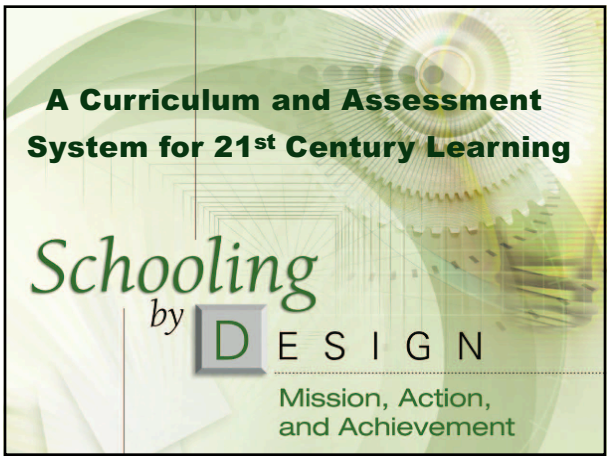
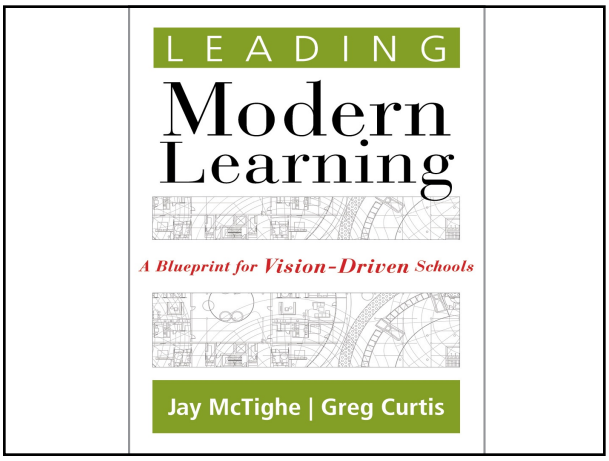
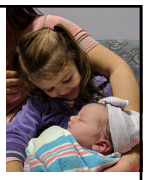




Something to consider…



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

- Chinese proverb

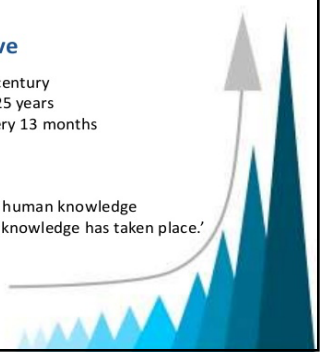
The Knowledge Doubling Curve

-- Buckminister Fuller and IBM

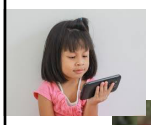
Knowledge doubling curve

- 1900s, Knowledge doubled every century
- 1940s, knowledge doubled every 25 years
- Currently, knowledge doubling every 13 months
- Soon, every 12 hours?

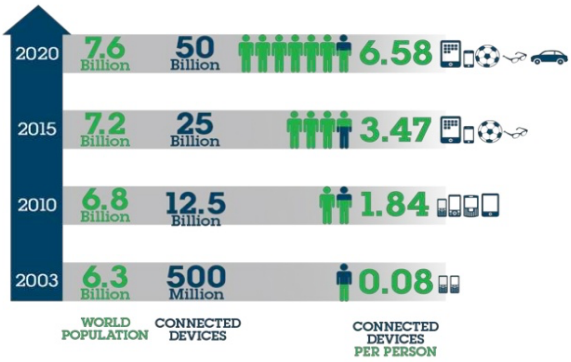
'Transition from the linear growth of human knowledge to the exponential growth of human knowledge has taken place.'



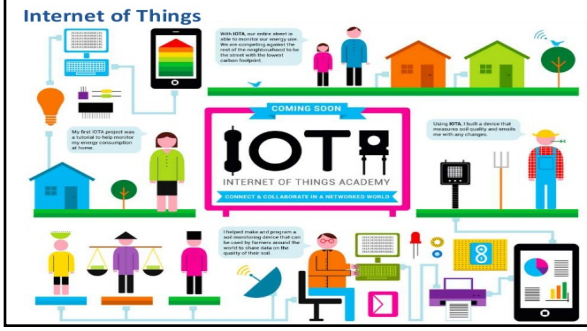
Access to the world's information has never been greater.



