

TEAM-Math and AMSTI Math Science Partnership Professional Mathematics
Learning Communities – Grade Level Meeting October 2014

Pedagogical Session – Wednesday, October 29 2014

Title of Activity/Lesson	Establishing Goals and Tasks
Time Allotment	90 Minutes
Audience	All participants
Content Objectives	As determined by gradeband
Pedagogical Objectives	The Mathematics Teaching Practices Establishing Mathematical Goals Implementing Tasks that Promote Reasoning and Problem Solving
Overview of Big Ideas	
Materials	Principles to Actions- pg 10, 16, 18, 24, 72, & 73 (The entire section Implementation of Curriculum) PowerPoint Handout of Standards of Mathematical Practice Gradeband set of tasks (see samples on p. 19 – presented on a handout or on cards but not in any particular order)

Outline/Plans	What Might Happen/Dialogue
<p><u>Introduction to the Mathematics Teaching Practices (MTP)</u> Have participants look at the table in Principles to Action, p. 10.</p>	<p>“What do you notice?” “How do these practices support student learning?” “How do these align with your teaching?” “What are you working on this year, in relation to these practices?”</p>
<p>Have participants compare the MTP to the Strands of Mathematical Proficiency & discuss how they support the Standards of Mathematical Practice. You may wish to assign groups assigned to a particular practice, then have them report back.</p>	<p>“How would they support the five strands of proficiency?” “What Mathematical Practices might a Teaching Practice particularly support?” “Over all, how well do these two lists agree?”</p>
<p><u>Establish Mathematical Goals</u> Have participants discuss the statement in small groups.</p>	<p>“Why is having clear goals important?” “What are the three aspects of establishing goals?”</p>
<p>If participants have not seen the Progressions documents, take a moment to look at ime.math.arizona.edu/progressions/</p>	<p>“Why is it important to situate goals in the context of progressions?”</p>
<p>Discuss “Teacher and Student Actions” chart on p. 16.</p>	<p>“How are the teacher and student actions connected?” “Which of these do you see on a consistent basis?” “Which of these are more challenging to do?”</p>
<p>Tie back to previous ideas.</p>	<p>“What other connections to the Mathematical Practices to the Student Actions suggest?” “How does this connect to formative assessment?”</p>
<p><u>Implement Tasks</u> Have participants discuss the statement in small groups.</p>	<p>“Why is having tasks that promote reasoning and problem solving important?” “What is meant by tasks with multiple entry points important? How is that helpful?”</p>
<p>Have participants look at the figure on p. 18.</p>	<p>“How is the level of demand different? Which is most</p>

.	useful?"
<p>Task sort Given participants a set of grade-appropriate tasks. In small groups, ask them to sort the tasks according to the level of demand. Then have them report back to the full group.</p>	<p>"How can you decide what level a task is at?"</p>
<p>Discuss "Teacher and Student Actions" chart on p. 24.</p>	<p>"How are the teacher and student actions connected?" "Which of these do you see on a consistent basis?" "Which of these are more challenging to do?"</p>
<p>Tie back to previous ideas.</p>	<p>"What other connections to the Mathematical Practices to the Student Actions suggest?" "How does this connect to formative assessment?" (multiple-entry problems) "How does this relate to the goals you have established?"</p>
<p>Curriculum Principle Have participants read the curriculum principle. (You may want to remind them that the Teaching Practices are a part of the Teaching and Learning Principle. The Curriculum Principle is parallel to Teaching and Learning.)</p>	<p>"How does this relate to what we have just been discussing today?" "What additional points are raised?" (You may give them an opportunity to discuss issues that seem important to them.)</p>
<p>As time permits: Have them look at the "Beliefs" chart on p. 72.</p>	<p>"Where do you fall on the beliefs discussed in this chart?" "How does this tie to other things we have been discussing?" "What seems somewhat new?"</p>
<p>As time permits: Have participants read the section on "Implementation of Curriculum" beginning at the bottom of p. 73.</p>	<p>"What are appropriate uses of textbooks? Pacing guides?" "How do your practices align with this?"</p>
<p>Final Reflection Ask participants to jot down some notes.</p>	<p>Make a list of "notices" and "wonders" from what you did today.</p>
<p>If time permits, collect some of their thoughts on a chart in the front. This may help to guide further discussion in coming days.</p>	