

Review		
<p>How does the learning for this cycle fit into the coherence of the Algebra I math curriculum? How does this module fit to past and future modules?</p>	<p>How are specific student learning goals communicated? How well do we understand the essential learning? How do the assessments align to the intended learning outcomes?</p>	<p>Content:</p> <ul style="list-style-type: none"> • Techniques for graphing (cycles through multiple linear) • Late in the semester • First time students have seen this content (applies to other functions) • Tools- calculator (students feel more comfortable) Students attend to the problem
<p>What does mathematical discourse sound like in your classroom?</p>	<p>What kinds of discussions do you plan for your students? How do students discuss mathematical models aligned to the learning targets? What does evidence of student learning look like? Do you have clearly identified success criteria?</p>	<p>Shaun – time at the beginning of the class for discussion of the learning. The issue is overcoming an activation energy. A certain amount of knowledge is required to get them into the conversation.</p> <p>Gary – Maybe a strategy is to go to the “use what you know” strategy from the learning pit</p> <p>Angela- students have to explain how they got the answer. We have been focusing more on released questions. There are more quadratic than linear problems. Give them some contextual problems.</p>
<p>How does the Challenge Learning support the learning targets and the mathematical discourse?</p>	<p>What components of Challenge Learning did you decide to focus on after working with Gary? How did</p>	<p>Tools – calculator Students are more comfortable with the calculator</p>

	that work translate into practice in the classrooms?	
Study		
Access Expertise (Consider needs identified in the REVIEW section.)	Who has expertise in the areas we've identified, within or beyond our team? What other sources of expertise can we tap? What learning designs are appropriate for our goals?	<p>Working on –</p> <p>Angela: When students see a problem, set up a plan.</p> <p>Shaun: Get the kids I am focusing on to start. They are shutting down. Possibly some small group sessions to structure mathematical discourse. Kagan strategies might be helpful.</p> <p>Gary brought some research on using multiple representations and an article on mathematical discourse. Students need to be able to move flexibly through different things.</p> <p>Focus: practice examples requiring students to use multiple representations and plan for discussion as evidence of the understanding.</p>
Practice		
Determine where new learning will be applied within unit and lessons and to support enrichment and remediation.	<p>What will it look like when we teach the unit or lesson with the new knowledge practices we've gained? How will we adapt the unit lessons to meet our student learning goals and to plan for mathematical discourse?</p> <p>How will our shift in aspirations be evident?</p>	<p>Discussion – formative assessment and builds better understanding, nails down the vocabulary, clarifies the ideas promoting mental organization of the concept</p> <p>Discourse is driven by a specific set of questions, aligned to the standards.</p>

<p>Rehearse Modified Lessons</p>	<p>Which content or lesson segments would benefit from rehearsing? What do we learn as we practice? How well do our modified lessons appear to work? When will you cue the challenge learning strategies?</p>	<p>Angela: 4th block (review) – Regression in general with different types of functions</p> <p>Kim: Absolute values, growth and decay, step functions (all functions)</p> <p>Shaun: linear regression and systems of equations and exponential functions</p> <p>Connection to the coherence: look at data and name the direction it is taking and name the critical characteristics.</p>
<p>Refine lessons as necessary before implementation</p>	<p>What changes in our lessons or adaptations seem necessary? What improvements will we make? To what degree did the students in the rehearsed lesson demonstrate evidence of learning the targeted learning goal? What evidence of challenge learning did you students use? Did they require a cue or did they use it habitually?</p>	<p>Identify some question types that will help us to know if the kids really know functions.</p>