What is useful so far today?

HOW DO WE DESIGN AN ADJUSTABLE AIRPLANE?

- Who are the pilots? What is the range of dimensions?
- What kind of planes are the pilots flying?
- How is the plane responsive to the pilot's dimensions?
- How do the pilots make the adjustments they need to fly the plane?

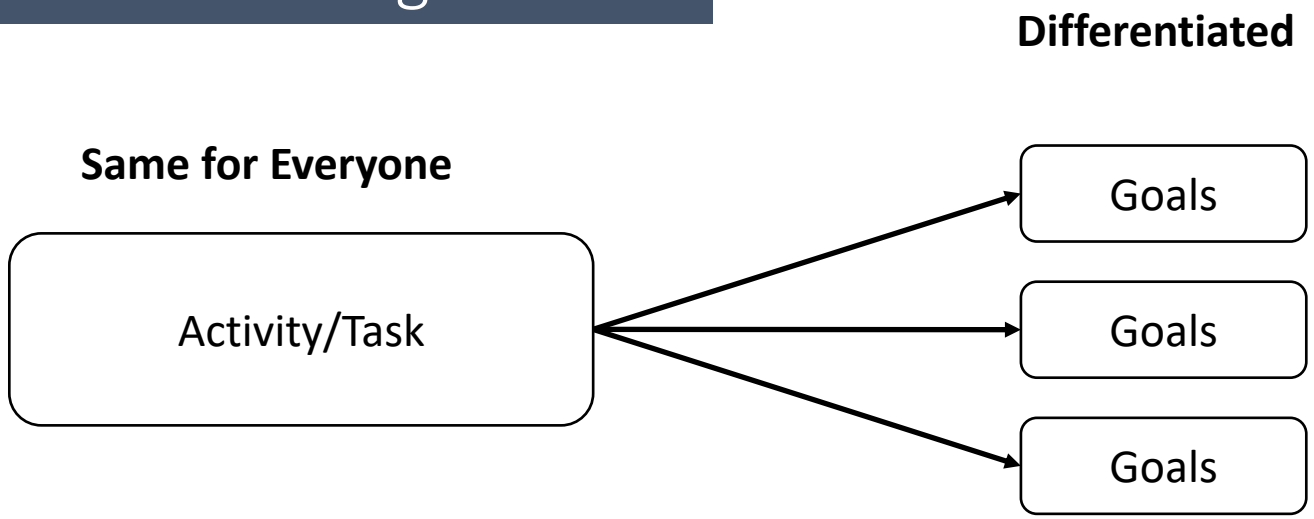
HOW DO WE DESIGN AN ADJUSTABLE CURRICULUM?

- Who are the students? What is the range of diversity?
- What kind of curricula are the students learning?
- How is the curriculum responsive to the students dimensions?
- How do the students make the adjustments they need to use the curriculum?