Access to the World's Information

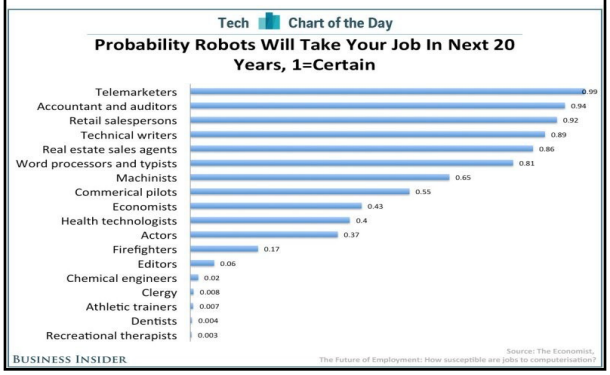


Machine to Machine Connections: The Internet of Things



Undeniable Trends: Automation

Undeniable Trends: Automation



National Association of Colleges and Employers Survey Results

FIGURE 1. Attributes Employers Seek in Job Candidates

Leadership skills	80.1%
Ability to work in a team	78.9%
Communication skills (written)	70.2%
Problem-solving skills	70.2%
Strong work ethic	68.9%
Communication skills (verbal)	67.2%
Initiative	65.8%
Analytical/quantitative skills	62.7%
Flexibility/adaptability	60.9%
Technical skills	59.6%
Interpersonal skills (relates well to others)	58.4%
Computer skills	55.3%
Detail oriented	52.8%
Organizational ability	48.4%
Friendly/outgoing personality	35.4%
Strategic planning skills	26.7%
Creativity	33.3%
Tactfulness	18.6%
Entrepreneurial skills/risk-taker	18.6%

Source: National Association of Colleges and Employers. (2016). *Job Outlook 2016.*

CAREER READINESS
for the New College Graduate
A DEFINITION AND COMPETENCIES
NACE

COMPETENCIES:
1. **Critical Thinking/Problem Solving**
2. **Oral/Written Communications**
3. **Teamwork/Collaboration**
4. **Digital Technology**
5. **Professionalism/Work Ethic**
6. **Career Management**
7. **Global/Intercultural Fluency**

The Future of Jobs Report 2018

Table 4: Comparing skills demand, 2018 vs. 2022, top ten

Today, 2018	Trending, 2022
Analytical thinking and innovation	Analytical thinking and innovation
Complex problem-solving	Active learning and learning strategies
Critical thinking and analysis	Creativity, originality and initiative
Active learning and learning strategies	Technology design and programming
Creativity, originality and initiative	Critical thinking and analysis
Attention to detail, trustworthiness	Complex problem-solving
Emotional intelligence	Leadership and social influence
Reasoning, problem-solving and ideation	Emotional intelligence
Leadership and social influence	Reasoning, problem-solving and ideation
Coordination and time management	Systems analysis and evaluation

Source: Future of Jobs Survey 2018, World Economic Forum.

21st Century Skills

- critical thinking
- creative thinking
- communication
- collaboration
- citizenship

An Understanding-based Curriculum

Teach & Assess for
Understanding & Transfer

Plan Curriculum "backward"
3 Stages of Design

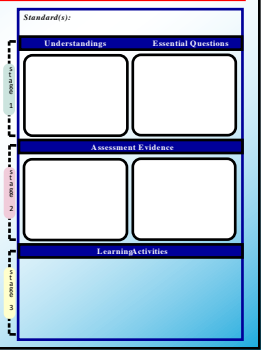
---

3 Stages of Backward Design

1. Identify desired results.
2. Determine acceptable evidence.
3. Plan learning experiences & instruction.

The UbD Template…

- ✓ reflects a way of thinking and planning
- ✓ fosters a "mental template" for effective design



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1. Consider: *What does a beginning driver need to KNOW and be able TO DO?*

List important Knowledge and Skills for a driver.

---

2. Now, consider: *What does a good, experienced driver UNDERSTAND that a beginner (or lousy) driver does not?*

List important Understandings for a driver.

Finally, consider: ***What is the ultimate (long-term) goal of an effective Driver's Education Program?***

Summarize the Goal in 1 or 2 sentences.

Stage 1 – Desired Results

Established Goals

What Content Standards, Program and/or Mission related goal(s) will this unit address?

Transfer

Students will be able to independently use their learning to…

What kinds of long-term, independent accomplishments are desired?

Meaning

UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that…	*Students will keep considering…*
What specifically do you want students to understand?	**What thought-provoking questions will foster inquiry, meaning making, and transfer?**
What inferences should they make?	

