

# Danbury Public Schools Mathematics Vision

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When I die, I hope it is at a faculty meeting or teacher inservice because the transition from life to death would be so subtle



som<sup>ee</sup>cards  
user card

# Goals

To write and articulate a:

- K-12 Vision
- K-12 Core Values
- Grouped Big Ideas
- (Aligned Instructional Strategies)

# What does good teaching and learning look like in a Mathematics Classroom?

- On a Post It note write down an example of what you might see if you walked into a classroom where there was excellent instruction.
- Make 4-5 examples, each on an individual note.

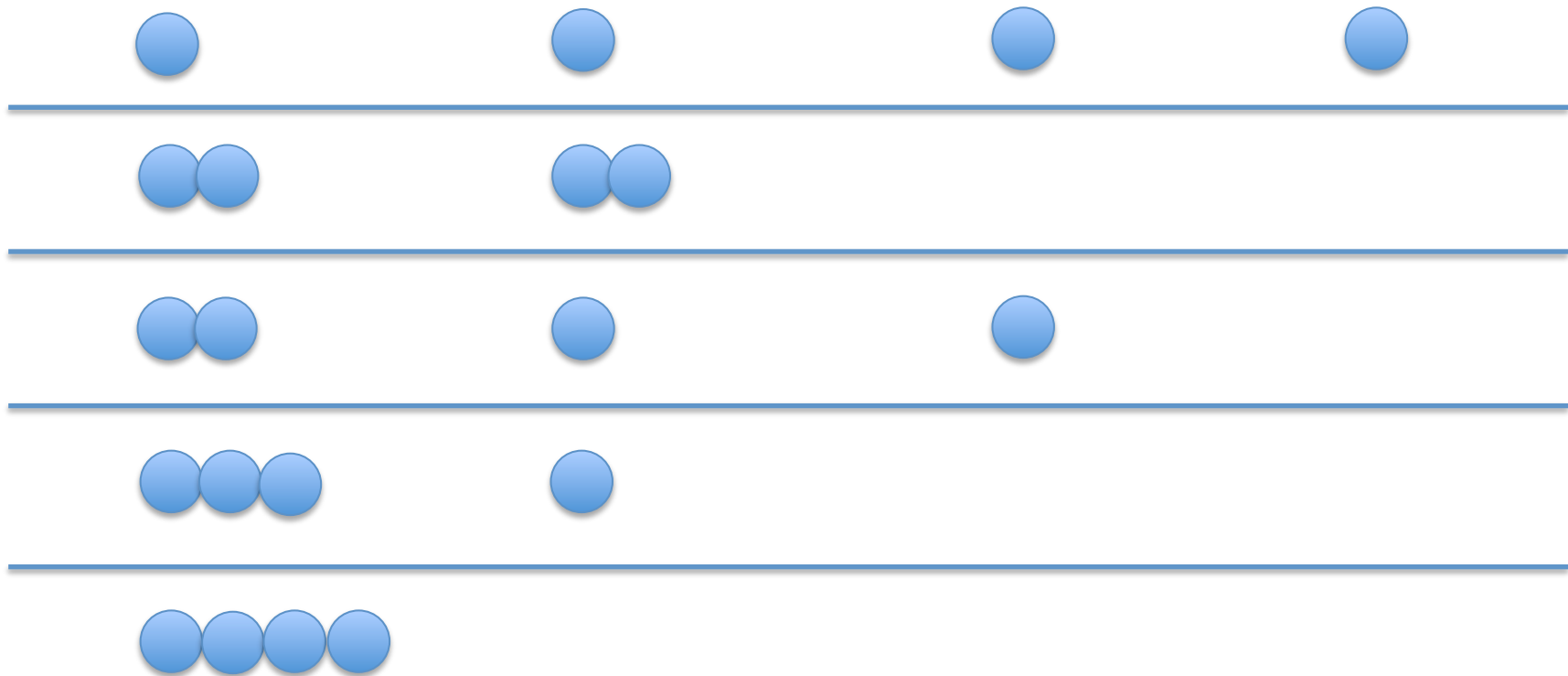
# As a Table

- Sort and group . . .
- Make categories of the notes.
- A note can only go in one category  
*(Categories must be discrete/mutually exclusive).*

# Themes

# Affinity Voting

- Everyone has 4 “votes”
- Each vote may be used in any way



Vision → Core Values → Big Ideas → Strategies

Vision



Core Values



Big Ideas



Strategies



# Vision

# PEANUTS Charles M. Schulz



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# What do you monitor?

