfect time to go and find that student and prompt them and talk with them or work with them more one-on-one, but it's all my evidence right there of all the learning as we go. It's perfect, beautiful, formative assessment as we keep learning. Within our classroom, the norm is that it is always safe to share. We've made sure that everybody knows that everybody makes mistakes, that we actually learn more from our mistakes than when we say something perfect or get something perfect, that that kind of thinking that you have to do when you're really pushing yourself to understand something is much more a piece of learning. In this classroom, they know that everybody's strategies are valued, and that's why it's so important to ask students to share their strategies and hear lots of different strategies because there isn't just one way to do something, and so I think all the students feel really comfortable sharing every math lesson because they know that everything they share is valued, and, of course then any time we do a lesson in any other subject area, they know that this is a place where they can speak really freely and they're going to be appreciated and heard and understood. One of the biggest risks

I've taken in changing my teaching practise over the years, of course, is moving to the three part math lesson, you know? Picking these really meaty, juicy problems and letting all the big ideas and learning come out and develop out of those big problems. It's about handing over the talk to the students, too, not being the one up at the board. You know, when we were growing up, a lot of times it was just the teacher standing at the board saying, you know, "Here's the method. Here's the question. Here's how I solve it. Now go and copy this. Do it exactly the way I've done it and practise it 30 more times." It's not about that anymore. It's about getting the students to actually be the ones to develop the strategies. I mean, that's when real learning happens. If a student has to work through a problem and come up with their own strategy to solve it, well, they're going to remember that strategy. Because they developed that strategy, they understood that strategy. Me just telling them how to do something, maybe they remember for the next five minutes, but have I actually changed their thinking or caused any real learning? I was always a junior teacher. Spent most of my career teaching grade six and grade five, and so then coming down to grade one a couple of years ago and now doing grade one for the last couple of years has been a great professional awakening, and I love in particular seeing where the number sense starts, and all those early number sense concepts because, you know, I know where they're going. So, it's so great to see where they start.