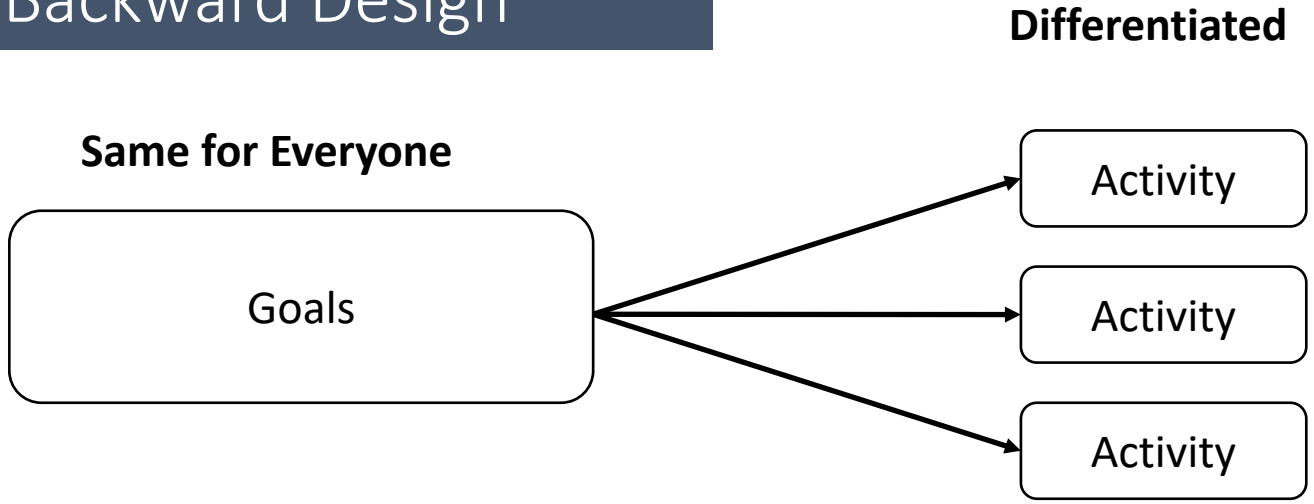
BACKWARDS DESIGN

Teaching (and Learning) to Goals, not activities

Forward Design



Backward Design



Grade:	Subject Area:	Topic:
General Outcome:		
Specific Outcome		
Specific Outcome		
Specific Outcome		
Specific Outcome		
Specific Outcome		

Grade: 10	Subject Area: Math	Topic: Algebra & Number
General Outcome: I can develop **algebraic reasoning** and **number sense**		
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One point rubric

Name:	Date:
General Outcome: I can develop **algebraic reasoning** and **number sense**	

