

SPEAKER: Anything about the mathematics that surprised you, in terms of what kids were able to understand or misconceptions they may have had?

ANTHONY ROGERS: I think level B, level B, there were a lot of misconceptions around "one-fourth of the girls at the party," because the students often referred to one-fourth of the total people at the party. So, a lot of them thought that there weren't any people that could have short red hair. So, that, um, was very interesting. I think that as the -- as the math was ramped up in level D, like the probability and statistical reasoning for D and E, I think that was sort of complicated. I think just more mathematic and theoretical probability worked.

SPEAKER: Worked. For example?

ANTHONY ROGERS: For example, just, um, doing some more hands-on things. So, using the spinners to show probability, dice, and, like, bags. Like, there's an activity we used before where they have -- they have tiles in a bag, which is very similar to the problem. But I think they need more hands-on experience with probability, because it's very theoretical, so then they need to actually do things to see the probability a little bit more effectively.

I think the connection with art being a part of math, like, that's very successful with a lot of their charts this time. The charts are more colorful. [laughs] They have more pictures, but the pictures are very relevant to the work ... Well, they're actually diagrams, they're not pictures. They have the specific information that they need. So, I think I see those more successful students understanding that art is math. And you can use it -- you can use diagrams to help you solve problems, and problems are not always solved just with number sentences and word sentences. So, I think that that's the most successful thing that I've seen.

I think the engagement level is higher when they have to work on the Problem of the Month. I think it has more entry points for all students. And as the math is ramped up, like in level C or D and E, there's sometimes less involvement, but overall, there's more involvement because it's nontraditional. And it's not -- they don't always have to use the basic algorithms that we've been teaching. They can use their own understanding and it's acceptable. And we're not dinging for, uh, errors or mistakes, but we're just looking for their understanding. So, I think all students feel a little more comfortable -- confident when they're working on the Problems of the Month.

The biggest challenges are refraining from using this as a teaching moment, and allowing the students to work through their own process. And, yeah. So, that's the biggest challenge for me.

SPEAKER: Allowing them to struggle with ...?

ANTHONY ROGERS: Allowing them to struggle with the math and to work as a group, and, for me, not to teach during this time. So, that's the biggest struggle. It's also the biggest joy, also, because I get to see their own thinking a lot more.

I enjoy using the Problem of the Months. I think it allows the students to engage with each other. And school-wide, it allows all of the students to sort of engage and -- and have a discourse

around the math that everyone is doing. And they get to see other students' understanding and successes with the problems.