



Something to consider... 

“Do not confine your children to your own learning, since they were born in another time.”

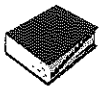
- Chinese proverb

A Research Finding 

“A guaranteed and viable curriculum is the #1 school-level factor impacting student achievement.”

Source: Marzano, *What Works in Schools*

Curriculum...



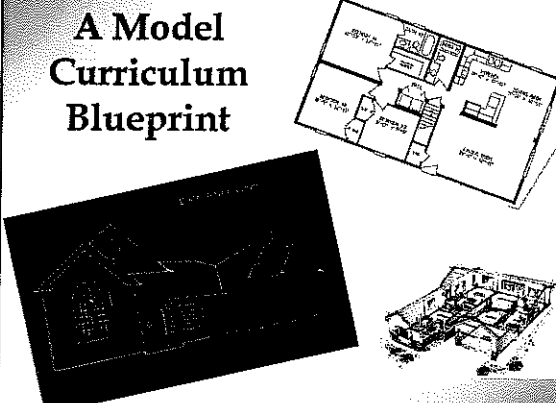
"The course to be run"

Curriculum = a plan to achieve designated goals.


Curriculum ≠ a list of topics and related activities.

↳ "covering" orientation, like patching guides

A Model Curriculum Blueprint



Jig Saw Reading

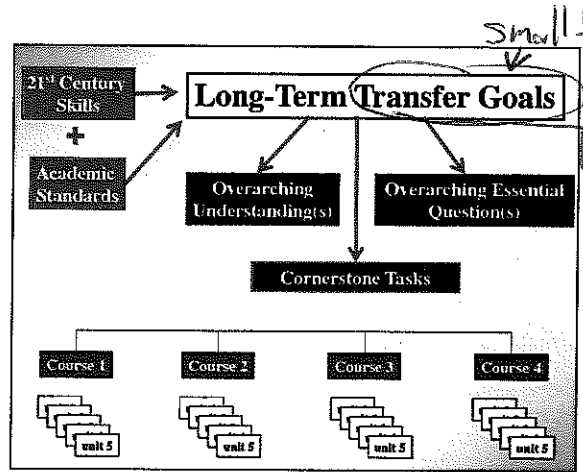


Divide into 5 groups.

Part 1 - Individually, read designated section and highlight key points.


Part 2 - Meet with like #erd groups to discuss key points and implications.

Part 3 - Re-group to summarize key points from each section of the article.



↳ helps to focus and prioritize attention to standards

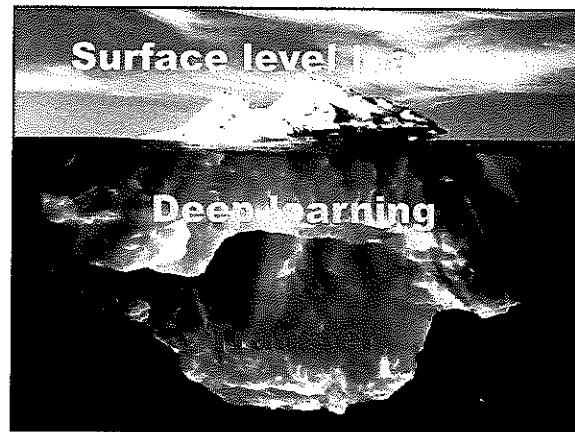
A Research Finding



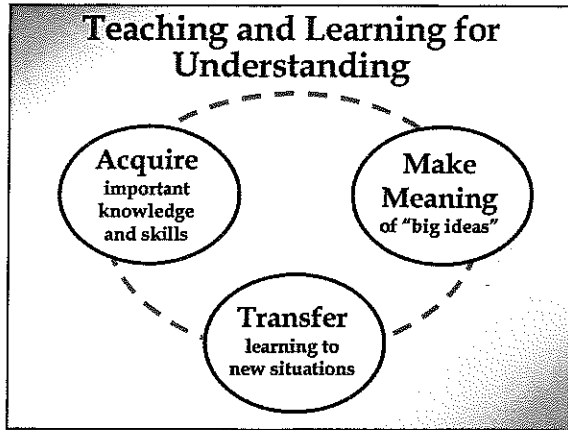
"A guaranteed and viable curriculum is the #1 school-level factor impacting student achievement."

