



**Using Pocket Questions to Differentiate a Math Lesson**

As part of planning lessons, prepare a list of questions/prompts (at least one of each type below) and write them on a 3x5 note card to have available in your pocket during class. The categories follow a cognitive hierarchy based on Bloom’s taxonomy, which provides teachers options, depending on what a student or team needs, to help them start or move on with a problem. These questions work in most settings. You could also customize them for the lesson itself. An additional resource that offers a comprehensive list of questions, organized by types, is available from NCTM: *Mathematics Assessment, Myths, Models, Good Questions, and Practical Suggestions*, edited by Jean Kerr Stenmark, National Council of Teachers of Mathematics, 1991. See pages 31-32.

#1	<p><b>Prior Knowledge</b></p> <p><i>What do you already know about _____?</i></p> <p><i>Define _____ (vocabulary word) .</i></p>
#2	<p><b>Problem Comprehension</b></p> <p><i>Read the problem and predict a possible answer.</i></p> <p><i>List what you know after reading the problem.</i></p> <p><i>What is the problem asking you to find?</i></p> <p><i>What strategies might you use to solve?</i></p> <p><i>How can you break the problem into smaller pieces?</i></p>
#3	<p><b>Formative Assessment of Core Content: <u>During</u> the developmental problems</b></p> <p><i>Explain your thinking so far to _____ (another team members name).</i></p> <p><i>What strategy/skills are you using for this problem?</i></p> <p><i>What have you learned so far?</i></p> <p><i>Demonstrate your thinking in a written form.</i></p>
#4	<p><b>Formative Assessment of Core Content: <u>After</u> completing a problem or lesson</b></p> <p><i>Justify your work and your answer.</i></p> <p><i>Summarize/Generalize what you have learned.</i></p> <p><i>What connections can you make with _____?</i></p> <p><i>Share similarities and differences between problems _____ and _____.</i></p>
#5	<p><b>Going Beyond the Core Content: Adding <u>Depth</u></b></p> <p><i>Test and verify your solution.</i></p> <p><i>Do the problem again using another strategy. Which method do you prefer and why?</i></p> <p><i>Explain, as if to an absent student, what you learned today.</i></p> <p><i>Think of this concept as a character in a novel. What have you already learned about this character and what do you think you will learn next about this character?</i></p> <p><i>Connect this concept to another topic outside of math.</i></p>
#6	<p><b>Going Beyond the Core Content: Adding <u>Complexity</u></b></p> <p><i>Create a similar problem and solve it.</i></p> <p><i>How would you solve the problem if it was changed to say " _____ "?</i></p> <p><i>What is another question beyond this lesson that you could ask about this concept?</i></p> <p><i>Rewrite this lesson as if you were the textbook editor.</i></p>