JACOB DISSTON: What I was hoping is that each group would get to at least look at two of the different types of math things, the types of symbol strings; the equations and inequalities or inequalities and expressions for at least two of them. If you only got to one that's okay, but I'm hoping that we got to at least two. What I want to do now...two more things that we're going to do. We're going to see if we all came up with the same subcategories.
STUDENT: No.
JACOB DISSTON: So what I'm interested in is what different people saw as important here. You could put pencils down and you could put cards down. You guys are doing really, really well. How many groups actually looked at equations and came up with differences among different types of equations? How many groups looked at equations and wrote something down for what makes some equations different than others? Alright, so I want to start over here and I want you guys to tell us something and I can pull it out or you can pull it out; something about how some equations are different than others. Maria you want to come up and separate some?
STUDENT: This one, this one, and this one should be in a different group.
JACOB DISSTON: You're saying they're not equations?
STUDENT: No.
JACOB DISSTON: Oh, you're saying different groups.
STUDENT: Yes because unlike the others all of these are just variables and they all happen to have a property in it. Like this one has the commutative, associative, and then the distributive property.
JACOB DISSTON: Does anybody know what she means that they have a property in it?
STUDENT: Yes.
JACOB DISSTON: Can somebody tell me what she means by "they have a property in it?"
STUDENT: The property of commutative...commutative means it doesn't matter which way it goes, like multiplication could go forward or backward and it could be the same.
JACOB DISSTON: Can you give me an example of commutative property using numbers. Just tell me and I'll write it.
STUDENT: 5 times 3 equals 3 times 5 ($5*3=3*5$).
JACOB DISSTON: People agree that this is commutative.
STUDENT: Yes.
JACOB DISSTON: To me it doesn't look like this.
STUDENT: x+y=y+x, 5+3=3+5.
JACOB DISSTON: Is that different than what Ron said?
STUDENT: Yes.
JACOB DISSTON: So are these both commutative?
STUDENT: Yes.

STUDENT: No.
JACOB DISSTON: What's the difference?
STUDENT: One has multiplication and the other one has addition.
JACOB DISSTON: So, there's the commutative property of multiplication and there's the commutative property of addition. Which one is this?
STUDENT: Commutative property addition.
JACOB DISSTON: Good. Now you said 5 and 3 and you said 5 and 3, could I use different numbers?
STUDENT: Yes.
JACOB DISSTON: Like how many different numbers?
STUDENT: Four sets.
JACOB DISSTON: I could use...
STUDENT: Instead of 5+3 you could use 7+5+3.
JACOB DISSTON: Okay, if I keep it in this pattern; the number plus a number and then reverse it. What's another example of the commutative property?
STUDENT: 7+2=2+7
JACOB DISSTON: Good. Can everybody come up with their own?
STUDENT: Yes.
JACOB DISSTON: Is there enough examples that everybody could come up with one?
STUDENT: Yes.
JACOB DISSTON: How many examples are there?
STUDENT: Millions.
JACOB DISSTON: There are many, many, so in a sense this represents all of them. I think what we could say is that this is always true of two numbers, x and y; we can switch them. So this represents something that is always true. This is another property represented. What property is this?
STUDENT:Distributive.
STUDENT: Associative.
JACOB DISSTON: And this?
STUDENT: Distributive.
JACOB DISSTON: So you are saying the properties. Can I call this the properties, property equations, always true equations? What should I call it?
STUDENT: Property equations.
JACOB DISSTON: Property equations. They represent property. Okay, so that's one type of equation.