

FIGURE 1.2

Goal 2

MATHEMATICAL PRACTICE 1:			
MAKE SENSE OF PROBLEMS AND PERSEVERE IN SOLVING THEM			
Goal 2: Develop strategies for solving problems for which little or no direction is given, possibly drawing from similar problems			
G—Goal	O—Observe	L—Listen	D—Do
GOAL: I CAN STATEMENTS	OBSERVE STUDENTS DOING:	LISTEN FOR STUDENTS SAYING:	DECIDE WHAT TO DO
<ul style="list-style-type: none"> • I can make a plan. • I can plan a strategy to solve the problem. 	<ul style="list-style-type: none"> • Using manipulatives to represent the problem situation • Considering which strategies might fit a particular problem from among a repertoire of problem-solving strategies, including mental math used to find “ballpark” (estimated) answers 	<ul style="list-style-type: none"> • Let’s draw 12 lines to show how many pencils he started with and then cross out 5 for the ones he gave away and count to see how many are left. • This is like the problem we solved last week when we made a table, except this has more parts to it. • Guess and check would take too long, so let’s draw a picture first. • Let’s make a quick estimate of the length of each in inches first, using what we know about the height of most doorways, then measure exactly in inches, and then centimeters, and then organize the data and compare it. 	<ul style="list-style-type: none"> • Ask <ul style="list-style-type: none"> <i>What is your first thought about how to solve this?</i> <i>What can you tell me about the problem?</i> <i>What strategies have you used in the past that have been successful?</i> <i>How can you use what you did with [a specific previous problem] to help you with this one?</i> <i>Which strategy or strategies do you think are not good ones for this problem? Why?</i> • Explicitly model and teach multiple problem-solving strategies. • Provide scaffolded support rather than telling students which manipulatives to use, which strategy to use, etc. • Provide problems that could be solved in multiple ways. • Confirm that although there is usually no one best way to solve a problem, some strategies are more efficient than others within the context of specific problem situations. • Highlight the importance of dipping back into previously solved problems and adapting strategies to fit new problems.