Source: Marzano, *What Works in Schools*

↳ found that standards (pre CC) were so full of content that it would take 9000 years of education to cover them




When "unpacking" standards



When identifying transfer goals

Long-Term Transfer Goal

"Students will be able to independently use their learning to ..."



An effective curriculum equips learners for autonomous performance ... by design!

The long-term aim of CCSS is autonomous transfer.

Students who are college and career ready:

Demonstrate independence

"Students can, without scaffolding, comprehend and evaluate complex texts across a range of types and disciplines, and they can construct effective arguments and convey intricate or multifaceted information."

Transfer Goal: Writing

Students will be able to independently use their learning to:

- Effectively write in various genres for various audiences and purposes (inform, explain, entertain, persuade, guide, or challenge/change things).

Broader, but should be for long-term goals

Transfer Goals: Mathematics

Mathematically proficient students:

- Make sense of never-before-seen, "messy" problems and persevere in trying to solve them.
- Construct viable arguments and critique the reasoning of others.

Transfer Goal: History/SS

- Use knowledge of patterns of history to better understand the present and prepare for the future.
- Critically appraise historical claims and analyze contemporary issues.
- Participate as an active and civil citizen in a democratic society.

Transfer Goal: World Languages

Students will be able to independently use their learning to:

- Effectively communicate with varied audiences and for varied purposes while displaying appropriate understanding of culture and context.

Transfer Goals: Science

- Use knowledge and reasoning to evaluate scientific claims or arguments and analyze current issues involving science or technology.
- Conduct an investigation following established scientific protocols.

North Slope Borough School District (2012)



The Four Cs are Long-Term Transfer Goals!

- *Critical Thinking*
- *Creativity*
- *Communication*
- *Collaboration*



A coherent curriculum spirals around a set of "big ideas" and recurring essential questions.

Common Core Standards Mathematics

**Model with
mathematics.**

Mathematical Modeling




"Big Idea" Understandings

- Mathematicians create models to interpret and predict the behavior of real-world phenomena.
- Mathematical models have limits and sometimes they distort or misrepresent.

Mathematical Modeling


Essential Questions

- How can we best model this (real-world phenomena)?
- What are the limits of this model?
- How reliable are its predictions?

Example: 

Model Your Growth

- Interpret the data on our changing heights in third grade for the past school year. Prepare a graph for the second graders to help them understand:
 - How our class grew this year
 - How they are likely to grow next year
- Predict: How tall will you be in seventh grade?



Make your case!

- Write a letter to the Principal explaining why she shouldn't buy "one size" chairs and desks for 3rd graders since kids start the year at different heights and we grow a lot during the year! Use the data you collected and your growth charts to make your case.

Critical Thinking

'Big Idea' Understandings:

- A critical thinker does not simply believe whatever they read, hear or view. They remain skeptical, ask critical questions, and seek alternative points of view.

Critical Thinking

Essential Questions:

- How do I know what to believe in what I read, hear and see?
- Is this a credible and unbiased source?
- What other perspectives should I consider?


Overarching EQs for E/LA

What makes a great book?

What "truths" can we learn from fiction?

How do effective writers hook and hold their readers?


How does *what* you read influence *how* you should read it?

Overarching EQs for Mathematics 

How do we communicate mathematically?

How is mathematics used to measure, model and calculate change?

What do effective problem solvers do when they get stuck?


Overarching EQs for History and Social Studies 


Whose "story" is this?

How do you know what to believe about a historical claim?

What can patterns of history teach us today?

Consider EQs in Two Strands




 **Next Generation Science Standards**

6. Structure and Function. The way in which an object or living thing is shaped and its substructure determine many of its properties and functions.

How are structure and function related:

- ... in living things?
- ... in nonliving things?

