



Welcome fellow Recovering Traditionalists to Episode 157: Virtual Math Summit Preview: Challenges and Benefits of Building Kids' Thinking

Before we get into the episode, this week's positivity comes yet again from Facebook comments. Kim tagged a friend in the comments and had this to say about the Virtual Math Summit:



Kim [redacted]

Elizabeth [redacted] I am already signed up! I did it last year also. Good stuff and you can watch at your own pace at your own time.

3d Love Reply Send message Hide



Kim is right, you can watch at your own pace. The sessions are being released on February 24 & 25 and if you are there when the session gets released and engaging in the chat, we have giveaways happening in each session...but if you can't be there you do have 10 days to watch the sessions whenever you have time.

We are two weeks away from the Virtual Math Summit. If you haven't registered yet, get over to [VirtualMathSummit.com/register/](https://VirtualMathSummit.com/register/). There are 3 levels of registration. Free registration gives you 10 days to watch this year's sessions. We also have a VIP access for the summit which gives you access to this year's sessions through the end of March. Or if you'd like to access the past 7 years of summits along with this year's, you can become a member of the Build Math Minds PD site. Information about all 3 options is available at [VirtualMathSummit.com/register/](https://VirtualMathSummit.com/register/)

This week's episode is our 5th preview of some of the sessions from the upcoming 2024 Virtual Math Summit. In this episode I'm sharing sessions that give you ways to get your students thinking in math class instead of just computing. In each of the sessions, they share activities you can do, but in these previews I'm sharing some of the challenges & benefits of getting students to think and not just compute...you've got to come watch the full sessions to get the activities.

Up first is a short clip from Jenny Foreman. Her session is about building a problem solving toolbox and in this clip she is sharing some of the problems she has encountered when trying to get students doing problem solving and not just working on bare problems in worksheets.

*“...A lot of teachers were saying they just have Number Pluckers, right!? They have kids who take numbers, take addition or subtraction, put it together and just hope for the best and they're not really thinking of those problems. Or you get those kids who are focused on the wrong thing. Maybe they're focused on a number that is not actually supposed to be part of the equation or maybe they're focused on the fact that the person's name is Johnny and that's their uncle's name. So getting them to focus on the math, the right context, and not just what numbers is definitely, usually, a common struggle. We're going to talk about a few problems today. The first one: the dreaded Groans, right? You say it's time for word problems, and they go 'ugh!' Maybe even you groan, too, and we need students to buy in. We need students to enjoy solving word problems, to want to solve word problems, if we're going to make them better problem solvers. So here's some things I've done to change those groans into grins in my classroom...”*

Next is Loren Thorpe whose session is about using Math Challenges in your classroom. This clip shares some benefits of using math challenges.

*“...Maths Challenges can actually be less overwhelming for students as well. Now hear me out. I know sometimes it seems like giving students a big question, that doesn't have an obvious answer, could be more overwhelming for those students who particularly are not confident with Maths. But because the answer isn't clear to anyone in the class usually, it actually can be less overwhelming because it gives those students who aren't as confident in their Maths lessons a chance to kind of step back and think about it for that bit longer and to know that they're not expected to give an answer straight away. That they have time to think about it, ponder over it, working out try some different things and it's just a different, it's a whole different approach to finding a solution to a Maths problem when they're just given an open-ended challenge to work through. And I have seen how sometimes the kids that are less engaged in Maths can actually become re-engaged in these sorts of situations when they have a big challenge because it's something new, first of all, and so some of those associations they may have with a typical mental maths test aren't there because it's a new experience for them. And also it kind of levels the playing field a little bit for everyone because everyone's now bringing their own strategies to the challenge and working through it and there's and the kids can work throughout their own pace so there's not a easy comparison and it just takes a little bit of that pressure off and it can often yeah re-engage some of those students who do find math overwhelming and who have lost a bit of their motivation. And of course it develops critical thinking skills because students need to think about things from a different perspective or find multiple ways of approaching a problem that aren't as clear or standard as some of the things they may be used to. So let's go through some examples of math challenges that you can use in your learning space. I'm going to go through some of my favorites with you today and give you a few suggestions of things that you can run with and try this week with your students and then after I've gone through some examples I'm also going to give you some strategies that you can use to just tweak some of your existing math lessons to make them more of a math challenge task as well...”*

Our last preview in this episode actually comes from my own session at the summit. In my session we are talking about helping students build Relational Thinking not just Computational Thinking. In this short clip I want you to see

a glimpse of the research of what happens when we focus on computational thinking and then I leave you hanging wondering how a 5 year old can solve  $49 + 19$ . hint he didn't compute, he used relational thinking.

*"...So think about this problem right here and the students you work with. What do you think they would do with a problem like this:  $6 + 7 = \underline{\quad} + 8$ ? One of the biggest, eye-opening things to me that I think I ever read and I have never forgot it, I don't know the whole gist of the article, I mean I can't tell you word for word, but I distinctly remember this part of the article. It is by Thomas Carpenter, et al (that's the whole group that is part of cognitively guided instruction), they were doing research about students' understanding of equality and one of the things that they found was they gave a problem, or problems like this, to kids in first grade all the way up to sixth grade. And you would expect that kids in sixth grade would do better than kids in first grade. Unfortunately that was not the case. Kids in first grade performed better than 6th graders on problems like this because they haven't been taught what this means yet. They're trying to make sense of it. What they found with those sixth graders is that overwhelmingly the #1 answer that kids put in that empty space was 13. They believe the equal sign means 'the answer comes next.' They've been trained that way throughout school that when you see the equal sign that means compute...compute compute. So the number one answer by sixth graders was 13, the next common answer was 21. They just added up all the numbers because they weren't quite sure what to do with it. So I want you to start right there, that study alone really showed me how much emphasis we put on computation and not them looking at relationships and really what the equal sign means as well is part of it. Okay? I want to show you a little bit of what it looks like when kids have this understanding. We just talked about what it looks like when they don't because they'll just compute, but this problem right here, could a 5-year-old solve this? And I'll give you a hint: he does. So instead, I want you to think about HOW would a five-year-old solve this? Now 5-year-olds, this is not in their standards at all. It is not an expectation that a 5-year-old should be solving this and I didn't even ask the five-year-old to solve this. In fact this comes from my 7-year-old, they're not this age anymore but when he was seven. One of my sons brought home this worksheet and so this is a bigger picture of what that worksheet looks like. The first problem was  $49 + 20$  then it was  $21 + 49$  and then he was working on  $49 + 19$  and his 5-year-old brother was you know hopping around looking at what he was doing kind of paying attention kind of not paying attention and now I'm going to play a video for you so you can hear what my five-year-old said..."*

Get signed up for the summit so you can listen to these full sessions and get the activities they share to help you get your students thinking, not just computing: [VirtualMathSummit.com/register](https://VirtualMathSummit.com/register).

Until next week my Fellow Recovering Traditionalists, keep Building Math Minds.

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