Indicator	Definition	Example
Compliance	Students behaving, following directions, not rocking the boat. Obedient. On task behaviors	Students sitting quietly. Completing tasks.
Engagement	Minds-on participation – students questioning. Showing an interest in the conversation. Involved, doing. Hands-on. Cognitive engagement	Discussions, analyzing, creating, raising trout in the classroom. Physically involved. Enthusiasm.
Learning	Cognitive engagement, actively thinking, making connections. Ability to articulate why internalize learning that is relevant/real-life/world	Geo: Understanding angles and spatial relations when parallel parking  Explain back a concept in a different way  Kids dialogue is focused on conceptual aspects of content

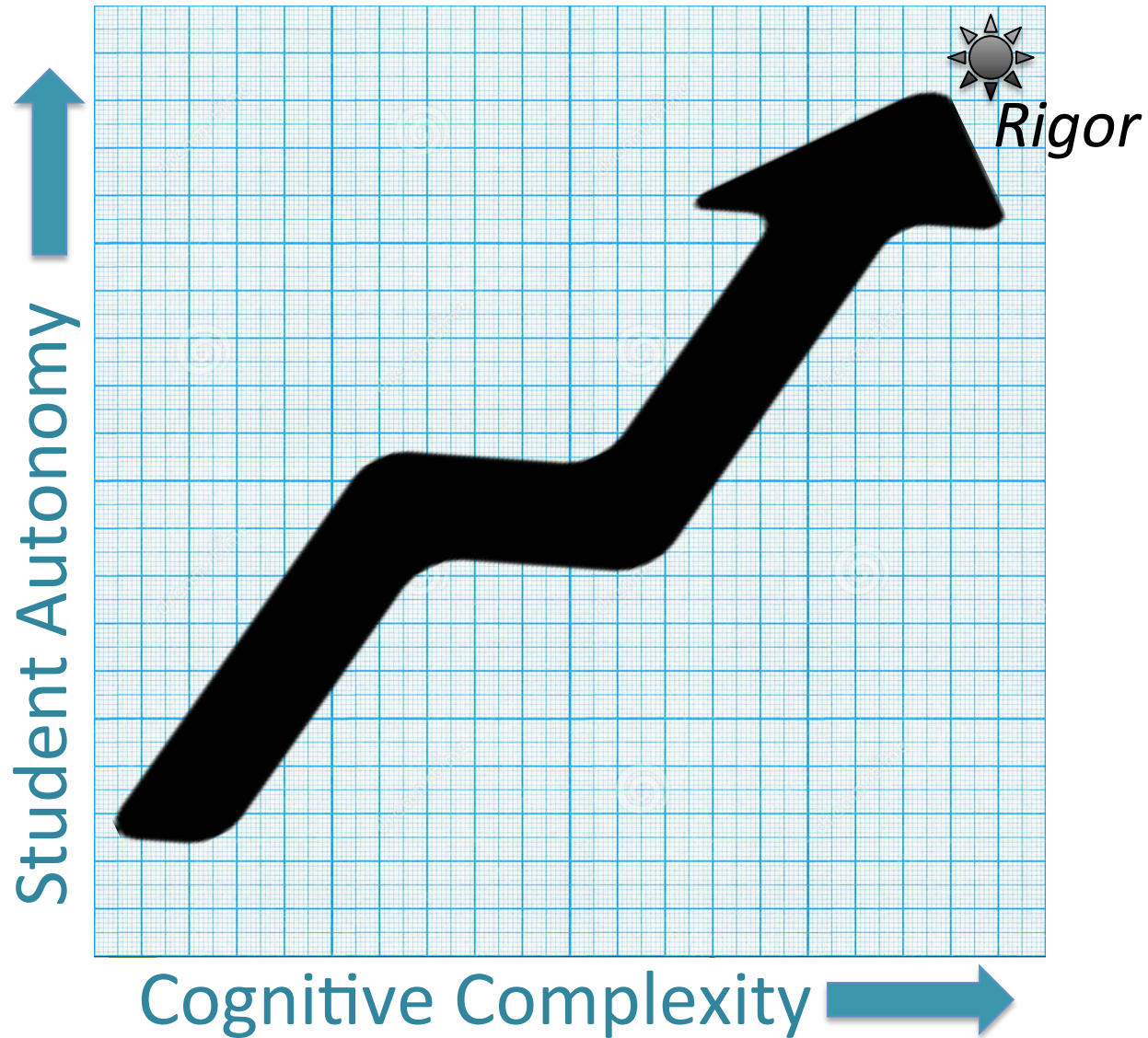
# Some people say engagement is...

