

# Making Rich Tasks Work: Assessment for Learning in Action

William Thill

PCMI-LA

Scaling the Teaching Curve

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# Schedule For the Workshop

- Do/ Analyze the math task (Part I)
- Designing (Part II)
- Give receive Feedback (Part II)

# Goals to take away from this

- See how analyzing the mathematics of a task influences how you'll engineer classroom time with your students.
- Use “five non-negotiables” of assessment for learning as a framework to use rich tasks effectively in *your* classroom

# Park City Mathematics Institute/IAS

## Teacher Leadership Program

A 3-week residential program for secondary school teachers:

Do meaningful mathematics

Reflect Deeply on effective teaching

Become a Resource for other teachers

To learn more: <http://pcmi.ias.edu/program-sstp/>

OR

<http://mathforum.org/pcmi/>

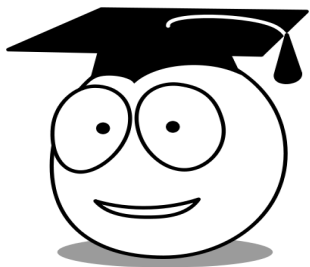
# What I don't plan to do

- Give handouts of lessons.
- Tell you what will work in your class.
- Be an authority

# Norms for Participants

- Ask, Don't Tell. Share.
- Focus: what can I learn from those next to me?  
What do I have to offer?
- Keep the right Hat on this session:

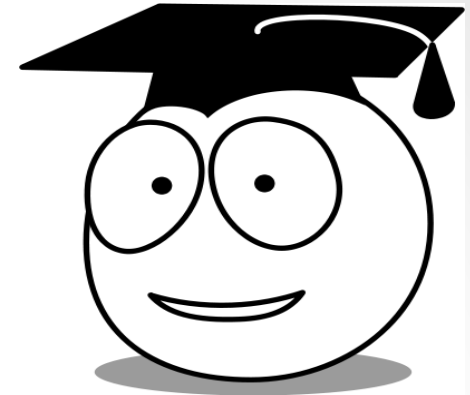
Student Hat?



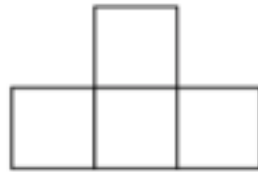
Teacher Hat?



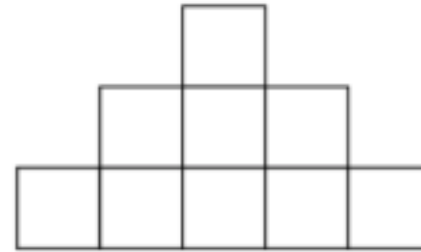
# Doing the Math:



Step 1



Step 2



Step 3

As the step changes, \_\_\_\_\_ also changes.

# Our Task:

## Mathematical TOPICS?

## Mathematical Practices?

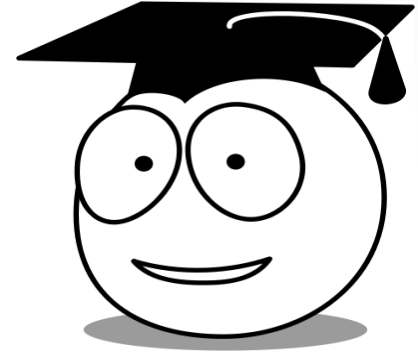




# What's in this task?

## Mathematical PRACTICES

Brainstorm.



*PS Common Core mathematical practices in your packet.*

# Using the patterns problem to help students learn

- ~~“This is a cool problem.”~~
- ~~“I will use this in my class.”~~
- Let's go beyond this. ... HOW? With what goal in mind?

# Non-negotiables describing Effective Assessment for Learning

- Clarify and share learning intentions and criteria for success with students.
- Engineer effective classroom discussions, questions, and learning tasks.
- Provide feedback that moves students forward.
- Activate students as the owners of their own learning.
- Encourage students to be instructional resources for one another.

From

Leahy, et al., *Classroom Assessment, Minute by Minute, Day by Day. Educational Leadership* : November 2005, Volume **63**, Number **3**. [URL: http://bit.ly/Leahyarticle5nns](http://bit.ly/Leahyarticle5nns)

# Making it Work:



## 1. GOALS (many are possible):

- One mathematical content goal, and
- One mathematical practice to design around.

## 2. CRITERIA FOR (EVIDENCE OF) SUCCESS:

- What does it *look* like in student work? Possible Errors?
- What does it *sound* like in student comments? Possible Misconceptions?

# The Design



## 3. QUESTIONS / CHECKPOINTS:

- Plan at *one or two* questions/checkpoints that will give you good feedback about student progress on your goals. *Why will these work?*

## 4. FEEDBACK to students:

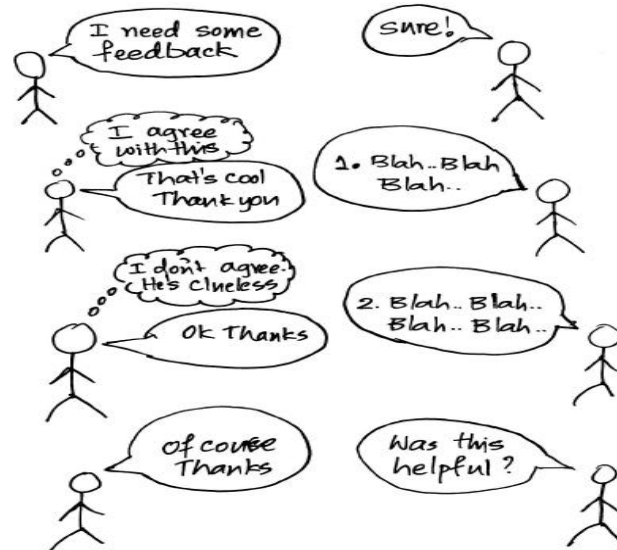
- How will students receive feedback about their progress? *Who will deliver the feedback? How can it be delivered?*

## A cartoon illustration of a teacher with brown hair, seen from behind, standing at the front of a classroom. The teacher is wearing a blue dress. Facing the teacher is a group of about 15 diverse children of various ethnicities and ages, all looking towards the teacher. The children are wearing various clothing like shirts, sweaters, and a red bow. The background is plain white.

- Questions / Checks



- Feedback



# Gallery Walk (Post-its)

- Specific Feedback on the LINKAGE between:

*Their goals  $\leftarrow \rightarrow$  Their Evidence, Questions, Feedback*

- Then see what your colleagues said about your design work

# My Experience with another task

- The mathematics I saw in this task
- Goals for my students topics and practices
- What I looked for in student work
- What I learned about student understanding
- What I would do differently



# Exit Task

- What did you take away from your time thinking about this rich task?



# To Learn More:

- Leahy, et al., *Classroom Assessment, Minute by Minute, Day by Day*.

*Educational Leadership* : November 2005 | Volume **63** | Number **3**

URL: <http://bit.ly/Leahyarticle5nns>