

SAMPLE TEMPLATE CLASSROOM-FOCUSED IMPROVEMENT PROCESS (CFIP)

Algebra 1, March 20__

DATA SOURCES: Classroom observations and assessments for the year and school system benchmark assessments administered in March

ESSENTIAL SKILLS AND KNOWLEDGE ASSESSED: *Cumulative skills as a preparation for the Algebra HSA*

Orientation Step 1: Identify the relevant assessments and define the terms used in the assessment data reports (as needed).

1. *Classroom drills, quizzes, and tests*
2. *School system benchmark assessments: Data are reported as the percentage correct for each objective on the assessment and for the total assessment. Proficiency is defined by the school system as 70% and is assumed to identify students that are on track for passing the Algebra I HSA.*

Question Step 2: Identify the questions to answer in this data dialogue.

How can we use ongoing classroom and benchmark assessment data to identify the most powerful interventions, enrichments, and changes in instruction for the final part of the year?

Patterns Step 3: Identify the major patterns of students' strengths and needs at the class level (if possible, by using more than one data source).

MAJOR PATTERNS OF CLASS STRENGTHS	MAJOR PATTERNS OF CLASS NEEDS
<ul style="list-style-type: none">• <i>Knowing when to use the quadratic formula</i>• <i>Solving quadratic equations using the quadratic formula</i>• <i>Graphing equations using the quadratic formula and interpreting the graphs</i>	<ul style="list-style-type: none">• <i>Using quadratic equations to solve real-world problems (such as paths of projectiles and other engineering problems)</i>• <i>Communicating the steps used to arrive at a solution for a problem using the language of mathematics, supporting the reasoning used to solve problems, and demonstrating why solutions are correct using the mathematics concepts or principles</i>

Action Step 4: Use the Reflection Guide to help identify the instructional factors that might have contributed to the patterns of student needs. Identify the steps that team members will take to address the patterns of class-level needs and determine when and how re-assessment will occur.

SPECIFIC STEPS WE WILL TAKE TO ADDRESS THE PATTERNS OF CLASS NEEDS
<p><i>Because we know that frequently students do not recognize that the problem involves a quadratic, additional data about the nature of student weaknesses need to be gathered. We will begin by asking students to determine whether situations are linear or quadratic. After that, we will need information about which parts of the quadratic relate to the different parts of the graph. For example, if students do not understand the meaning of the vertex and the direction of the opening, they will have a difficult time applying it in the real world.</i></p> <p><i>As we are finding these answers, we will model solving problems using “think alongs” completed first by teachers, then by students. (Example: “Here is how I completed this real-life problem: First, I . . . Then, I . . . I did this because . . . This is the correct solution because. . . Now, let’s do this problem together. What would you do first? How do you know that? What rule did you apply? Why did you choose to apply that rule? What strategy did you apply? Why? What would you do next?”)</i></p> <p><i>Re-assess student use of mathematical language every two weeks until the HSA administration in May using sample questions found on www.hsaexam.org. Provide students focused feedback to students using strategies in Brookhart, <u>How to Give Effective Feedback to Your Students</u> (ASCD, 2008), pp. 58-75.</i></p>

IF CLASS FOLLOW-UP IS NEEDED, SKIP TO STEP 6. COME BACK TO STEP 5 AFTER FOLLOW-UP AND RE-ASSESSMENT HAVE OCCURRED.

Differentiation Step 5: After follow-up and re-assessment (if necessary), identify the students who excelled and those who still need additional assistance. Identify and implement in-class enrichments and interventions for both groups of students.

STUDENTS WHO PERFORMED PARTICULARLY WELL	SPECIFIC STEPS WE WILL TAKE IN CLASS TO ENRICH THE LEARNING OF THESE STUDENTS	STUDENTS WHO STILL NEED WORK AFTER CLASS FOLLOW-UP	SPECIFIC STEPS WE WILL TAKE IN CLASS TO HELP MORE STUDENTS BECOME PROFICIENT
<i>William</i>	<ul style="list-style-type: none"> <i>Divide advanced students into teams to complete more difficult or</i> 	<i>Renita</i>	<ul style="list-style-type: none"> <i>Review for these students the characteristics of conditional problems.</i>

Shelia Denise Monica LaVerne CeCe	<p><i>complicated problems with real-world applications.</i></p> <p><i>We will ask teams to occasionally create a mistake in solving problems. Teams will then exchange their solutions with another team, who must find the mistake by explaining what was done wrong and then how to fix it, OR play the “devils’ advocate” by looking for and justifying alternative solutions and then sharing them with the original team members. Team members may complete the problems together, but each member must use the language of mathematics to explain in writing the steps used to solve the problem.</i></p> <ul style="list-style-type: none"> • <i>Ask teams to research real-world relationships which are quadratic and to do a presentation on the situations as they relate to the quadratic formula.</i> 	Cynthia Burton Kevin Jenni Larry	<p><i>We will use conditional problems every day as warm-ups or drills to give students as much practice as possible with this type of problem.</i></p> <ul style="list-style-type: none"> • <i>We will use the concept attainment strategy in a small group setting, if possible, with these students. Provide students with examples and non-examples of how to solve problems and of complete explanations of why solutions are correct. Debrief by having the students identify why the preferred solutions are best.</i>
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Future Planning Step 6: Identify a skill or concept to be taught in the next few weeks that students will probably find difficult. Collaboratively plan instructional strategies to teach the difficult concept in a new and innovative way. Reflect on the success of the CFIP session and plan for the next meeting. Implement the agreed-upon instructional improvements and be ready to report on their success at a future CFIP session.

SPECIFIC INSTRUCTIONAL ENHANCEMENTS TO A LATER TOPIC

Brainstorm with students the various ways that they can, in the language of math, “explain how,” “explain why,” and “justify responses,” such as by drawing a picture, making a table, stating a rule, or looking for a pattern. In the next unit, insist that students refer to one of these or other ways each time they solve a problem orally or in writing.