- Whether students are paying attention to the teacher
- Whether the students are actively doing what the teacher has asked them to do
- Whether the students seem to understand what they are expected to do
- Whether students seem to like what they are doing

# Engagement and Rigor

- Consider what professional work in mathematics looks like
  - The content of the work
  - The nature of the work
  - The standards by which the work is judged
- Teach standards in the context of authentic investigation, not the other way around
- Cultivate a classroom culture that normalizes intellectual risk taking

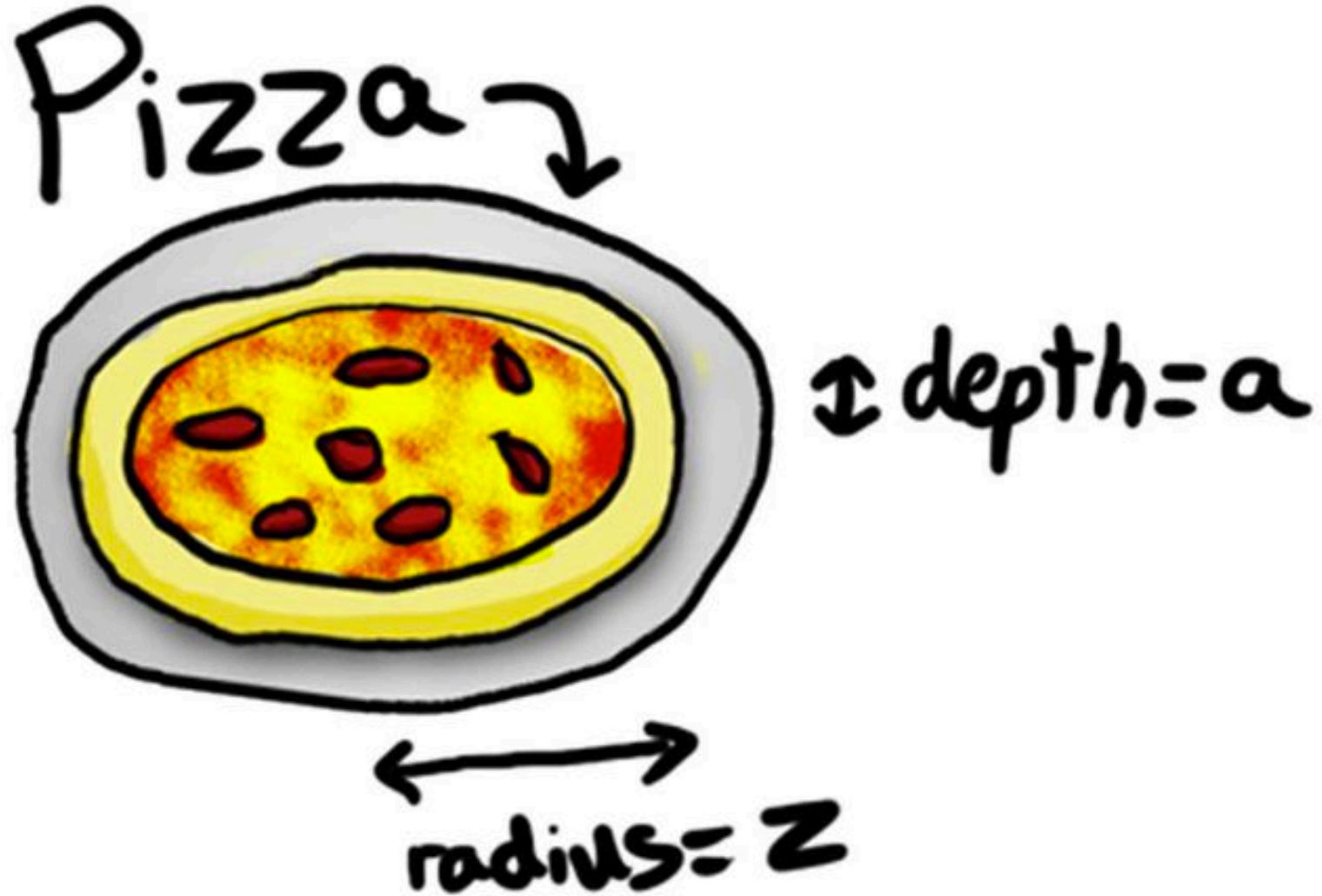
# Achieving Rigor



# Core Values

- Problems that allow students to use idiosyncratic processes, rather than step-by-step procedures, for solving helps create concept-based understandings.

9. Volume of a disc with radius= $z$  and depth= $a$ ?



$$\text{Volume} = \pi \cdot z \cdot z \cdot a$$



# Big Ideas (*not topics*)

## HIGHLIGHTS OF MAJOR WORK IN GRADES K–8

K–2	Addition and subtraction – concepts, skills, and problem solving; place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear algebra and linear functions

*From: Student Achievement Partners:  
CCSS Where to Focus*

Proportional reasoning allows students to utilize multiplicative thinking for making comparisons and determining relationships.