Mathematic Teaching Practices: Implement tasks that promote reasoning and problem solving

High-Level Tasks ~5-10 min	Principles to Actions (p. 17-24) *Implement Tasks That Promote Reasoning and Problem Solving* Reflect on the tasks highlighted in the section above. Jot down your thoughts on the following questions: • What are the characteristics of a task that places a high-level cognitive demand on students? • How could you take a low-level task and increase its cognitive demand? • What types of questions could you ask, or what types of moves could you make, to support students who struggle to get started on a problem-solving task, without diminishing the cognitive demand of that task?
Share out ~15-20 min	Groups of 2-3 Partner/Group Share Out • Take the first question from above and have a group go-around and repeat for question.
Productive and Unproductive Beliefs ~10-15 min	Review the "Beliefs about teaching and learning mathematics" chart (p. 11, Obstacles) Consider the following questions: • What impact do those beliefs have on students' opportunities for reasoning and problem solving in the lesson? As a group of 2-3, be prepared to address the whole group with your thoughts on "What supports do our teachers need from us so that their mathematics classrooms can support student reasoning and problem solving?"
Task Sort Activity ~25 min	SBAC Practice Items • In groups of 2 to 3, sort the SBAC practice items using the Levels of Demand on p. 18 • Discuss in your group what you notice or what you wonder • As a larger group, list (on chart paper) what you see as implications for instruction in the classroom

Mathematic Teaching Practices: Use and Connect Mathematical Representations

Use and Connect Mathematical Representations ~15-20 min	Principles to Actions (p. 24-29) *Use and Connect Mathematical Representations* Groups of 2-4 Skim/Scan section • Use sticky note to record a phrase or a sentence that captures an important idea for you in this section (have a back-up in case someone else has chosen the same passage) • Choose time keeper and original speaker • The "original speaker" uses up to 1 minute to: Read aloud the passage selected • Original speaker says what he/she thinks about the passage (interpretation, connection and/or implication to our work) • Group participants respond to what has been said for up to 3 minutes • The original speaker has 1 minute for the final word: either summarizing what was said or describing new thinking based on group discussion • Repeat process until all participants have shared their passage
Relationships between representations ~10 - 15 min	Revisit one of the SBAC items • Individually, show how students might solve each problem by using different representations. • Discuss the relationships among all the representations generated for each problem with members of your group
Productive Beliefs to Connect Representations ~10 - 15 min	Review the "Beliefs about teaching and learning mathematics" chart (p. 11, Obstacles) • What productive beliefs are evident in the Mr. Harris's classroom, shown in figure 10 (p. 27–28)? • How do those beliefs support students in making connections among different representations of the problem?