FRAN DICKINSON: Ah, today we're going to have a lesson that's going to have three steps to it, three clear steps to it. The first step we're gonna do a number talk, very much like the number talks we've been looking at the last couple of days, building on our knowledge of the Buttons task, but first I want to start off with just like an "In and Out" table. Remember we did the number cruncher? Last week, at the end of the week, with Ms. Trainer?

Today, we're going to start off, I've got a rule. It's a tricky rule I want you to work on. So we're going to do a number talk, move from that number talk we're gonna do some analyzing of work… Remember you guys took the Buttons task. I went through and looked at how you guys were thinking about the task, and I've chosen a couple of things for us to talk about today. So we're going to talk about those things. And then look at different ways to represent how we see those patterns growing.

So we're gonna start with a number talk. Guess my rule. I gotta give you some parameters, though. I appreciate the hands. Well, there's a reason, now. If I give you free rein, you might have a point that's not gonna show up on our graph over here. What I'm gonna have you guys do as you guess a point is come up and place the coordinate point on our graph. So if you guess an input, or an output, I'm gonna ask you, or challenge you to come up and graph it.

So the parameters: your number, whatever your number is, the "x" that you guess, is gonna have to be greater than or equal to 0, but I want it to be, I also want it to be less than or equal to 10. Christina!

STUDENT: 10.

FRAN DICKINSON: 10! All right. Would you like to come and plot that?

STUDENT: ¿Qué pasa? (What's happening?)

FRAN DICKINSON: You can pass. You want to pass? Can someone come and plot this point on our graph right here? Put it on the graph where you think it goes. Maybe somebody else can think of another point for us. Another x value. You know what? David, before we go on to that, can you just explain to us how you placed your dot there?

STUDENT: So I went, 10. To 10 on the x, and then I went 27, right here.

FRAN DICKINSON: Very good. Thank you. Another x value. Guess my rule. Kelcey.

STUDENT: 6.

FRAN DICKINSON: Can I see thumbs-up, who thinks they know what the rule is at this point? All right. Let's guess another number then. Let's guess another number. This time I want you to continue guessing an x, I don't think we're ready to guess a y value yet. Give me an x. Megan.

STUDENT: 20.

FRAN DICKINSON: Okay. 20. Now, I'm not gonna let 20 happen, because I gave you parameters earlier, so, Megan, can you give me a different number that's in between 0 and 10?

STUDENT: 8.

FRAN DICKINSON: 8. Good guess. Y value. Who thinks they have a y value? That will work with my rule? Uh, Zack.

STUDENT: Um, 13. Wait. 13, yeah. Wait, 12. Yeah. Yeah, 12.

FRAN DICKINSON: 12? Okay. 12. Let me see, hm.

STUDENT: 5 times 3 is 15, minus 3. Is 12.

FRAN DICKINSON: Does someone want to plot this point on our graph? Very good! Griffin, do you have a question or a comment?

STUDENT: Uh, I was gonna say an output

FRAN DICKINSON: An output number?

STUDENT: Yeah.

FRAN DICKINSON: All right. So am I to understand that you think you know what the rule is, then? All right. Can I see a show of thumbs, how many people feel they know. Just tight to your chest so I can see what's going on. Thumbs up, thumbs down if you don't know it. Thumbs in the middle if you're almost there, not sure. All right, let's do one more point, then. Griffin's going to give us a y value. And remember, that x value's gonna be in between 0 and 10. Uh, pardon me, greater than or equal to 0. Less than or equal to 10.

STUDENT: 0.

FRAN DICKINSON: 0. So your x is 0.

STUDENT: No, y.

FRAN DICKINSON: Y is…

STUDENT: Wow, I'm surprised that will go.

STUDENT: No, that's impossible!

FRAN DICKINSON: I hear somebody whispering… is 0 a possibility for this? Can you guys turn to your partner?