Acquisition of Knowledge & Skill

Students will know…	*Students will be skilled at…*
What facts and basic concepts should students know and be able to recall?	**What discrete skills and processes should students be able to use?**

Teaching and Learning for Understanding

Acquire important knowledge and skills

Make Meaning of "big ideas"

Transfer learning to new situations

Research Finding…

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

-- Marzano, ***What Works in Schools***

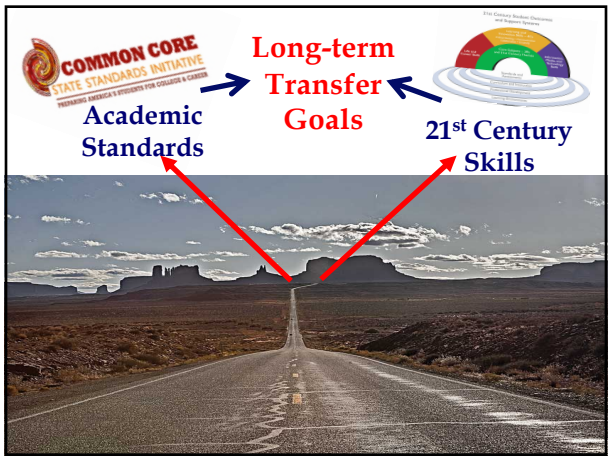
A Model Curriculum Blueprint

Curriculum…

"The course to be run"

Curriculum = a plan to achieve designated goals.

Curriculum ≠ a list of topics and related activities.



Curriculum…

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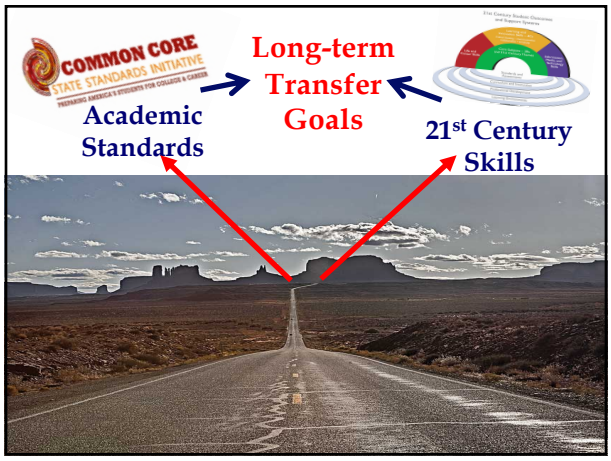


Long-Term Transfer Goal

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

An effective curriculum equips learners for autonomous performance

… by design!

Characteristics of Transfer Goals…

- *Long-term (Exit Outcomes)*
- *Performance based*
- *Highlight Autonomy*
- *Distinguish means from ends*

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).**

Transfer Goals: Mathematics

- 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

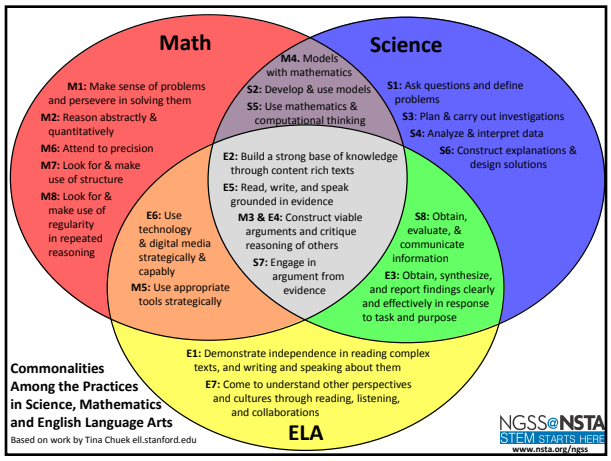
- Use knowledge and reasoning to evaluate scientific claims or arguments and analyze current issues involving science or technology.
- Conduct an investigation following established scientific protocols.

Transfer Goal: Health and Physical Education

- Make healthful choices and decisions regarding diet, exercise, stress management, alcohol/drug use throughout one's life.
- Play a chosen game skillfully and with good sportsmanship.

