Transcript: Documenting and Communicating about Force (second–third grade)

Text on screen: Documenting and Communicating about Force (second–third grade).

Logo: Count, play, explore—for early education.

On screen: Over the course of the video, Enedina Huff, a STEAM educator, is shown observing her students as they do an activity in pairs, addressing her class during the activity, and reflecting from her empty classroom later that day. First, she observes two children at a station that has been set up with a makeshift ramp and bumpers made of foam pool noodles. The students are rolling a small makeshift vehicle down the ramp and observing how adjusting the weight of the vehicle affects its movement.

Child 1: This one has 25.

Enedina Huff, STEAM Educator: Okay. So we have different amounts of washers in each one? Have you tested that one? Go for it, test it. Let's see what happens.

On screen: The child adds more washers to the front of the vehicle, places it at the top of the ramp, and lets it roll. Next, signs describing each of the three stations appear on the screen. Station 1: How does weight affect an object's speed? Gravity: A downward force that pulls objects towards the center of the earth. Station 2: How does ramp height affect an object's speed? Incline plane: A surface of which one side is at a higher level than another. Station 3: How does the surface affect an object's speed? Friction: A force that slows things down when they slide or rub against each other. Enedina reflects.

Enedina: Students were invited to explore forces. Students moved through three different stations. I also asked them to document what they noticed and what they wondered. They were writing on Post-it notes and placing them up on charts.

On screen: Enedina addresses her class. A photo of station 1 is shown.

Enedina: When you go to your station, I would like you to keep in mind anything that you see. So you would write down, “What do you notice?” Anything that you're wondering, what questions do you have? Think about real life. How would this apply?

On screen: Enedina reflects.

Enedina: One station was exploring weights on a vehicle, how weight would affect an object’s speed.

On screen: Two children count the washers on their vehicle. They then run it down the ramp, and the vehicle quickly rolls past the barrier.

Child 2: Yeah, there’s two here. Oh dang, that went way far.

Child 3: Maybe we should try one in each one.

On screen: Another child is seen redistributing the washers on his vehicle. He then runs it down the ramp and walks to the “notices and wonderings chart” to record his observation. On a post-it note, the child writes, “Why the weight affects the speed.” A photo is shown of another pair of students at the chart writing on a post-it note. It says: “When you put three washers in the front and the middle it goes slower.”

Enedina: Afterwards, we discussed their notices, their wonders.

On screen: Enedina addresses the class and calls on a child raising his hand. He walks up to his post-it note and reads it aloud.

Enedina: Did anyone have anything they noticed at Station One? I would like you to share that with me, and if we need to read them, we can. Raul, what did you notice?

Raul: If we put washers, it still goes the same direction.

On screen: Another child shares their observation.

Child 4: When you put three washers in the first and middle one, it goes slower.

Child 2: Yeah.

Enedina: So the weight slowed it down in cups one and two?

Child 4: Mm-hmm.

Enedina: So the first two? Ah, interesting.

On screen: Enedina reflects.

Enedina: In my STEAM lab during the school year, our normal classroom experience, students are practicing. They learn sentence frames for how to express themselves, including ways to disagree and engage with each other politely, respectfully, but still make sure that their voice is heard. When they disagree on a build, , "I appreciate what you are saying, however, I would like to try it this way."

On screen: We return to the students sharing their observations in class.

Child 1: The more weight the car has, the faster it goes back.

Enedina: So we know that the weight makes a difference. Yes, can we agree?

Children: Yes.

Enedina: But from their observation, what did we learn about the placement of the weight? Does that make a difference?

Children: Yeah.

On screen: Enedina reflects.

Enedina: We start to build that classroom environment so that students are comfortable in communicating those ideas.

Text on screen: A special thanks to the children, families, and staff of Virginia Avenue Elementary, without whose help these videos would not have been possible.

Logo: Count, play, explore—for early education.