

**Deconstructing Standards  
&  
Vertical Alignment**

2008 Mathematics Summer Leadership Institute


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# Deconstructing Standards


## Why Deconstruct Standards ?

- Enhances student understanding and mastery
- Enables teachers to interpret standards the same way




## Deconstructing Standards is a process to:

- Clarify learning targets
- Write broad standards as smaller, more explicit learning targets




## Steps to Deconstructing Complex Standards

- **Determine ultimate learning target type:**
  - Knowledge
  - Reasoning
  - Skill
  - Product
- **Identify underpinning learning targets**



## Standard/Benchmark:

**4.01 Use linear functions or inequalities to model and solve problems; justify results**  
a.) Solve using tables, graphs, and algebraic properties



1. What is/are the learning target(s)?
2. Why do you say that?

Algebra  
Standard Benchmark: 4.01 Use linear functions or inequalities to model and solve problems; justify results.  
a.) Solve using tables, graphs, and algebraic properties.

Learning Targets: Knowledge Reasoning X Skill X Product

What are the knowledge, reasoning, skill, or product targets underpinning the standard or benchmark?

Knowledge	Reasoning	Skill	Product
Vocabulary: domain, range, coordinate, relation, function, vertical line test, linear equations, x and y-intercepts  Difference/relationship between domain and range  Knowing when to use solid or dashed line	Linear functions can be used to predict trends	Interpret and create graphs  Convert words to functions and inequalities  Identify characteristics of functions  Interpret tables and graphs  Solve using properties of equalities	Successfully model and solve problems by using linear functions and inequalities  Create tables and graphs to model linear functions and inequalities

# Your Turn!!

# Types of Assessments for Mastery

## Types of Assessments for Mastery

- Selected Response
- Extended Written Response
- Performance Assessment
- Personal Communication

### Target-Method Match Chart

	Selected Response & Short Answer	Extended Written Response	Performance Assessment	Personal Communication
Knowledge (Scenario 1)				
Reasoning (Scenario 2)				
Skill (Scenario 3)				
Product (Scenario 4)				

Adapted from Classroom Assessment for Student Learning

### Target-Method Match Chart

	Selected Response & Short Answer	Extended Written Response	Performance Assessment	Personal Communication
Knowledge (Scenario 1)	Y	Y	N	J
Reasoning (Scenario 2)	J	Y	Y	Y
Skill (Scenario 3)	N	N	Y	J
Product (Scenario 4)	J	N	Y	N

Adapted from Classroom Assessment for Students

Links Among Achievement Targets and Assessment Methods

Targets to Be Assessed	Selected Response & Short Answer	Extended Written Response	Performance Assessment	Personal Communication
Knowledge Mastery	Y	Y	N Too time consuming	J But time consuming
Reasoning Proficiency	J For some reasoning patterns	Y	Y	Y
Skills	N	N	Y	J For oral communication proficiency
Ability to Create Products	J Depends on use	N	Y	N

Adapted from Classroom Assessment for Student Learning

# Student-Friendly Language

- ## Student-Friendly Language
- Identify an important learning target, or one students have difficulty learning.
  - Identify word(s) needing clarification.
  - Define the word(s). Use a dictionary as a starting point.
  - Rewrite the definition as an “I can” statement, in terms that your students will understand.

- ## Interpret constants and coefficients in the context of the problem. (Algebra I Objective 4.01b)
- Possible words to be defined: Interpret, Context
    - Definition (interpret): to explain or tell the meaning of; present in understandable terms
    - Definition (context): circumstances which determine, specify, or clarify meaning

- ## Interpret constants and coefficients in the context of the problem. (Algebra I Objective 4.01b)
- Student-Friendly Language:
    - I can interpret constants and coefficients in the context of the problem.
    - This means I can . . .
    - explain the meaning of constants and coefficients in the problem to make it clear.
    - or-
    - This means I can use constants and coefficient in linear functions to predict trends or explain data.

## Student Assessment Chart

Learning Target/Standard	Ready for Assessment/Test	Need More Practice	Don't Get It	Action
Interpret and create graphs				
Identify characteristics of functions				
Solve using properties of equalities				
Create graph from data				
Convert words to functions and inequalities				
Identify domain, range, relation, function using different representations				

## Benefits to Students

- Students who could identify their learning scored 27 percentile points higher than those who could not. (Marzano, 2005)
- A student's success on a standardized math test: 40% is dependent upon mathematics literacy. (Jacobs, 2004)

## Break

Refreshments are in the pre-function area. Please return promptly at 10:30.

Who's Fault is It?  
Certainly Not Mine  
-Anonymous

The college professor said,  
"Such wrong in the student is a shame,  
Lack of preparation in high school is to blame."  
Said the high school teacher,  
"Good heavens, that boy is a fool.  
The fault, of course, is with the middle school."  
The middle school teacher said,  
"From such stupidity may I be spared,  
They send him to me so unprepared."

The elementary teacher said,  
"The Kindergartners are block-heads all."  
They call it preparation why, it's worse than none at all."

The kindergarten teacher said,  
"Such lack of training never did I see,  
What kind of mother must that woman be."

The mother said,  
"Poor helpless child, he's not to blame  
For, you see, his father's folks are all the same."

Said the father, at the end of the line,  
"I doubt the rascal's even mine!"

## Vertical Alignment

- Are there topics or concepts being addressed the same way in more than one course?
- Are teachers spending a lot of time on review or re-teaching activities related to certain topics or concepts?
- After topics or concepts are introduced, how should they be addressed in subsequent courses to deepen students' understanding?

**Vertical Alignment**

- Align content in terms of what topics and concepts are covered and where
- Can be used to address gaps, overlaps, and omissions
- Is a *process* not an event

**Vertical Alignment**

In addition to content alignment, consider:

- The vocabulary / terminology used for a particular concept in different courses
- The way in which a particular concept is defined in different courses
- The notation that is used in different courses
- Solution methods used for a particular problem at different grade levels
- Technology


**Vertical Alignment**

**Starting the Process  
Group Activity**

**Share and Discuss**




**Summary and Conclusion**



**Contact Information**  
Have a Super Summer!

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