"cross-cutting concepts" are understandings

 **Next Generation Science Standards**

Includes eight Practices for K-12 Classrooms.

Example:

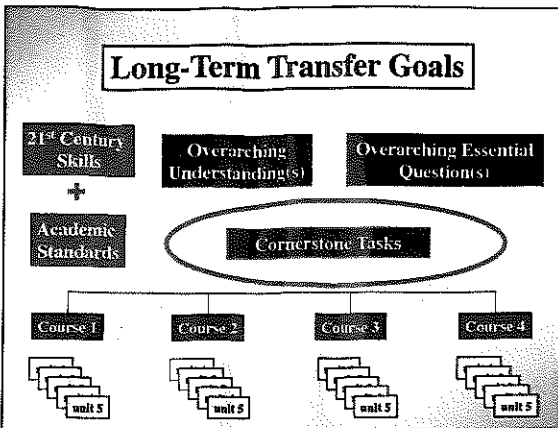
7. Engaging in argument from evidence

What makes a credible argument?

What constitutes effective evidence?

WCPS Blueprint for Curriculum Design

WCPS PREK-GRADE 12 ESSENTIAL CURRICULUM						
PreK-Grade 12 Transdisciplinary Transfer Goals						
PreK-Grade 12 Discipline Transfer Goals						
English Language Arts Reading, Language, and Essential Questions	Math Mathematical Practices and Essential Questions	Science Scientific Practices and Essential Questions	Social Studies Historical Thinking and Essential Questions		Arts and Health	
PreK-Grade 12 Crosscutting Transfer Goals						
WCPS ELEMENTARY ESSENTIAL CURRICULUM FRAMEWORK						
Elementary Crosscutting Transfer Goals						
PreK Modules	K-1 Modules	Grade 1 Modules	Grade 2 Modules	Grade 3 Modules	Grade 4 Modules	Grade 5 Modules
UNITS	UNITS	UNITS	UNITS	UNITS	UNITS	UNITS
Performance Assessments and Other Evidence	Performance Assessments and Other Evidence	Performance Assessments and Other Evidence	Performance Assessments and Other Evidence	Performance Assessments and Other Evidence	Performance Assessments and Other Evidence	Performance Assessments and Other Evidence
Lessons	Lessons	Lessons	Lessons	Lessons	Lessons	Lessons



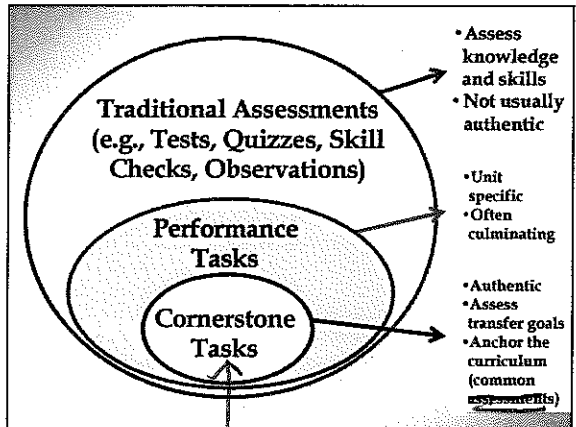
corner-stone (n):

1. the first stone laid at a corner where two walls begin and form the first part of a new building
2. something that is fundamentally important to something

Cornerstone Tasks

- Anchor the curriculum in important, recurring tasks.
- Require understanding and transfer of learning.
- Integrate 21st century outcomes.
- Provide evidence of authentic accomplishments.

("Doing the subject" and "playing the game")



✱ "common" tasks

Transfer Goal: Writing

Students will be able to independently use their learning to:

- Effectively write in various genres for various audiences and purposes (inform, explain, entertain, persuade, guide, or challenge/change things).


example:

How To Perform a Task

Since you are an accomplished _____, you have been asked to develop a step-by-step directions to help other kids learn how to do it. Your directions should include words and pictures to help others learn how to _____ like you.

Example:


What's Your Position?



After reading _____ (literature or informational texts), write _____ (essay or substitute) that compares _____ (content) and argues _____ (content). Be sure to support your position with evidence from the texts.