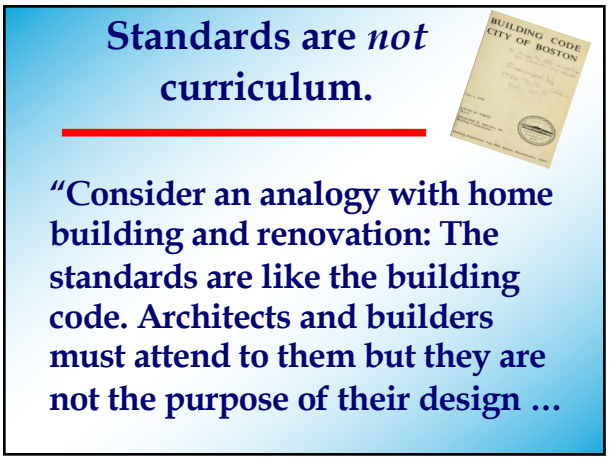
Transfer Goal: Visual and Performing Arts

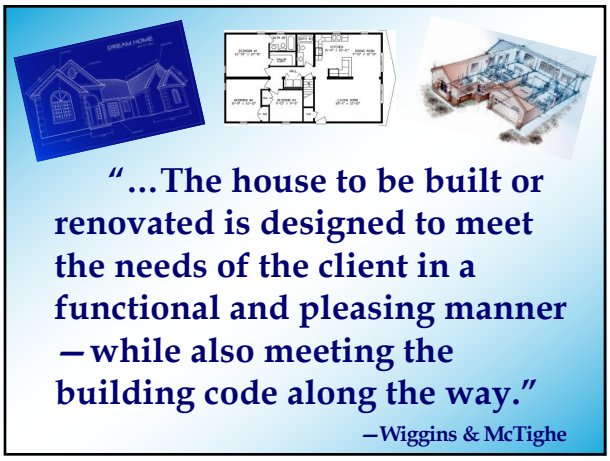
- Create purposeful artistic expressions through various media and styles.
- Value, and participate in, the arts throughout one's life.

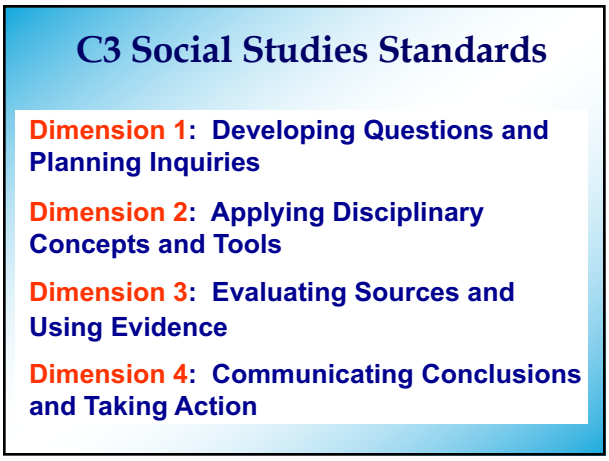

Math
Science
ELA
M1: Make sense of problems and persevere in solving them
M2: Reason abstractly & quantitatively
M6: Attend to precision
M7: Look for & make use of structure
M8: Look for & make use of regularity in repeated reasoning
M4. Models with mathematics
S2: Develop & use models
S5: Use mathematics & computational thinking
S1: Ask questions and define problems
S3: Plan & carry out investigations
S4: Analyze & interpret data
S6: Construct explanations & design solutions
E2: Build a strong base of knowledge through content rich texts
E5: Read, write, and speak grounded in evidence
M3 & E4: Construct viable arguments and critique reasoning of others
S7: Engage in argument from evidence
E6: Use technology & digital media strategically & capably
M5: Use appropriate tools strategically
S8: Obtain, evaluate, & communicate information
E3: Obtain, synthesize, and report findings clearly and effectively in response to task and purpose
E1: Demonstrate independence in reading complex texts, and writing and speaking about them
E7: Come to understand other perspectives and cultures through reading, listening, and collaborations
Commonalities Among the Practices in Science, Mathematics and English Language Arts
Based on work by Tina Chuek ell.stanford.edu
NGSS@NSTA
STEM STARTS HERE
www.nsta.org/ngss


The Four Cs are Long-Term Transfer Goals!
Critical Thinking
Creativity
Communication
Collaboration


How do Transfer Goals relate to Standards?


Standards are *not* curriculum.
"Consider an analogy with home building and renovation: The standards are like the building code. Architects and builders must attend to them but they are not the purpose of their design …


"…The house to be built or renovated is designed to meet the needs of the client in a functional and pleasing manner —while also meeting the building code along the way."
—Wiggins & McTighe


C3 Social Studies Standards
Dimension 1: Developing Questions and Planning Inquiries
Dimension 2: Applying Disciplinary Concepts and Tools
Dimension 3: Evaluating Sources and Using Evidence
Dimension 4: Communicating Conclusions and Taking Action

Identifying Disciplinary Transfer Goals

- Do a "close" reading of the opening pages of Standards documents (+).
- Review the Anchor and Process Standards.
- Distinguish ends from *means* (requisite skills vs. playing the game).