I still need support	I can do this!	I need some challenge
	I can demonstrate an understanding of **factors** of **whole numbers**	
	I can demonstrate an understanding of **irrational numbers**	
	I can demonstrate an understanding of **powers** with **integral** and **rational exponents**	
	I can demonstrate an understanding of the multiplication of **polynomial expressions** (limited to monomials, binomials and trinomials), **concretely**, **pictorially** and **symbolically**	
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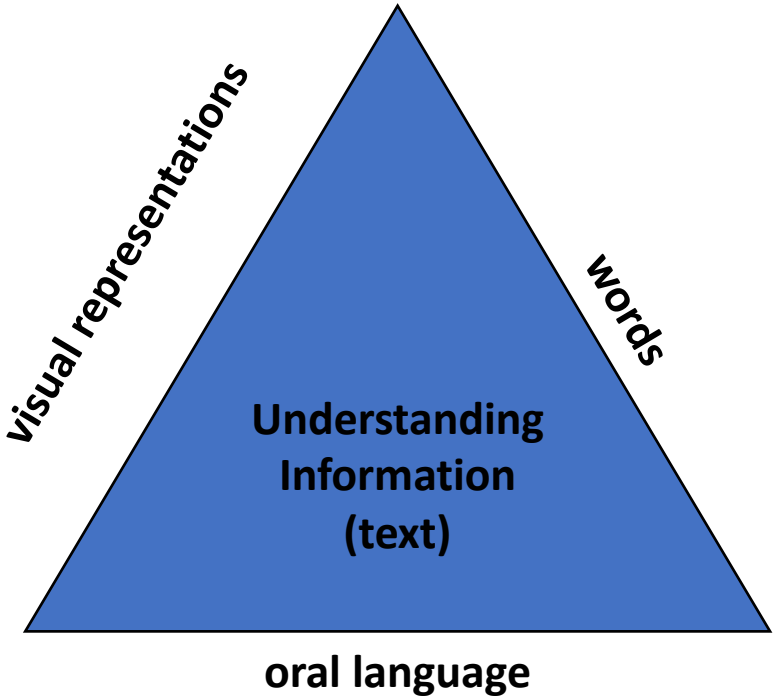
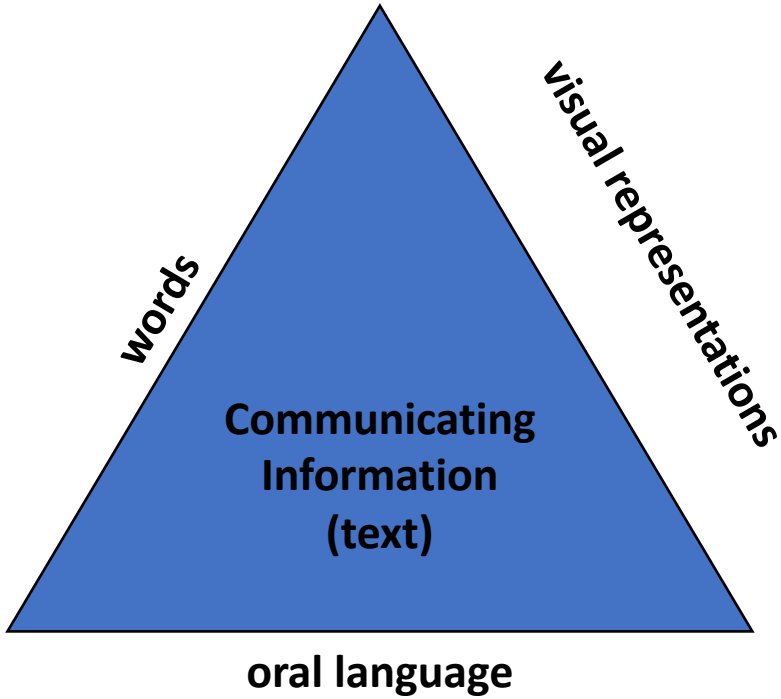
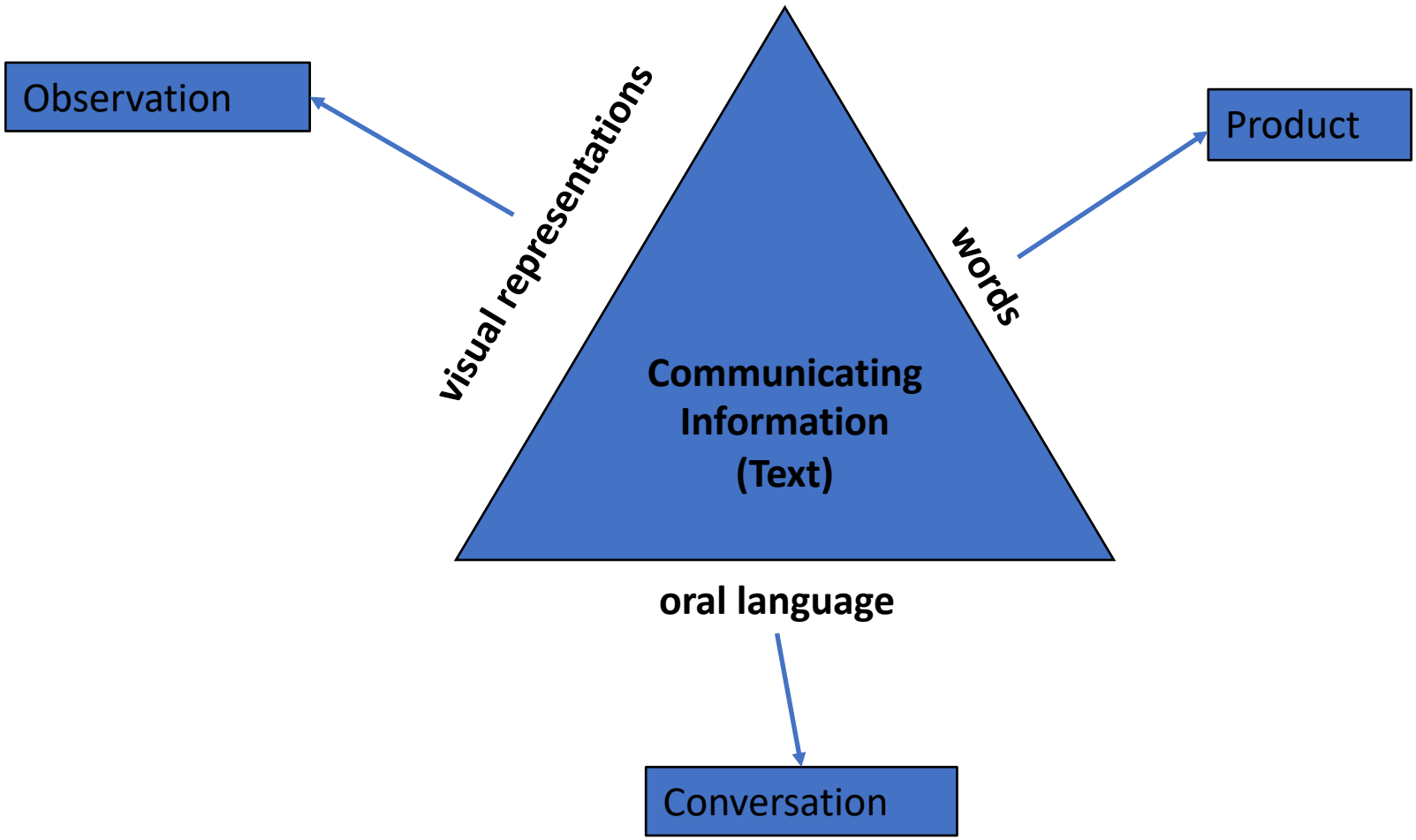
How do help students to collect evidence for assessment?

