

## PD on Your Plan for Elementary Math



This professional development was designed with the needs of teachers in mind. It is rich in valuable information, chunked in small enough parts that can be completed during school time, planning times or meetings, and it is designed in order that teachers can work independently, in small groups, or online with other teachers.



### Math Tasks – Part Two

### Implementing Math Tasks

Now you have a great task, what do you do with it?

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This document is intended to be paired with the Math Tasks Part Two video found here:  
<http://pdonyourplan.com/lesson/math-tasks-part-2-implementing-the-task/>



Moriah and DeAnne are both at the final steps to completing their OEMS certification.

Are you curious about becoming an Oklahoma Elementary Math Specialist? Explore Here: <http://www.okhighered.org/ok-math/>

### Pause and Think Reflection Questions:

#### PLAN WITH A PURPOSE

- ✿ How could you use the task as an introduction before you start a unit?
- ✿ How can use this as an anchor posted and used throughout the unit or year?
  - Anchor your problems and students solutions in the room so students can continue to think about them, hone their strategies and find similarities across a variety of instances.
- ✿ How much detail do I need to give students vs. how much do I want to guide them?

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#### Good Read:

Why is Teaching with Problem Solving Important to Student Learning?

<http://www.nctm.org/news/content.aspx?id=25713>

*“Of course, it is not reasonable to expect that every problem that a teacher chooses should satisfy all 10 criteria; which criteria to consider should depend on a teacher’s instructional goals. For example, some problems are used primarily because they provide students with an opportunity to practice a certain skill (criterion 10), say, solving a proportion, whereas others are used primarily to encourage students to collaborate with one another and justify their thinking (criteria 6 and 7). But researchers and curriculum developers alike tend to agree that the first four criteria (important mathematics, higher-level thinking, conceptual development, and opportunity to assess learning) should be considered essential in the selection of all problems. Indeed, these four can be regarded as the sine qua non of the criteria. The real value of these criteria is that they provide teachers with guidelines for making decisions about how to make problem solving a central aspect of their instruction.*

*The role of teachers is to revise, select, and develop tasks that are likely to foster the development of understandings and mastery of procedures in a way that also promotes the development of abilities to solve problems and reason and communicate mathematically (NCTM, 1991).”*

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## BEGIN WITH THE END IN MIND

- ✿ How could you use the math task as an end of unit activity?
  - How could you use it to show growth? What would you change from the first problem?
  - How do you bridge this task to other real world situations?

## ASSESSING CONTENT VS. ASSESSING PROBLEM SOLVING SKILLS

- ✿ Are you assessing for new content or new problem solving strategies?

## ASSESSING A SKILL OR CONTENT?

- ✿ Why is it not a good idea to teach both a new concept and a new skill at the same time?

## WAYS TO ENGAGE STUDENTS IN THE PROBLEMS YOU PRESENT

- ✿ What grabs your students' attention?
- ✿ What things are you constantly trying to break their attention from and back to the lesson? How can you use those fascinating items and ideas to pull them into the lesson, instead of pulling them away?
- ✿ What are the little things that happen in classes you have taken, or PD you have attended, that has made you say, "That was a good one, I learned many things and want to take another one like that!" Chances are some of the same things that appealed to you as a student, appeal to the students you are trying to reach.

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### *Good Read:*

#### Ten Steps to Better Student Engagement

<http://www.edutopia.org/project-learning-teaching-strategies>

#### *"Market Your Projects*

*When your students ask, "Why do we need to know this?" you must be ready with the best answer possible. Great projects incorporate authentic tasks that will help students in their lives, jobs, or relationships. Engage students by developing an inventory of big ideas to help you make the connections between your assignments and important life skills, expertise, high-quality work, and craftsmanship."*

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## KEEPING THE PROBLEM ALIVE

- ✿ What happens when the students solve the problem?
- ✿ Is it over, what was their grade, did the grade matter to them?
- ✿ What is going to make this task and the solutions stick with the students beyond your class?
- ✿ Are there some people, activities, or objects that can be used to launch problems that are relevant to your students that they can respond to and interact with?

### *Still to Come*

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**Math Tasks Part 3:  
Facilitating Problem Solving**