Thinking Through a Lesson Protocol

The main purpose of the *Thinking Through a Lesson Protocol* is to prompt you in thinking deeply about a specific lesson you will be teaching that is based on a cognitively challenging mathematical task.

SET-UP Selecting and setting up a mathematical task What are your mathematical goals for the lesson (i.e., what is it that you want students to know and understand about mathematics as a result of this lesson)? In what ways does the task build on students' previous knowledge? What definitions, concepts, or ideas do students need to know in order to begin to work on the task? What are all the ways the task can be solved? What are lall the ways the task can be solved? What are rorrs might students have? What are rorrs might students have? What are your expectations for students as they work on and complete this task? What are your of the task students have to use in their work? How will the students work – independently, in small groups/pairs? Will students be EXPLORE Supporting students' exploration of the task As students are working independently or in small groups as to docus their thinking in the task As students are working independently or in small groups as to focus their thinking? As students are working independently or in small groups as to focus their thinking in the task of the students of the solutions be presented? Why? What questions will you ask to advance students in their work? What questions will you ask to advance students might students have? What questions will you ask to advance students in their work? What questions will you ask to advance students in their work? What questions will you ask to advance students with others or to assess their understanding of the mathematical ideas? What questions will you ask to advance students in will you ask to advance students in their work? What questions will you ask to advance students will you ask to advance students will you ask to advance students in their work? What questions will you ask to advance students in their work? What questions will you ask to advance students in their work? What questions will you ask to advance s
(i.e., what is it that you want students to know and understand about mathematics as a result of this lesson)? In what ways does the task build on students' previous knowledge? What definitions, concepts, or ideas do students need to know in order to begin to work on the task? What are all the ways the task can be solved? What are all the ways the task can be solved? What misconceptions might students have? What are your expectations for students will use? What are your expectations for students as they work on and complete this task? What resources or tools will students have to use in their work? What resources or tools will students have to use in their work? What puestions will you ask to advance students work – independently, in small groups, or in pairs – to explore this task? What will you on if a student does not know how to begin to solve the task? What will you do if a student does not know how to begin to solve the task? What will you do if a student finishes the task. What will you see or hear that lets you know how that students whow shared turing the class discussion? In what order will the solutions perpesented? Why? In what ways will the order in which solutions are presented help develop students' understanding of the mathematical ideas problem solving strategies, or the representations? What questions will you ask to advance students will you ask to advance students' understanding of the mathematical ideas that are the focus of your lesson? What questions will you ask to advance students' understanding of the mathematical ideas that are the focus of your lesson? What questions will you ask to advance students' understanding of the mathematical ideas that are the focus of your lesson? What questions will you ask to advance students' understanding of the mathematical ideas that are the focus of your lesson? What questions will you ask to advance students will you ask to encourage students on the solutions being students in the solutions or the mathematical ideas that are the f
partnered in a specific way? If so, in what way? How will students record and report their work? How will you introduce students to the activity so as not to reduce the demands of the task? What will you do if a student finishes the task almost immediately and becomes bored or disruptive? What will you do if students focus on nonmathematical aspects of the activity (e.g., spend most of their time making beautiful poster of their work)? What will you do tomorrow that will build on this lesson?