Teaching & Assessing

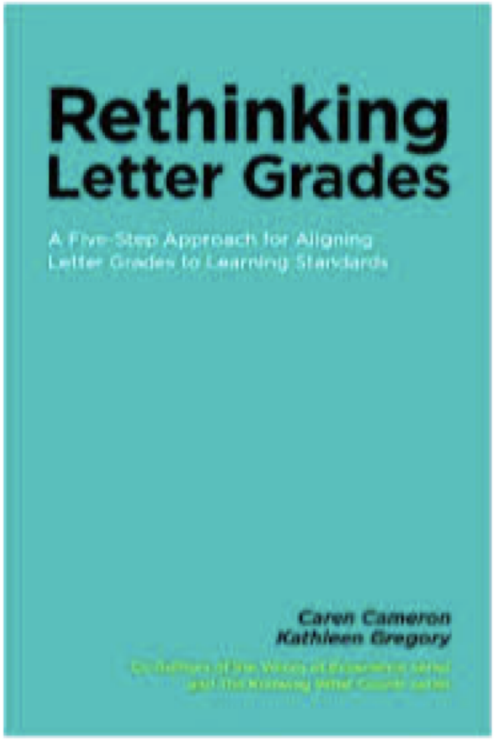




How do students show what they know?



Rethinking Letter Grades



One point rubric

Name:	Date:

General Outcome: I can develop **algebraic reasoning** and **number sense**

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Name:	Date:

General Outcome: I can develop **algebraic reasoning** and **number sense**

Specific Learning Outcome	My evidence of learning	Showing my Learning			I Need Support	I Need Challenge
	Actvtivities/ tasks	Concrete/ Oral	Pictorial / Visual	Symbolic/ Written		
I can demonstrate an understanding of **factors** of **whole numbers**						
I can demonstrate an understanding of **irrational numbers**						
I can demonstrate an understanding of **powers** with **integral** and **rational exponents**						
I can demonstrate an understanding of **common factors** and **trinomial factoring**, **concretely**, **pictorially** and **symbolically**.						

How do evaluate the range of proficiency?