Practice vs. The Game

Learning and practicing
- knowledge
- skills
- strategies

Requires transfer
- autonomous application

T-Chart Process

What would we see in ...

•	•
•	•
•	•
•	•
•	•
•	•

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

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?***

Argumentation

"Big Idea" Understandings

- **A convincing argument requires a clear position, logical reasoning and support with evidence.**
- **An effective argument contains rebuttals to possible objections.**

Argumentation

Essential Questions

- ***What makes an argument persuasive?***
- ***What are possible objections to my argument? How might these be countered?***

Overarching EQs for E/LA

What "truths" can we learn from fiction?

How do effective writers hook and hold their readers?

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

Overarching EQs for Mathematics

How do we communicate mathematically?

How is mathematics used to measure, model and predict 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?

Overarching EQs for Critical Thinking

How do I know what to believe in what I read, hear and view?

What other perspectives should I consider?

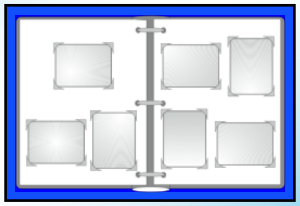
Is this source credible?

3 Stages of Backward Design

1. Identify desired results.
2. Determine acceptable evidence.
3. Plan learning experiences & instruction.

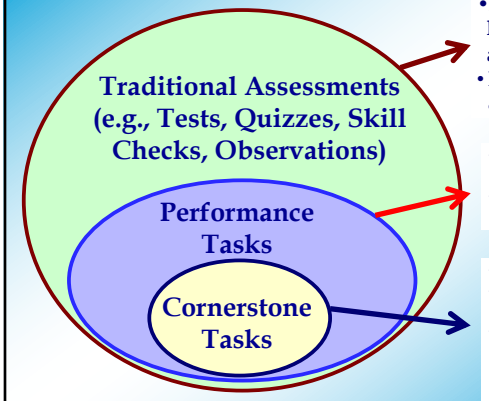
Think "Photo Album" versus "Snapshot"

Sound assessment requires multiple sources of evidence, collected over time.



Gather evidence from a Range of Assessments

- ✓ authentic tasks and projects
- ✓ academic exam questions, prompts, and problems
- ✓ quizzes and test items
- ✓ informal checks for understanding
- ✓ student self-assessments



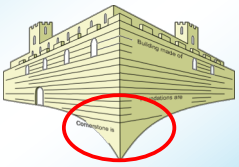
- Assess knowledge and skills
- Not usually authentic

- Unit specific
- Often culminating

- Authentic
- Assess transfer goals
- Anchor the curriculum (common assessments)

cor·ner·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")

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).**

Cornerstone Assessments in Writing (6-12)

GREECE CENTRAL SCHOOL DISTRICT, NY

GRADE	Expository	Persuasive	Literary Analysis	Creative/ Expressive
Grade 6	Research report	Position paper	Literary essay on setting or conflict	Original myth
Grade 7	Autobiography	Policy evaluation	Literary essay on character	Persona writing
Grade 8	Research report	Problem/ solution essay	Literary essay on symbolism	Narrative fiction
Grade 9	Cause/effect essay	Editorial	Analysis of multiple literary elements	Poetry
Grade 10	Research report	Social issue essay	Critical Lens essay	Historical Persona
Grade 11	Definition essay	Argumentative essay	Comparative genre essay	Parody/satire
Grade 12	Research paper	Position paper	Response to literary criticsm	Irony

K-12 Cornerstone Task Map for Writing

Grade	Informative/ Explanatory	Narrative	Opinion/Persuasion/ Argumentative
K	Science Observation Picture Book	All About Me Picture Book	XXX
1	My Favorite Animal Book	Imaginary Character Story	XXX
2	How-to Book (illustrated)	Modern-day Fairy Tale	XXX
3	Friendly Letter	Personal Narrative	Opinion Letter
4	Feature Article	Poetry Collection	Issue Analysis
5	Research Project	Descriptive Narrative	Argumentation Essay
6	How-to Guide	Autobiography	Editorial
7	Cause–Effect Essay	Myth, Fable, Fairy Tale, Folktale or Legend	Position Paper
8	Research Project	Narrative/Historical Fiction	Social Issue Essay
9	Problem–Solution Essay	Poetry, Song/Lyrics	Editorial
10	News Article	Memoir	Policy Evaluation
11	Technical Manual	Dramatic Script/ One-act Play	Argumentation Essay
12	Independent Research with Written Product and a Presentation	Parody, Satire, Irony	Position Paper on Issue chosen by student

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:

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.