Example:


Drone On...



Should drones be regulated?
After researching possible commercial uses of drones and examining various opinions on the issue, develop your own position and develop a (policy brief, editorial, blog) that argues for your position. Support your position with evidence from your research, while acknowledging competing views.

Example:

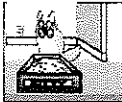
What's Your Position?



What makes something funny?
After reading selections from Mark Twain and Dave Barry, write a review that compares their humor and argues which type of humor works for a contemporary audience and why. Be sure to support your position with evidence from the texts.

Example:


Science Investigation



The Pooper Scooper Kitty Litter Company claims that their litter is 40% more absorbent than other brands. You are a Consumer Advocates researcher who has been asked to evaluate their claim. Develop a plan for conducting the investigation. Your plan should be specific enough so that the lab investigators could follow it to evaluate the claim.

Example:


Science Investigation



Design an investigation to learn:
How much does it cost to take a shower?
Identify the variables that must be considered and then develop a plan for conducting the investigation. Your plan should be specific enough so that other investigators could follow it and answer the question.

Example:

Involved Citizen




You have an idea that you believe will make your school better, and you want to convince school leaders that they should act on your idea. Identify your audience (e.g., principal, PTSA board, students) and:

1. Describe your idea.
2. Explain why and how it will improve the school.
3. Develop a plan for acting on your idea.

Your idea and plan can be communicated to your target audience in a letter, e-mail, or presentation.

Example:

Involved Citizen



After investigating a current political issue, prepare a position paper or presentation for a public policy maker (e.g., Congress person) or group (e.g., school board, legislative committee). Assume that the policy maker or group is opposed to your position. Your position statement should provide an analysis of the issue, consider options, present your position, rebut opposing positions, and attempt to persuade the public policy maker or group to vote accordingly. Your position can be communicated in a written report, via a web blog, or delivered as a presentation.

First generation = Diary Mapping

Year-Long Course Map
Sixth Grade – Social Studies

1 st 3 Weeks			2 nd 3 Weeks			3 rd 3 Weeks			4 th 3 Weeks		
August	September	October	November	December	January	February	March	April	May	June	July
Economic Frontiers			Latin America			Canada			Australia & Oceania		
Social Studies Skills									Preview 7 th Grade Curriculum		
Notes											

Second generation = Consensus Mapping from Standards

SAUSD Common Core Aligned Curriculum Map: Math Grade 5 Year at a Glance

Title	Time	Performance Task	Big Idea	Essential Question	Core Text
Unit 1: Whole Numbers and Operations Base Ten	3 weeks	Compare and order whole numbers up to one million, with real-world problems.	Whole numbers can be represented in many ways.	How do we know that the number of objects in one group is the same as the number of objects in another group?	5.NF Chapter 2
Unit 2: Addition & Subtraction of Decimals (Standards & Applications) (Standards & Applications) (Standards & Applications)	3 weeks	Find a sum or difference of decimals with real-world problems.	Real-world problems can be solved by combining or separating groups.	How do we know that the sum of two numbers is the same as the sum of two other numbers?	5.NF Chapter 3, 4, 5
Unit 3: Addition and Subtraction of Fractions (Standards & Applications) (Standards & Applications)	3 weeks	Change the form of a fraction to add or subtract.	Real-world problems can be solved by combining or separating groups.	How do we know that the sum of two fractions is the same as the sum of two other fractions?	5.NF Chapter 1, 2, 3, 4, 5
Unit 4: Multiplication and Division of Whole Numbers (Standards & Applications) (Standards & Applications)	4 weeks	Use the area model to multiply and divide.	Real-world problems can be solved by combining or separating groups.	How do we know that the product of two numbers is the same as the product of two other numbers?	5.NF Chapters 6, 7, 8, 9
Unit 5: Volume (Standards & Applications) (Standards & Applications)	3 weeks	Estimate the volume of a solid figure.	Objects can be measured and compared by their attributes.	How do we know that the volume of a solid figure is the same as the volume of another solid figure?	5.NF Chapter 10

