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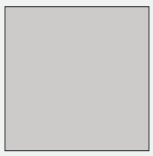
sim ly m ing into a sol tion attem t.

Yet when given a problem such as “The corner deli sells roses in bunches of 6. If Dylan buys 3 bunches of roses, how many roses does he have?”, many students will reflexively give an answer of 9 since 6 + 3 = 9. They’ve not done the work of making sense of the situation because they don’t think that’s part of “doing math.”

ABOUT THIS PAPER



Annie Fetter worked on the project that developed the first version of The Geometer’s Sketchpad and was a founding sta member of the Math Forum until it ended in 2017.
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How might we better encourage students to make sense of this problem rather than grabbing numbers and picking a random operation? Consider this version: “The corner deli sells roses in bunches of 6. Dylan buys 3 bunches of roses. Draw a picture of the story.” Students are going to engage their sensemaking skills because the problem is now a task that looks a lot more like literacy than math (and sensemaking tasks are a regular part of literacy instruction). Students are used to drawing pictures to illustrate stories, so they will do the work of making sense of the story to draw an accurate picture.

1. Get Rid of the Question

If you don’t want students focused on finding answers, then don’t include questions. Consider the following two “scenarios” (which is what we at The Math Forum called math situations without a stated question):

Present each of these scenarios to students and ask them what they Notice and Wonder © (a strategy we first developed at The Math Forum for use with teachers in a protocol for looking at student work in 2005 and formalized as an approach for problem-solving with our Problems of the Week in 2007). The work that students now do is focused on making sense of the situation, not answering a specific question. It’s also a great formative assessment opportunity for the teacher to learn what knowledge students are bringing to the lesson.

A store has the floor plan shown. The area of the women's department is

4. Ask About Ideas, Not Answers

This might be really simple—instead of asking for the answer to question number 7, as we often do in the classroom, ask students, “Tell me something about question 7.” They might tell you the answer, or they might tell you something else. In either case, ask other students to tell you something, too. After all, the answer is one thing about question 7, but it’s not everything.

When we ask for the answer to question number 7, we already know that there are students in the room who can’t tell us. We’re almost telling some students they can’t do math, which is not the message we want to be sending when we know everyone CAN do math! But in asking more broadly about question 7, we fully expect that every student could tell us something and are sending a message that everyone has math ideas to contribute to our learning community.

Joe Schwartz (●

The teacher already had a pretty good idea about who could find volume and who couldn’t, so he wouldn’t have learned much by using the picture on the right, but he learned all sorts of stu when he used the one on the left! On his blog, Joe writes about how they tackled some of the students’ responses in subsequent activities.

Good problem-solvers employ their own sensemaking strategies automatically, but many students need support to develop those skills. By using explicit strategies such as these, you can slow down the “race to the answer” and help all students become sensemakers and mathematicians.

California Context: The 2023 Mathematics Framework and Sensemaking