Plan & Analyze

Make Sense of the Problem

What is this problem asking me to do/solve?

READY REFERENCE GUIDE

LOOK FOR SYMBOLS OR PATTERNS TO BREAK DOWN THE PROBLEM		
UNDERSTAND	**Definition**	Students recognize and understand how to use symbols and patterns within a problem to help them find an entry point and/or a solution.
	When to Teach This Strategy	When working on complex or multistep math problems **If you see students who . . .** • struggle to identify the important parts of a given math problem or • have difficulty with organizing a pathway to find a solution to a given problem
PREPARE	**Why We Teach It**	Mathematically proficient students understand that math problems generally have multiple entry points; that is, there is more than one way to arrive at the solution. Looking for symbols and patterns helps students make sense of the problem and find an entry point to the solution.
	Secrets to Success	For students to be successful with this strategy they must • recognize patterns within math problems, • understand important math vocabulary terms and their definitions, and be able to break the problem down into parts.
TEACH	**How We Teach It**	Model a think-aloud during the "I Do" focus lesson: Explain to students that they are going to learn a math strategy that will help them find the important information within a problem and that the information will help them find a solution. Explain that when you look for symbols and patterns in a problem, you can identify the important parts, which will help you find a solution. First, read the problem aloud. Then, reread the problem aloud to look for the important information that will help us make our pathway to finding a solution. As we find this important information, we talk aloud and write student-friendly definitions next to the important points that stand out to us and note any patterns we find by either highlighting them or making a note in the margin. 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. Students practice reading several different problems, rereading each one to pull out the symbols or patterns that will support them in finding a pathway to a solution.
		Suggested Language • What symbols or patterns in this problem are familiar to you? • When you see familiar symbols or patterns, think about what they mean and how they will help you solve this problem. • Use this familiarity to help you make sense of the problem.
SUPPORT	**Instructional Pivots**	• Teach students to write their own student-friendly definition next to math symbols or math vocabulary they encounter within a problem. For example, if they come across the + symbol, they can write "add," or if they see math language such as *three times as many*, they can write "multiply by 3." • Identify patterns that are found within the problem by either highlighting them or making a note in the margin as a reminder.
	Partner Strategies	These strategies may provide support before, during, and after teaching this strategy: • Check for Understanding: Restate the Problem • Look for Entry Points to a Solution • Write an Equation • Make a Connection • Use Manipulatives