TSM Lesson Plan Format: SHORT FORM
Thinking Through a Lesson
Adapted from Table 2.1, p. 27 and Smith

Mathematical Goals, Standards, and Objectives:
- Goals:
  - Identify the broad learning goals that will be addressed by the task.
  - Connect the goals to the NCTM Content Standards and at least one NCTM Process Standard or Common Core Standards for Mathematical Practice.
- Objectives (or Learning Targets)
  - Identify the learning objectives that will be addressed by the task.
  - Identify the PA Keystone (Algebra/Geometry) or PA Core Standards that connect to the learning objectives.

Launch (Setting Up the Lesson): The “Before” Phase
- Provide a copy of any tasks or handouts used in the lesson. [Be sure your tasks are aligned with the learning goals and objectives of the lesson.]
- Anticipate all the ways the task can be solved.
- What misconceptions might students have? What mistakes might they be likely to make?
- How will you introduce students to the lesson activity in a way that:
  - Activates and elicits students’ prior knowledge of the mathematical ideas in the lesson?
    - What questions will you ask to help students access their prior knowledge?
    - What definitions, concepts, or ideas do students need to know in order to begin to work on the task?
  - Piques students’ interest?
  - Ensures that the problem is understood without taking away the high-level cognitive demands?
  - Communicates clear expectations?

Explore (Supporting Students’ Work): The “During” Phase
- Let go! How will students work on the task?
- Monitor and Notice students’ mathematical thinking:
  - As students are working independently or in small groups:
    - What questions will you ask to assess students’ understanding of key mathematical ideas, problem solving strategies, or the representations? [at least 3]
    - What questions will you ask to advance students’ understanding of the mathematical ideas? [at least 3]
  - Provide appropriate support: What will you do if a student does not know how to begin to solve the task?
  - Provide worthwhile extensions: What extensions will you provide if a student finishes the task almost immediately?
Share and Discuss (Sharing and Discussing Students’ Work)

- Describe how the discussion will take place
  - Will students come to the front of the room (1 person or the whole group?) or stay at their sets?
- SELECT: What will students share and discuss? Which solution paths do you want to have shared during the class discussion?
- SEQUENCE: In what order will the solutions be presented, so as to develop students’ understanding of the mathematical ideas in the lesson?
- CONNECT: What specific questions will you ask so that students will:
  - make sense of the mathematical ideas that you want them to learn?
  - expand on, debate, and question the solutions being shared?
  - make connections between the different strategies/representations/mathematical ideas that are presented?
  - look for patterns?
  - begin to form generalizations?

Formative Assessment:

- What you will see or hear that lets you know that students understand the mathematical ideas that you intended for them to learn from this lesson (i.e., your specific objectives for this lesson): 1) as students work on the task? and 2) during the whole group discussion?
- How will you keep track of this information?