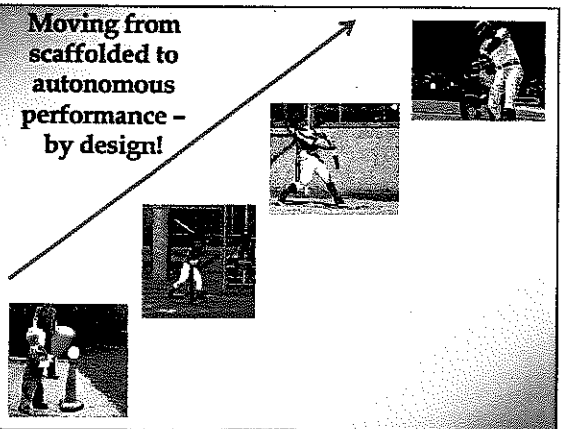
Curriculum Mapping: Three Generations

First generation = Diary mapping

Second generation = Consensus mapping against standards

Third generation = Mapping performance backward from desired performances based on long-term transfer goals.

Moving from scaffolded to autonomous performance - by design!



Sample Map of Cornerstone Performance Tasks

Grade	ELA	Mathematics	Science	Social Studies
12	Independent Study Project (ELA and Science) (Critical Thinking, Communication)	Mathematical Modeling Project (e.g., budget savings & investments) (Critical Thinking, Communication)	Independent Study Project (ELA and Science) (Critical Thinking, Communication)	Independent Study Project (ELA and Science) (Critical Thinking, Communication)
11	Agency Letter Set (ELA and Science) (Critical Thinking, Communication)	Assessment Park Physics (Critical Thinking, Communication)	Chemistry Game Show (Critical Thinking, Communication)	Historical Timeline Collaboration (Critical Thinking, Communication)
10	Original Short Story: Song or Poem (ELA) (Critical Thinking, Communication)	How to Live with Statistics Project (Critical Thinking, Communication)	Genetics Project: Science and Social (Critical Thinking, Communication)	Contemporary Chinese & Balkans (Critical Thinking, Communication)
9	Research Project with a V. (ELA) (Critical Thinking, Communication)	Mathematical Modeling with Linear Equations (Critical Thinking, Communication)	Earthquake Science (Critical Thinking, Communication)	Contemporary Issues Debate (Critical Thinking, Communication)
8	Causes of Conflict (Research Project) (ELA and Social Studies) (Critical Thinking, Communication)	Design Your Dream Bedroom (Critical Thinking, Communication)	Consumer Science (Critical Thinking, Communication)	Causes of Conflict Research Project (ELA and Social Studies) (Critical Thinking, Communication)
7	Autobiography (Communication)	Evaluate a Contractor's Proposal (Critical Thinking, Communication)	Water Quality Testing (Critical Thinking, Communication)	History Whose Story? Examining Perspectives (Critical Thinking, Communication)
6	Personal Narrative (Communication)	Service Studies (Critical Thinking, Communication)	Fractals III (Critical Thinking, Communication)	Environment (Critical Thinking, Communication)
5	People on the Move (Research Project) (ELA and Social Studies) (Critical Thinking, Communication)	Find Ready Project (Critical Thinking, Communication)	Conduct Your Own Research Project (Critical Thinking, Communication)	People on the Move Research Project (ELA and Social Studies) (Critical Thinking, Communication)
4	Autism Fairy Presentations (Critical Thinking, Communication)	Geometry Fairy (Critical Thinking, Communication)	Start to Run Project (Critical Thinking, Communication)	How We Live (Critical Thinking, Communication)
3	Personal Narrative (Communication)	Research Fairy (Critical Thinking, Communication)	Algebra and Geometry (Critical Thinking, Communication)	Algebra and Geometry (Critical Thinking, Communication)
2	Story and Text	Animal Ecology (Critical Thinking, Communication)	Animal Zoo (Critical Thinking, Communication)	Ways and Means (Critical Thinking, Communication)