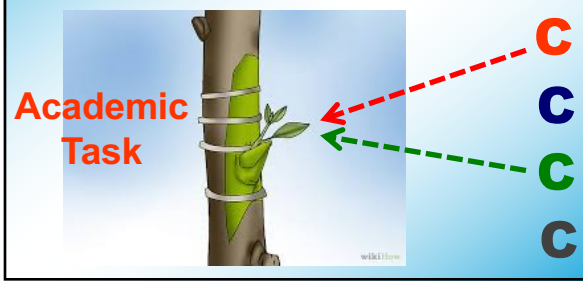
Example:

Involved Citizen

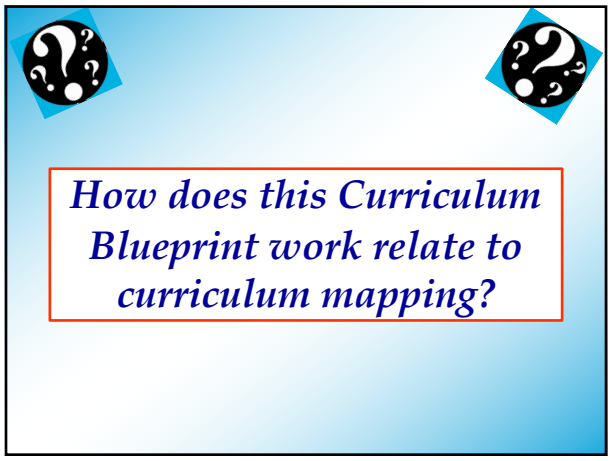
After investigating a current political issue, prepare a position paper or presentation for a public policy maker (e.g., Congress person) or group (e.g., school board, legislative committee). Assume that the policy maker or group is opposed to your position. Your position statement should provide an 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.

Grafting



http://markwise8.wix.com/globalchallenge



It's Time for Curriculum Mapping 3.0

First generation = Diary mapping

Second generation = Consensus mapping against standards

Third generation = Mapping performance backward from long-term transfer goals

First generation = Diary Mapping

Year-Long Course Map
Sixth Grade – Social Studies

1st 9 Weeks			2nd 9 Weeks		3rd 9 Weeks			4th 9 Weeks	
August	September	October	November	December	January	February	March	April	May
Economics Preview	Europe	→	→	Latin America	→	Canada	Australia & Oceania	→	Preview 7th Grade Curriculum
Social Studies Skills Matrix	→								→
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 Questions	Core Texts
Unit 1: Whole Numbers and Decimals (Number & Operations Base Ten)	1 week Sept	Compare populations of state capitals by converting them to millions with decimal notation.	Different values can be represented in many ways.	• What patterns can we identify in the base ten system? • How does the position of a number determine its value? • How can we simplify the problem solving process? • What kinds of models can be used to represent decimals? • How addition and subtraction of decimals be represented by objects, pictures, words, and numbers? • What are some ways that decimals can be combined or separated? • How are decimals used to represent numbers in real world situations?	HM Chapter 3
Unit 2: Addition & Subtraction of Decimals (Operations & Algebraic Thinking/ Number & Operations Base Ten)	3 weeks Sept	Plan a trip for your family, adding the mileage between cities, using decimal notation.	Real-world problems can be solved by combining or separating groups.		HM Chapter 5, 12
Unit 3: Addition and Subtraction of Fractions (Number & Operations–Fractions)	5 weeks Oct/Nov	Choose the items you would take with you as an immigrant from Europe where each person is allotted a certain weight for all their belongings.	Real-world problems can be solved by combining or separating groups.	• How are fractions related to decimals? • How are common denominators used to compare fractions? • What are some ways that fractions can be combined or separated? • How are fractions used to represent numbers in real world situations?	HM Chapters 2, 4, 7, 8, 9
Unit 4: Multiplication and Division of Whole Numbers (Number & Operations Base Ten)	6 weeks Nov/Dec	Compare the areas of various states in square miles.	Real-world problems can be solved by combining or separating groups.	• What patterns do you notice when multiplying or dividing by the powers of ten? • How does the algorithm help you to multiply efficiently? • Compare and explain how the size of factors is related to the size of products. • How can you apply the conversion of measurement units to real-life problems?	HM Chapters 1, 6, 21
Unit 5: Volume (Measurement & Data)	3 weeks January	Estimate the number of linking cubes that will fill a classroom.	Objects can be measured and compared by their attributes.	• What is volume? • How are area and volume alike and different? • How do you measure volume? • Why is volume represented with cubic units? • Does volume change when you change the measurement material? Why or why not? • How can you find the volume of cubes and rectangular prisms? • Why is it important to know how to measure volume?	Getting to the Core Volume Unit

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.

