Plan & Analyze

Make Sense of the Problem

What is this problem asking me to do/solve?

READY REFERENCE GUIDE

LOOK FOR ENTRY POINTS TO A PROBLEM		
UNDERSTAND	**Definition**	Students analyze the problem, consider the multiple strategies that could be used, and construct a plan to solve.
	When to Teach This Strategy	**If you see students who . . .** • do not know how to begin when attempting to solve a given problem; • are limited to one "right" method of solving; or • try, without success, to use multiple strategies to solve a given problem.
PREPARE	**Why We Teach It**	Mathematically proficient students need regular opportunities to dive into math problems that offer them the chance to reason and problem solve. Additionally, students need the opportunity to explore problems with multiple entry points to develop an understanding of the mathematical concept being taught.
	Secrets to Success	For this strategy to work, you must understand what the problem is asking you to do and be able to formulate a plan to solve it. Ask yourself, *What is this problem asking me to do/solve? What steps can I take to find a solution to the problem?*
TEACH	**How We Teach It**	This strategy is not only one of the first we introduce, but one we model throughout the school year. Students who are proficient mathematicians understand that there are multiple ways to solve a problem. They also understand the importance of using an efficient strategy to arrive at a solution. *(Note: This can vary from student to student, depending on their level of understanding.)* • Modeling a think-aloud during the "I Do" focus lesson: We stop after reading through a given math problem and ask ourselves, *What is the question I need to answer? What tools and/or strategy will help me? Have I solved a problem like this before?* Then I am going to ask myself, *Is there a strategy that makes sense to me that will help me arrive at a solution?* (I'm thinking aloud about the various strategies that I could possibly use.) Once you've listed multiple strategies, think aloud about how you select one that is most efficient for YOU to solve a given 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 these questions: *What is the question I need to answer? What tools and/or strategy will help me? Have I solved a problem like this before? Is there a strategy that makes sense to ME that will help me arrive at a solution?*
		Suggested Language • What is the question I need to answer? • What do I already know about this problem? • What do I still need to find out to solve this problem? • What tools and strategies will help me? • Have I solved a problem like this before?
SUPPORT	**Instructional Pivots**	Give students an organizer to help them organize their thinking. *(What do I know? What do I need to find out? What tools/strategies will help me?)* This student work can be used as a launch point for discussion or reteaching during individual or small-group conferring sessions.
	Partner Strategies	These strategies may provide support before, during, and after teaching this strategy: • Check for Understanding: Restate the Problem • Write an Equation • Make a Connection • Use Manipulatives • Look for Symbols or Patterns to Help You Break Down the Problem