Fumbling Towards Inquiry: Starting Strong in Problem-Based Learning

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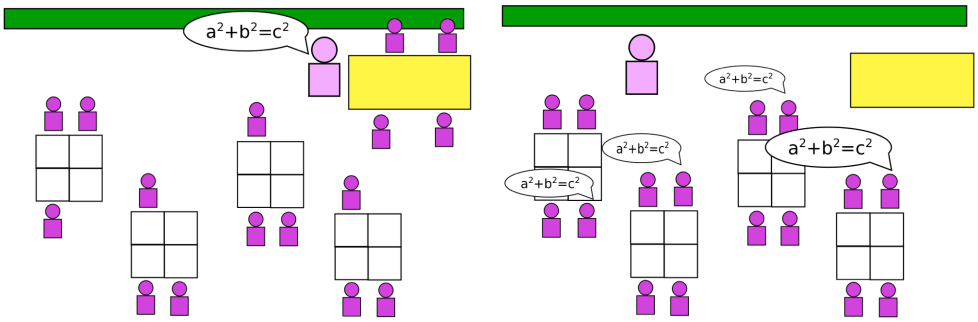
Five Design Principles to Develop a Problem-Based Learning Classroom

1. **Notch some early wins**
   - Estimation180.com | OpenMiddle.org | WODB.ca
2. **Provide an iterative framework**
   - Problem Solving Framework | Know/Need-to-Know | Notice/Wonder
3. **Choose tasks that support targeted instruction & group-mate expertise**



4. **Start slowly and steadily**
   Planning your year: what's reasonable, keeping the end in mind?

SEPTEMBER

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

MAY

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

5. **Don't go it alone**
   - *Partner up*: Colleagues, Twitter Math Folks
   - *Select tasks*: 1-2 Tasks that will produce rich student-thinking artifacts
   - *Implement*: Sometime in the next couple weeks
   - *Debrief*: How did it go? What kind of work did it produce? What became clear about student understanding of the concept? What remains unclear?

Problem Solving Framework

Define the Problem	
What question(s) do you have? What is the problem about? What is it asking you to do?	
Analyze the Problem	
What do you **know/notice** from the problem scenario or previous lessons that can help solve the problem?	What concepts or information do you **need to know** in order to solve the problem?
Brainstorm Strategies for Solving the Problem	
What strategies might you use to solve the problem? How will you start the problem?	

My 2-day Agenda

MONDAY	TUESDAY
Warm Up Show Entry Event (Squirrel Race Guy) Solicit Knows/Need to Knows Reveal crucial info based on NTKs Workshop on Pythagorean Theorem (if necessary) Revisit Knows/Need to Knows Exit Ticket	Warm Up Lesson: Systems of Equations Revisit Need-to-Knows Workshop (if necessary): Writing an equation based on a scenario Student work time: Equation, Graphs, Systems Present solutions in a gallery walk Exit Ticket