Sample Map of Cornerstone Performance Tasks

	ELA	Mathematics	Science	Social Studies
12	**Independent Study Project** ELA and Science and/or Social Studies [Critical Thinking, Communication]	**Mathematical Modeling Project** (e.g., lifetime savings & investments) [Critical Thinking, Communication]	**Independent Study Project** ELA and Science and/or Social Studies [Critical Thinking, Communication]	**Independent Study Project** ELA and Science and/or Social Studies [Critical Thinking, Communication]
11	**Parody/Satire Skit** ELA and Science and/or Social Studies [Creativity, Collaboration Communication]	**Amusement Park Physics** Linked to Science [Critical Thinking, Collaboration Communication]	**Chemistry Crime Scene** [Critical Thinking, Collaboration Communication]	**Problem–Solution Campaign** [Critical Thinking, Collaboration Communication]
10	**Original Short Story, Song or Poem** [Creativity, Communication]	**How to Lie with Statistics Project** [Critical Thinking, Collaboration Communication]	**Genetics Project** Science and Social Studies [Critical Thinking, Communication]	**Constitutional Checks & Balances** [Critical Thinking, Communication]
9	**Research Project with A-V Presentation** [Critical Thinking, Communication]	**Mathematical Modeling with Linear Equations** [Critical Thinking, Communication]	**Earthquake Science** [Critical Thinking, Collaboration, 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 Scientist** [Critical Thinking, Collaboration, 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]
6	**Personal Narrative** [Communication]	**Exercise Studies** Science and Health/PE [Critical Thinking, Creativity, Collaboration]	**Prove It!** [Critical Thinking, [Communication]	**Humans and the Environment** [Critical Thinking, Communication]
5	**People on the Move Research Project** ELA and Social Studies [Critical Thinking, [Communication]	**Fund Raiser Project** [Critical Thinking, Creativity, Collaboration, Communication]	**Conduct Your Own Experiment** [Problem Solving, Communication]	**People on the Move Research Project** ELA and Social Studies [Critical Thinking, [Communication]
4	**Authors' Party Presentations** [Collaboration, Communication]	**Geometry Town** [Critical Thinking, Creativity, Collaboration]	**Seed to Plant Project** [Critical Thinking, Collaboration Communication]	**Where We Live and How We Live** [Critical Thinking, [Communication]
3	**Personal Narrative** [Creativity, Communication]	**Measure This!** [Critical Thinking Creativity, Collaboration]	**Prove It!** [Critical Thinking, Communication]	**Alike and Different: Community & Culture** [Critical Thinking, Collaboration]
	Show and Tell	**Animal Zoo (Habitats)**	**Animal Zoo (Habitats)**	**Wants and Needs**

Analytic Rubric for Problem Solving

	Reasoning	Computation	Representation	Communications
4	An efficient and effective strategy is used and progress towards a solution is evaluated. Adjustments in strategy, if needed, are made, and/or alternative strategies are considered. There is sound mathematical reasoning throughout.	All computations are performed accurately and completely. There is evidence that computations are checked. A correct answer is obtained.	Abstract or symbolic mathematical representations are constructed and refined to analyze relationships, clarify or interpret the problem elements, and guide solutions.	Communication is clear, complete and appropriate to the audience and purpose. Precise mathematical terminology and symbolic notation are used to communicate ideas and mathematical reasoning.
3	An effective strategy is used and mathematical reasoning is sound.	Computations are generally accurate. Minor errors do not detract from the overall approach. A correct answer is obtained once minor errors are corrected.	Appropriate and accurate mathematical representations are used to interpret and solve problems.	Communication is generally clear. A sense of audience and purpose is evident. Some mathematical terminology is used to communicate ideas and mathematical reasoning.
2	A partially correct strategy is used, or a correct strategy for only solving part of the task is applied. There is some attempt at mathematical reasoning, but flaws in reasoning are evident.	Some errors in computation prevent a correct answer from being obtained.	An attempt is made to construct mathematical representations, but some are incomplete or inappropriate.	Communication is uneven. There is only a vague sense of audience or purpose. Everyday language is used *or* mathematical terminology is not always used correctly.
1	No strategy is used, or a flawed strategy is tried that will not lead to a correct solution. There is little or no evidence of sound mathematical reasoning.	Multiple errors in computation are evident. A correct solution is not obtained.	No attempt is made to construct mathematical representations or the representations are seriously flawed.	Communication is unclear and incomplete. There is no awareness of audience or purpose. The language is imprecise and does not make use mathematical terminology.