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Adjustable Curriculum: Offering a Choice of Challenge

- A continuum of learning
- “proficiency” continuum vs. proficiency benchmark
- Stretching out a goal
- More than one “standard” designed for the average
- Multiple exit points
- Multiple achievement measures
- Start from access, add on challenge
- Different from a rubric

Rubrics?

	deficit	deficit	Standard
goal			

THE SCRUMPTIOUS RUBRIC REFERENCE

BARELY HANGING ON

The customer wants a refund. Bread alone is not a sandwich. It's like you gave the bread and pop out just to show you were listening.

Translation: You only did the small stuff to suffice turning it in. The artwork is missing all important details and signs of understanding or perseverance.

NEEDS SOME UMPH

Your sandwich disappoints the customer. There's no flavor and not enough meat, if any at all. About the only thing great is the Citrus Drop.

Translation: You are missing important details within your artwork. Expectations are not met. Improvement is needed and lack of understanding is present.

GETS THE POINT

Your sandwich met expectations. It has flavor but nothing too exciting. You included the meat but gee, a side of chips would be nice.

Translation: Your artwork meets expectations, you went as far as the requirements expected and you used what knowledge you had to do so.

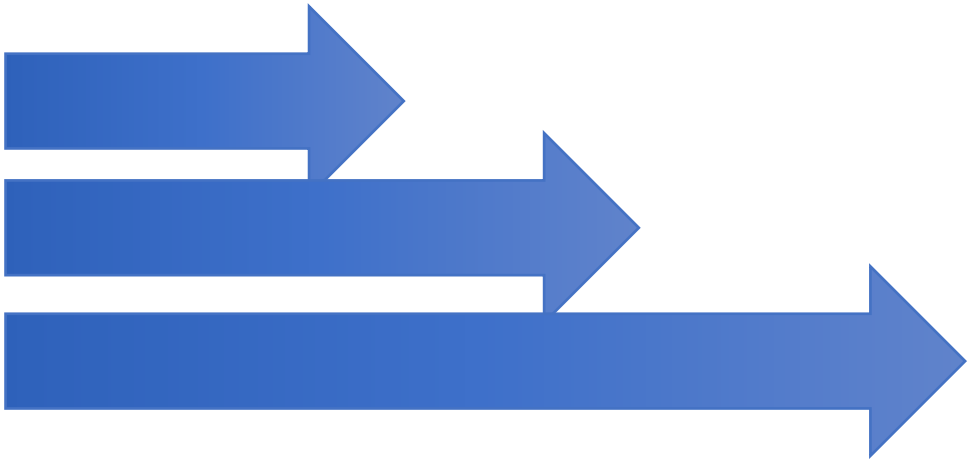
RIGHT ON!

Your sandwich went beyond expectations. You threw in some extra flavor and tomatoes and surprised the customer with a side of chips.

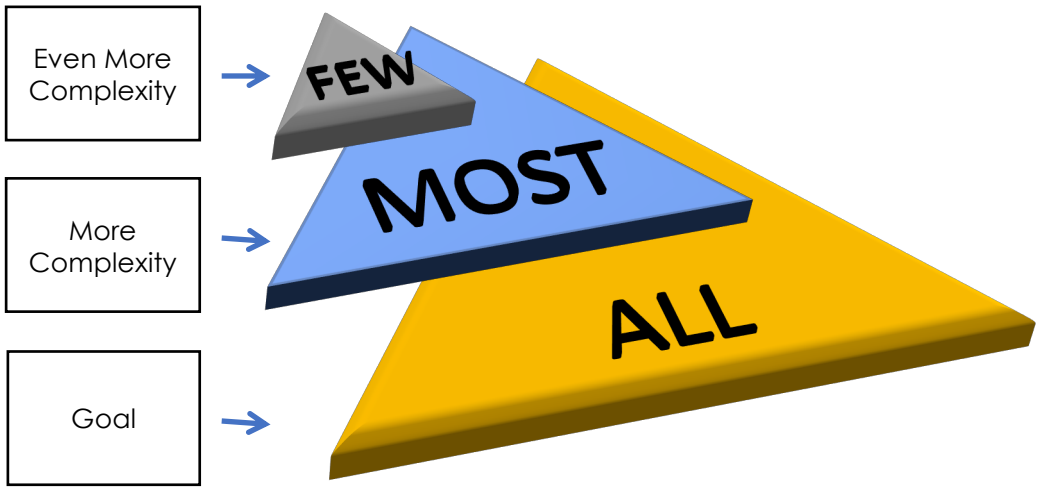
Translation: Your artwork exceeds all expectations; you used creativity, went beyond the basic requirements and showed obvious understanding.

