

Intermediate Math Food Drive Materials Interview

Interviewer: Please describe the instructional materials you're using for this lesson.

Teacher: We have poster paper taped onto each table, split up into different amounts of boxes depending on what part of the problem they were going to work on. One problem had a scenario where they have to split food up among six boxes, so their poster would be split up into six different squares. We also have a key that we made ... Actually I shouldn't even say that. It was a piece of paper that said the word "key" on it ...

Teacher 2: Just a scrap piece of paper.

Teacher: To encourage them to use the few markers that we gave them to make a key. The blue marker is going to stand for the milk. If I write 2.4 kilograms in blue, I know that it's 2.4 kilograms of milk, just to minimize the time they spend writing the same thing over and over and over again, and to help them give a tool to categorize they're thinking.

Teacher 2: The lesson came from the Connected Mathematics Curriculum and we're in ... Like I said, it's the Bits and Pieces?

Teacher: Comparing Bits and Pieces.

Teacher 2: Comparing Bits and Pieces workbook section of that. We did use a lot of that. We also typed part of the lesson up on a Google Doc and we printed it out so that students would have the blank. That was our accommodation for the students, we gave them a piece of paper that said visually, "Ten boxes, here's the items you have." Then it said, "Each of the ten boxes will have blank kilograms of cheddar cheese." It allowed them to look at it. Another one of the things ... We use white boards all the time. We try to use those a lot.

Teacher: Yes.

Teacher 2: I put up a table so that one of the groups could use it to organize their information. Basically, the help that we were giving them was more encouraging them to look at the information visually using the markers and the chart papers. Having the video ... Not the video, sorry. Having the lesson come alive through printing out the sheets so they could see each part of it.

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Teacher: We discussed the use of possibly using manipulatives. We have a whole set of foam blocks and little tiles, and we thought of little paper cut outs of oranges and things, but then we realized that that actually would be counterproductive because the nature of the problem was that each answer was going to end up being a decimal. For example, 2.65 kilograms of oranges in each box, and having 26 oranges or 26 cubes that were to represent each one, one kilogram of oranges ... We thought they would start thinking, "Oh, there's 26 oranges." When in reality, there's 26 kilograms of oranges. How do I

represent 2.65? If I put one in each box, I have three leftover. What do I do with those? Do I cut them in little pieces? What does that little piece represent? We thought that there might be some benefits to that as a check your work. "Oh there are two in each box and I have a few leftover, so 2.65 makes sense." That's when that would've come in handy, but we thought that with the amount of time we had and the decimals that they had to be working with, it just didn't make sense to incorporate manipulatives in that way.

Teacher 2: I think the goal was to get them to think visually and to get them to feel like they were actually participating in a food drive, instead of doing some problem out of their math book. Whenever possible, we try to make it come alive for them. At least, so they can be thinking about different materials. The markers was an idea Teacher had. When we decided, "Oh yeah, manipulatives probably wouldn't work." Because then they'd be tempted to find the LCM and they wouldn't be able to find it and it would insight frustration amongst the students.

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Teacher: They also, in previous problems where we have had manipulatives, they've said, "Each person gets two." There's three leftover and they just ignore the three that didn't go out. We wanted to avoid that also.

Teacher 2: Yes, definitely.

Interviewer: Any reason for choosing the particular text book or the lesson in particular?

Teacher 2: Our school leader, Buffy, went through the Harvard Ed. Systems Leadership Program, I believe. Don't quote me on that one. Buffy used to be a math teacher and when looking at curriculums, she found Connected Mathematics to be the most relevant and make the most connections, obviously, Connected Mathematics, between real world situations. She encourages us to follow the curriculum. That was a new experience for me because I had to come from this place of distrust with curriculums and it's better to make your own, but Buffy said, "Why would you work your butt off making our curriculum? Why instead wouldn't you start with a curriculum and work your butt off differentiating the curriculum in order to fit your needs?" My opinion since I came to SEEQS and started using the curriculum, is that that makes so much sense. It's my second year teaching with the curriculum and it's so much easier your second year. It's really hard to internalize and to ... Especially co-teaching six subjects, to internalize one curriculum. It's very very difficult. Having this be my second year with it, the lessons make more sense and I feel like I can help Teacher more succinctly go through it and be like, "Yes, I think this one would be helpful right now. I don't think we need this one."

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Teacher: Often times in our planning meetings she'll say, "I remember that lesson from last year. I remember this issue happening with all the students, or I remember this common confusion, or I remember that that ended up being a waste of time and that this one would be sorted to our students at this moment where they are." That's been really helpful. It is a curriculum that writes its lessons in ... It's an inquiry based curriculum so

that our students ... The structure tends to be that the students are posed a problem and it's not like, "This is how you do this mathematical process or equation and now you practice it." It's more like, "This is the problem. How are we going to solve it? What do we need to know?" They come up with the follow up questions that they need to ask each other in their groups. They go through that process of, "Okay, we need to know this? How do we find the LCM? Oh, we learned that before. Okay, let's pull that knowledge in." I think this lesson was a good example of what this book is about. Some tend to be a little more ... Just wrote practice.

Teacher 2: Yes.

Teacher: Drawing number lines and putting numbers on number lines. This one was a solid example of what the book aims to be in it's inquiry based approach.

Teacher 2: We also like the way the book is easy to differentiate. There's some pretty meta understandings that can come from some of the lessons, but there's also a way that our students with IEPs can access the book at many levels. Having an inclusion classroom with, God how many? Eight? Nine?

Teacher: Yes, right.

