



Plan & Analyze

Make Sense of the Problem

What is this problem asking me to do/solve?

USE MANIPULATIVES		
UNDERSTAND	Definition	Students use concrete objects that can be seen and touched to help them make sense of a mathematical concept.
	When to Teach This Strategy	When first introducing a new mathematical concept If you see students who . . . <ul style="list-style-type: none"> struggle with “seeing” (understanding) an abstract math concept
PREPARE	Why We Teach It	Manipulatives give students the opportunity to make sense of abstract mathematical concepts through a concrete, tangible model. Additionally, manipulatives give students the ability to visually demonstrate their thinking to others.
	Secrets to Success	For students to be successful with this strategy they must understand <ul style="list-style-type: none"> how a specific manipulative will help them with a given problem, how they can use a specific manipulative to solve a problem, how to select an appropriate manipulative, and the fact that manipulatives are not toys—they are tools.
TEACH	How We Teach It	Modeling a think-aloud during the “I Do” focus lesson: Explain to students that they are going to learn about and practice the strategy Use a Manipulative. Manipulatives are tools that help us “see” the math we are doing. Using manipulatives makes it easier to understand what is happening in the problem and to find a solution. They are also great for helping us show our thinking to others. First, we read the problem. Then, we think about the different manipulatives available that could help us with the problem. Once we have thought of several manipulatives that might help us, we ask ourselves these questions: <ul style="list-style-type: none"> What manipulative am I most comfortable with? Will this manipulative support me in solving this problem? After modeling this strategy three or four times with several different types of math problems, we provide student practice during the “We Do” focus lesson by using several more math problems. We have students practice answering the questions <i>What manipulatives will support me with solving this problem? What manipulative am I most comfortable with? Will this manipulative support me with solving this problem?</i>
		Suggested Language <ul style="list-style-type: none"> What tool can I use to help me <i>see</i> what is happening in the problem? Is there a manipulative (tool) that I feel most comfortable using? If so, will it work with this particular problem?
SUPPORT	Instructional Pivots	<ul style="list-style-type: none"> Students must be taught how to use the manipulative correctly (not as a toy) and have the opportunity to practice using it. Manipulatives can be any variety of physical objects. They can also be drawings that students manipulate to help make sense of a problem. A manipulative is not a useful tool if it is not used correctly or if students do not understand its use! Model, model, model.
	Partner Strategies	These strategies may provide support before, during, and after teaching this strategy: <ul style="list-style-type: none"> Check for Understanding: Restate the Problem Look for Entry Points to a Solution Write an Equation Make a Connection Look for Symbols or Patterns to Help You Break Down the Problem