Goal Continuum

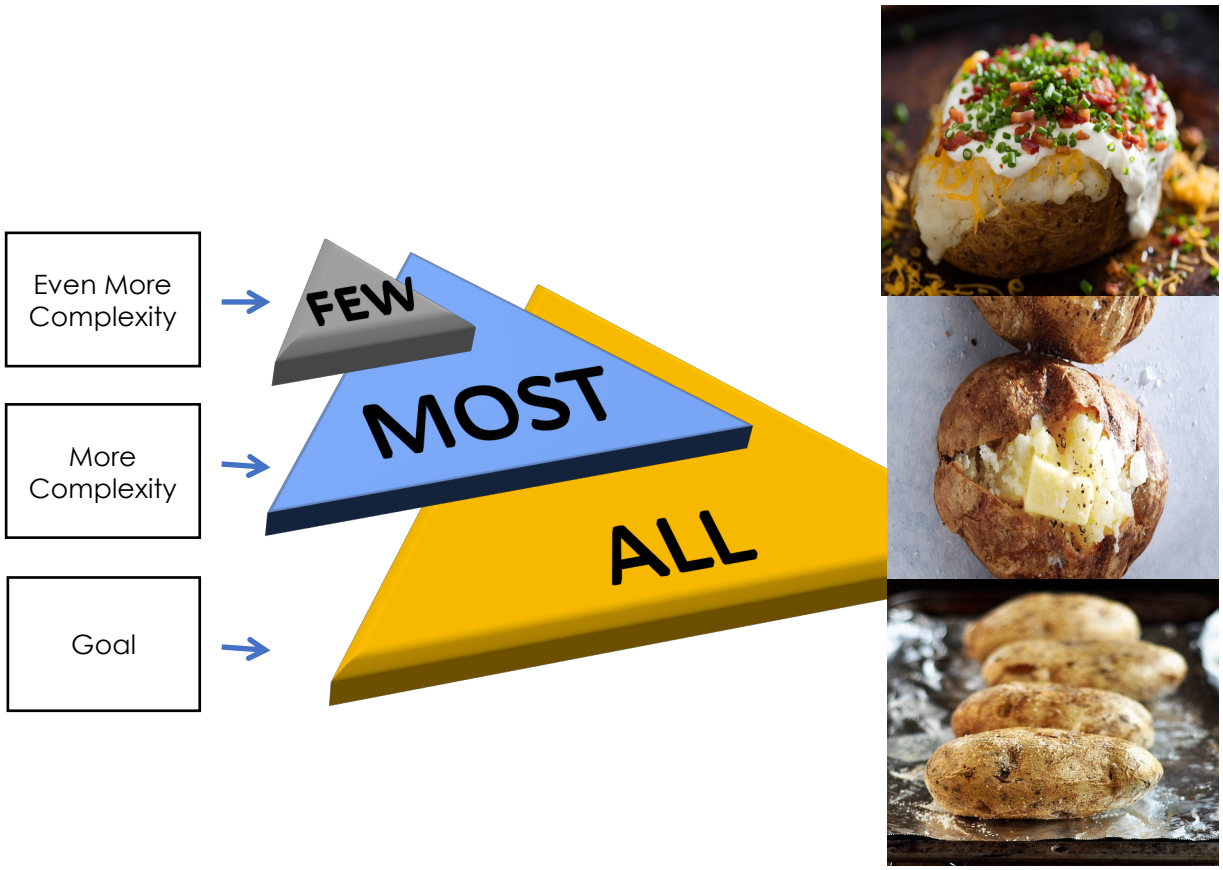
	Standard	More complex	More complex
goal			