Teacher 2: I think around nine, around nine students with IEPs and two with 504s. It's imperative that we have a curriculum where kids can access it at different levels. This has been a
[00:10:00] curriculum that ... It's not perfect by any means, but it's a great starting point for our instruction.

Interviewer: Anything additional, anything you'd like to reiterate about what you like about them?

Teacher: Sorry, like about what? The curriculum?

Interviewer: The materials.

Teacher: I think we said it all.

Teacher 2: I think we're good.

Interviewer: Are there any changes that you would make to these materials?

Teacher 2: The interesting thing is that Teacher gets this cool experience because she teaches this one co-taught class with me like a crazy woman. We're trying to figure out this, and then the next day in the relative calm waters of non-inclusionville, teaches the class to mainly a pretty much gen-ed, although still mixed ability group.

Teacher: Right.

Teacher 2: Teacher gets this cool situation where she gets a chance to redo the lesson every week, right?

Teacher: Yes.

Teacher 2: Because she teaches it twice. That question is one for her. It's more like PTSD for me sometimes. I'm like, "Okay, that's done. Let's move on."

Teacher: That's interesting, you never get to revisit it.

Teacher 2: No.

Teacher: If I would change any math materials ... I don't know, I'm trying to think about tomorrow after the long day. I didn't see the students use the posters to push their discussions that much further during the discussion. It was more like, "Oh, you've all done your thinking. Now transfer to the poster."

Teacher 2: Kind of like organizing information instead of pushing thinking.

Teacher: Processing. I don't know if that's because we presented it in a, "There's only one marker and it's markers. You need to be totally certain before you write it down." Or if that's just because we told them, "You have to have your work in your notebook." That was there priority because they know that they do go back to it and they get their notebooks checked and they have more ownership over their notebooks. That's one of the questions I'm going to ask myself tonight is, "What instructions will I give around the poster and how much will I push it?" I still plan to put it out there the same way, but I'm not sure I will require it or if I'll just let it be there and see what they'll do with it. It tends to also be ... The groups of students in that class tend to jump in more quickly and therefor have more time to have these discussions amongst themselves of, "Should we use it? Maybe we should." There's still a wide range of ability, but I wonder if they will take just the poster being there and run with it to help them however they need in each group. I'm not sure.

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Interviewer: How would you describe these materials as meaningful and relevant to the students lives?

Teacher 2: I hope they made that connection to the SEEQS Toiletries Drive and I'm hoping that we'll have some students now volunteer to be that mathematical thought behind organizing the toiletries for the SEEQS Drive. I had this idea later on that, how cool would it be if we could have some of our students do an update on the Toiletries Drive by separating it into and saying, "67% of the toiletries that we've collected so far are toothpaste. We need some more baby wash and lotion and shampoo and conditioner." I was thinking, "How could we continue the momentum of this?" I feel like it was relevant and meaningful. I also thought today was a great ... We had two really great examples of thinking systematically. I saw them organizing information in lots of different ways,

which is very relevant and connects across all subjects. Also collaborating productively.

Teacher: Yes.

Teacher 2: I feel like the work they did in collaboration today is really relevant to their peer relationships. It's very relevant to their future, what they're going to be doing in the real world. I'm hoping they can take those skills.
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Teacher: There's also, Teacher, those two things, thinking systematically and collaborating productively are two sustainability skills at SEEQS. Another one is communicating powerfully. I think that the goal was, if they had time at the end to share out with each other and to provide that opportunity to communicate powerfully between groups. I think I heard ... I know I heard a lot of examples of students communicating their ideas powerfully. Especially that back corner table who just ran with it and were put together for a reason, but there were all students who tend to like that mathematical search that we ... Not that other students don't. I don't want to say that, but anyway, I heard that there and that was really cool to see them vouching for their ideas. They had an interesting discussion about where to round the decimal. What do we do with this endless decimal. It's not .6 repeating, it's just this jumble of numbers and ... I forgot where I was going. Oh, meaningful.

Teacher 2: I had a great conversation with Levi around that too because he was like ... I was like, "Let me show you, here's the repeating sign." He was like, "Let me show you. I actually like doing the three dots at the end." And I was like, "Okay, that sounds great. Great, good, glad we're on the same page."

Teacher: It's like he's advocating for his own mathematical choices.

Teacher 2: Yes, I was like, "Awesome, great, go with it. If you want to do the three dots, more power to you man."

Teacher: I heard something cool at every table like that.

Teacher 2: Yes, definitely.

Teacher: Every single table had some moment of talking to each other and either all agreeing, which is always nice as a table when you're like, "Yes, we all think the same thing. We got the answer and we have the confidence in our math." Or having healthy debates. We love that. I think that is meaningful and another way that this is meaningful for them, is to answer that question. When does it make sense to use decimals? If I'm going to go to the grocery store, I'm not going to say, "Hey mom this is only ..."
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Teacher 2: "Give me a dollar and a half. Give me half of a 20."

Teacher: Right, or a dollar and three quarters. That's a bad example. Dollar and three fifths. That

sounds awkward coming out. When you go to a pizza place, "I'd like .65 of a slice." No it doesn't make sense. We want them to gain this fluency using mathematical terms that in their own lives, every single day, that they use for a reason and not taking that for granted. "Oh, we're never going to use this."

Teacher 2: I also saw some respect for learning styles. I went to check in with a table and they were like, "We're ready to get started on the poster." Then Abby was like, "I'm still working." They were like, "That's okay Abby, we'll get started with poster." There was this respect for the different levels that they're at. I don't know if that's unique to our inclusion classroom. I definitely think that's something that kids in inclusion classes definitely have that respect for the difference speed of learning and they have that knack for explaining to each other too.