5 Practices for Orchestrating Productive Mathematical Discussions: Step 0

Task Criteria

After reviewing possible tasks, use the Task Evaluation Form on the right to evaluate the task based on the following rubric:

1 No evidence of this element in the task, and/or the task does not lend itself to having this element built into it.

2 This element is included in minor ways, or it appears that incorporating this element is possible.

3 This element is evident in this task and is important to the success of the lesson.

4 This element is central to the task or explicit in the design of the lesson.

Worthwhile Mathematical Tasks	**Score**				**Comments**
The Task…					
1. Is built around Important, useful mathematics	1	2	3	**4**	The size of numbers and their relationship to each other.
2. Requires higher-level thinking and problem solving	1	2	3	**4**	Reasoning to determine units between given points on the number line.
3. Contributes to the conceptual development of students	1	2	3	**4**	Reasoning around the size of numbers and their relationships to each other.
4. Provides formative assessment opportunities	1	2	3	**4**	Listening to student thinking as they discuss each problem
And…					
5. Allows for multiple entry points and solution strategies	1	2	3	**4**	thinking globally or in small increments to determine size of unit
6. Allows for multiple claims for which evidence can be provided	1	2	3	**4**	Claims based on strategies and reasoning used.
7. Encourages student engagement and discourse	1	2	3	**4**	Through group approach in which discourse is key
8. Connects to other important mathematical ideas and/or ideas in other disciplines	1	2	3	**4**	Builds to coordinate plane and then complex numbers
9. Promotes the skillful use of mathematics	1	2	3	**4**	Through reasoning to determine the size of a unit.
10. Provides an opportunity to practice important skills	1	2	3	4	Deductive Reasoning based on clues given.
11. Displays sensitivity to and draws on students' diverse background experiences and dispositions	**1**	2	3	4	Task does not lend itself to this element.
12. Promotes the development of all students' disposition to do mathematics	1	2	3	4	Through reading, writing, listening and speaking about mathematics.

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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Possible Resources for Tasks:	
1 Illustrative Mathematics	1 http://www.illustrativemathematics.org/standards/k8 K-8 http://www.illustrativemathematics.org/standards/hs 9-12 http://www.illustrativemathematics.org/standards/practice SMP
2 Inside Mathematics	2 http://www.insidemathematics.org/index.php/mathematical-content-standards (k-12)
3 NCTM Illuminations	3 http://illuminations.nctm.org/Lessons.aspx (k-12)
4 Annenberg Learner	4 http://www.learner.org/resources/browse.html?discipline=5&grade=0
5 Thinkfinity	5 http://www.thinkfinity.org/community/thinkfinity-resources (k-12)

SMP	Claims	DOK
1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 6 Attend to precision. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning.	1 Concepts and Procedures: Students can explain & apply mathematical concepts & interpret & carry out mathematical procedures with precision & fluency. 2 Problem Solving: Students can solve a range of complex, well-posed problems in pure & applied mathematics, making productive use of knowledge & problem-solving strategies 3 Communicating Reasoning: Students can clearly & precisely construct viable arguments to support their own reasoning & to critique the reasoning of others. 4 Claim 4: Extended Reasoning: Students can analyze complex, real-world scenarios & can construct & use mathematical models to interpret & solve problems.	1 Recall and Reproduction 2 Skills and Concepts 3 Strategic Reasoning 4 Extended Reasoning

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