Adjustable Curriculum: Planning Pyramid



Adjustable Curriculum: Planning Pyramid

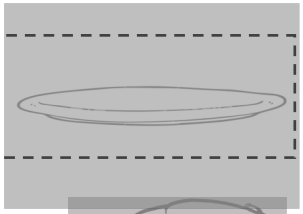


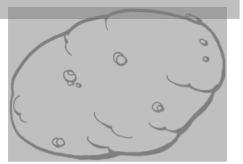
Grade: **Unit Guiding Question:**

Goal:.

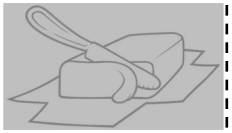
Goal for ALL (Essential)

Access

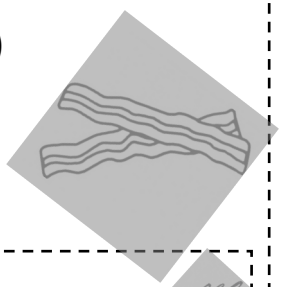




Goal for MOST (add complexity)



Goal for FEW (add complexity)



Challenge

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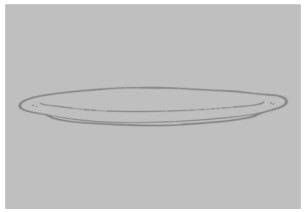
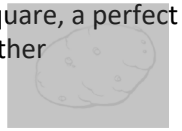
Specific Outcome: I can demonstrate an understanding of factors of whole numbers by
Determining the prime factors of a whole number
Explaining why the numbers 0 and 1 have no prime factors
Determining, concretely, whether a given number is a perfect square, a perfect cube or neither
Determine, using a variety of strategies, the square root of a perfect square, and explain the process.
Determine, using a variety of strategies, the cube root of a perfect cube, and explain the process.
Solve problems that involve prime factors, greatest common factors, least common multiples, square roots or cube roots.

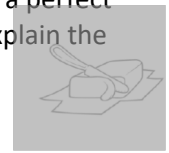
Specific Outcome: I can demonstrate an understanding of factors of whole numbers by

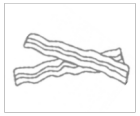
→

Approaching	Emerging	Developing	Confident	Extending
Factors of numbers, perfect squares, equivalent fractions	Determining the prime factors of a whole number Explaining why the numbers 0 and 1 have no prime factors Determining, concretely, whether a given number is a perfect square, a perfect cube or neither	Determining, using a variety of strategies, the square root of a perfect square, and explain the process. Determining using a variety of strategies, the cube root of a perfect cube, and explain the process.	Solving problems that involve prime factors, greatest common factors, least common multiples, square roots or cube roots.	









