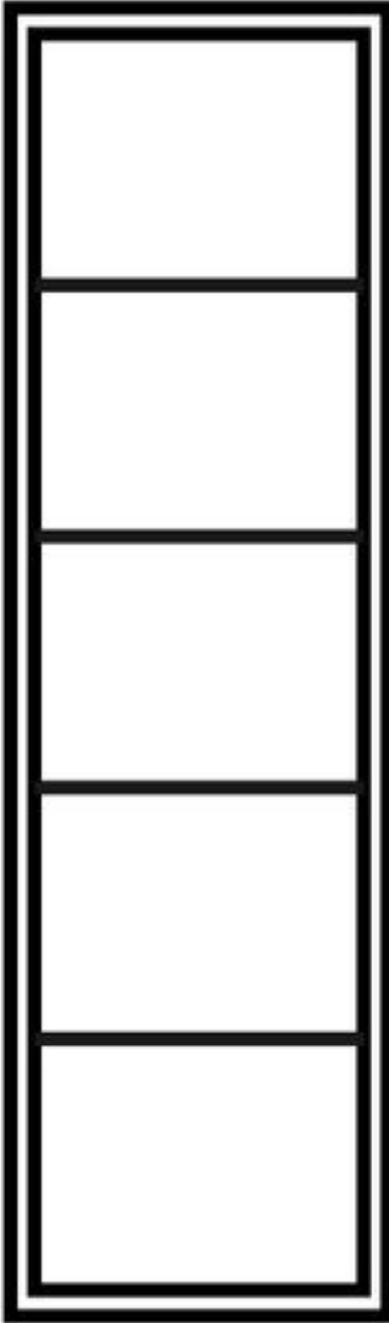


Appendix

TAB



DOUBLE TEN FRAME

DOUBLE TEN FRAME

Group Project

After reading the task examples, work with your grade level groups to create a Math task for your students.

- ✓ What math practice standards can you address?
- ✓ How can you connect the task to literacy components?
- ✓ What writing skills can you incorporate to the task?

Math Task Template

PART 1: SELECTING AND SETTING UP A MATHEMATICAL TASK	
<p>What are your mathematical goals for the lesson? (i.e., what do you want students to know and understand about mathematics as a result of this lesson?)</p>	
<ul style="list-style-type: none"> • 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 that will give them entry into, and help them reason through, the task? • How will the students work— independently, in small groups, or in pairs—to explore this task? • How will students record and report their work? 	
<p>How will you introduce students to the activity so as to provide access to <i>all</i> students while maintaining the cognitive demands of the task?</p>	

PART 2: SUPPORTING STUDENTS' EXPLORATION OF THE TASK

As students work independently or in small groups, what questions will you ask to—

- help a group get started or make progress on the task?
- focus students' thinking on the key mathematical ideas in the task?
- assess students' understanding of key mathematical ideas, problem-solving strategies, or the representations?
- advance students' understanding of the mathematical ideas?

- How will you ensure that students remain engaged in the task?
- What assistance will you give or what questions will you ask a student (or group) who becomes quickly frustrated and requests more direction and guidance is solving the task?
- What will you do if a student (or group) finishes the task almost immediately? How will you extend the task so as to provide additional challenge?

PART 3: SHARING AND DISCUSSING THE TASK

- How will you orchestrate the class discussion so that you accomplish your mathematical goals?
- Which solution paths do you want to have shared during the class discussion? In what order will the solutions be presented? Why?
- What specific questions will you ask so that students will—
 1. make sense of the mathematical ideas that you want them to learn?
 2. expand on, debate, and question the solutions being shared?
 3. make connections among the different strategies that are presented?
 4. look for patterns?
 5. begin to form generalizations?
- What will you see or hear that lets you know that *all* students in the class understand the mathematical ideas that you intended for them to learn?

Adapted from: Smith, Margaret Schwan, Victoria Bill, and Elizabeth K. Hughes. "Thinking Through a Lesson Protocol: Successfully Implementing High-Level Tasks." *Mathematics Teaching in the Middle School* 14 (October 2008): 132-138.

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