Common Analytic Speaking Rubric for World Languages

	Comprehensibility	Fluency	Pronunciation	Vocabulary	Language Control
4	Responses readily comprehensible, requiring no interpretation on the part of the listener.	Speech continuous with few pauses or stumbling.	Accurate pronunciation enhances communication.	Rich use of vocabulary enhances communication.	Accurate control of basic language structures.
3	Responses comprehensible, requiring minimal interpretation on the part of the listener.	Some hesitation but manages to continue and complete thoughts.	Infrequent mispronunciations do not interfere with communication.	Adequate and accurate use of vocabulary for this level enhances communication.	Generally accurate control of basic language structures.
2	Responses mostly comprehensible, requiring interpretation on the part of the listener.	Speech choppy and/or slow with frequent pauses; few or no incomplete thoughts.	Mispronunciations sometimes interfere with communication.	Inadequate and/or inaccurate use of vocabulary sometimes interferes w/ communication.	Emerging use of basic language structures.
1	Responses barely comprehensible.	Speech halting and uneven with long pauses or incomplete thoughts.	Frequent mispronunciations greatly interfere with communication.	Inadequate and/or inaccurate use of vocabulary greatly interferes with communication.	Inadequate and/or inaccurate use of basic language structures.

Source: Fairfax County, VA Public Schools http://www.fcps.edu/DIS/OHSICS/forlang/PALS/rubrics/

Rubric for Cooperation and Teamwork

	Contributes to Group Goals	Adheres to Agreements and Norms	Demonstrates Productive Interpersonal Skills
4	Actively helps identify group goals and works hard to meet them. Takes initiative to address group's needs and shifts roles when necessary to support the group.	Always adheres to group agreements and norms. Takes the lead in modeling and reinforcing group norms. Reminds others of the importance of following agreements and norms.	Actively and consistently demonstrates productive interpersonal skills. Models effective and supportive interactions for others. Provides respectful feedback to help others improve their interactions within the group.
3	Displays a commitment to group goals and works to meet them. Carries out assigned role independently.	Consistently acts in ways that follow established agreements and norms, but may have occasional lapses.	Generally demonstrates productive interpersonal skills. Interacts with others without prompting. Expresses ideas and opinions in a way that is sensitive to the knowledge base and feelings of others.
2	Puts forth some effort, but sometimes lets others shoulder the work. Needs reminders to stay on task or perform assigned role.	Inconsistently follows established agreements and norms. Needs behavioral reminders to follow the norms.	Use of productive interpersonal skills is inconsistent. Sometimes interactions with others are less than positive. May need reminders; e.g., to listen actively, wait one's turn, avoid put downs, be flexible.
1	Does not actively work toward group goals. OR Is passive and does not contribute to the group. OR Acts in ways that undermine the ability of the group to achieve its goal.	Regularly violates the established agreements and norms. Behaves in ways that disrupt the effective functioning of the group.	Poor interpersonal skills interfere with effective group performance; e.g., does not listen, dominates, interrupts, insensitive, inflexible, puts down others.

Anticipating Concerns

"Yes, but…"

But we have to prepare for the state test.

Our state tests don't ask Essential Questions!

We have too much content to cover to assess this way.

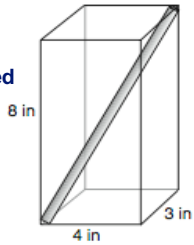
Beware: Confusing the Measures w/ the Goals

"Practicing for a standardized test is like practicing for your physical exam!"

Most Difficult Item on New York State Tenth-Grade Math Test!

34 A straw is placed into a rectangular box that is 3 inches by 4 inches by 8 inches, as shown in the accompanying diagram. If the straw fits exactly into the box diagonally from the bottom left front corner to the top right back corner, how long is the straw, to the *nearest tenth of an inch*?

Fewer than 30% of all tenth graders answered this correctly, even though the Pythagorean theorem is routinely taught.



Why?

- ***Lack of cues***
- ***Failure to transfer***
- ***Do they really understand?***