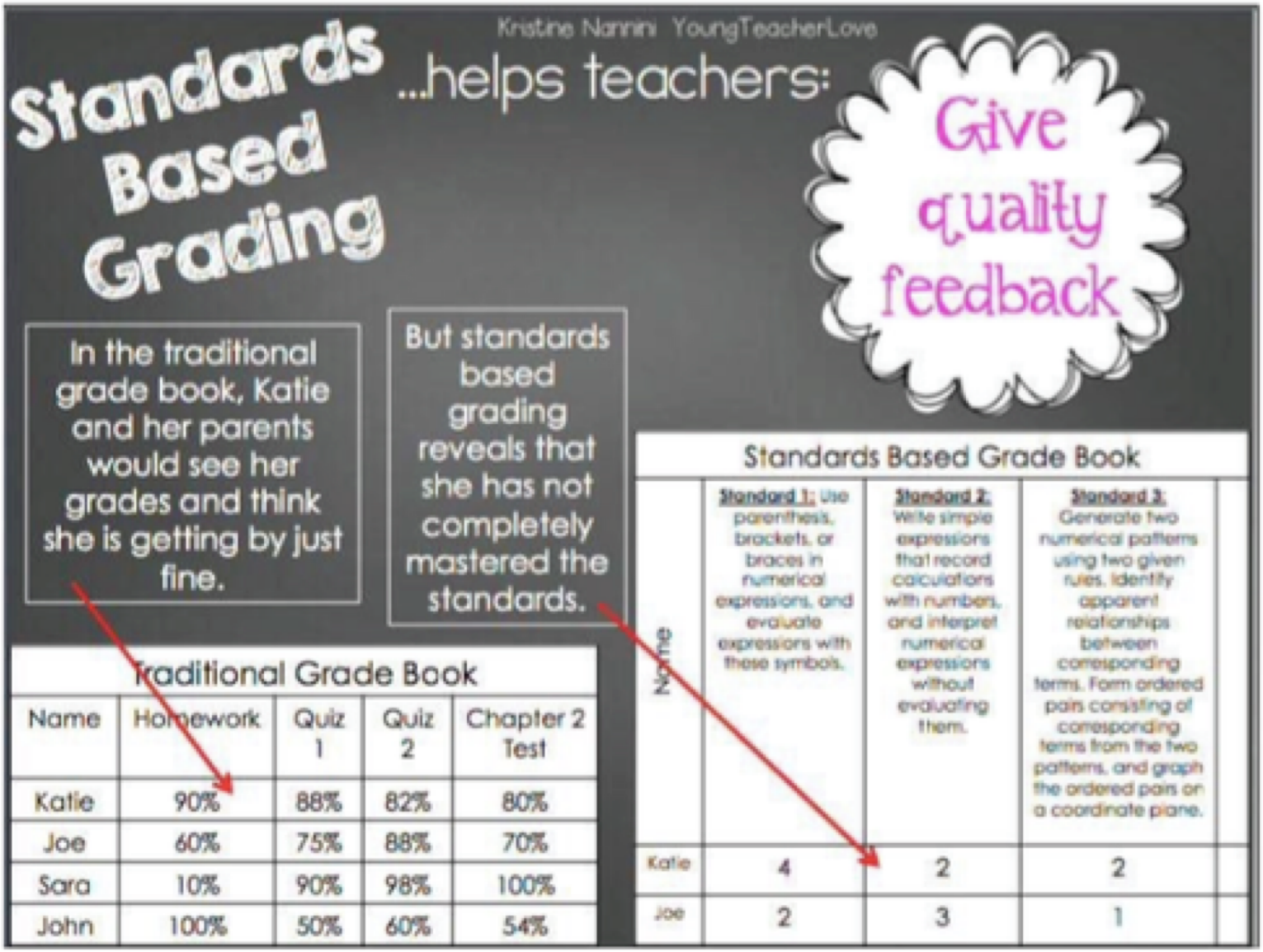
Prior Knowledge/ Access

Grade Level Band

Challenge

How do we communicate progress with a grade?

1. Standards based vs. standardized curriculum



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	10		5	3	2	10		5	3	2	10		5	3	2	10		5	3	2	**80**
Learning Map	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	**Date:**
Student																					
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	10		5	3	2	10		5	3	2	10		5	3	2	10		5	3	2	**80**	
Learning Map	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	Approaching	Emerging	Developing	Confident	Extending	**Total**	**Grade**
Student	y	y				y	y				y	y				y	y				**40**	**50 %**
Student	y	y	y			y	y	y			y	y	y			y	y	y			**60**	75
Student	y		y	y		y	y				y	y					y				**I**	
Student	y	y	y	y		y	y	y			y	y	y	y		y	y				**61**	76
Student	y	y				y	y	y			y	y				y	y	y			**50**	63

One thing..

- What is one USEFUL thing from today?
- What do you want to try?
- What is your next steps?
- Who & what can support you?

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