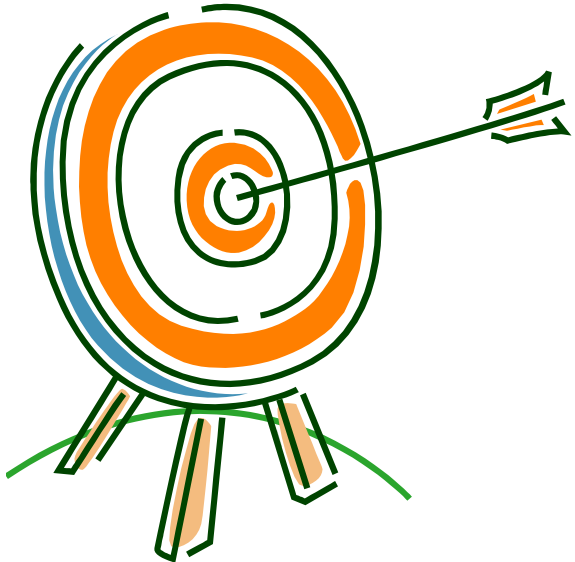
BEYOND THE CORE

Laura Greenstein Ed.D.

Today's Goals

1. Illuminate the Common Core State Standards
2. Clarify 21st Century Skills
3. Consider where teaching and learning support the union
4. Plan classroom assessment to sustain this union
5. Advance teacher's expertise



Core provides a foundation

21st century skills build the dwellings

Learning Beyond the Core Means Assessing Beyond the Core

SUMMATIVE

FORMATIVE

21ST CENTURY

MULTIPLE

MEASURES

Asking the Right Questions

- What do students need to know and do?
- How do we know what student's know and can do?

Purposeful Decisions

1. Horace Mann: Schools exist so that all children can realize their potential
2. Malcolm Forbes: "Education's purpose is to replace an empty mind with an open mind.
3. Robert M. Hutchins: "The object of education is to prepare the young to educate themselves throughout their lives."
4. Roger Lewin: "We too often give children answers to remember rather than problems to solve"

SPECTRUM OF TEACHING, LEARNING, AND ASSESSING

English Language Arts
Mathematics

Target 1: CCSS

Common Core State Standards

English Language Arts

- Reading Literature
- Reading Informational Texts
- Writing
- Speaking and Listening
- Language

Also in History/SS, Science, and Technical Subjects

Mathematics

- Problem Solving
- Reason Quantitatively
- Construct/Critique Arguments
- Model
- Use Tools Strategically
- Attend to Precision
- Make Use of Structure

In Numbers, Measurement, Equations, Algebra, Geometry, Functions, Statistics

Teaching In Action

- Analyzing Texts
  - Grade 5
  - Watch 2:45 min

- Math Precision
  - Grade 5
  - Watch 2:02 min

LEARNING THE CONTENT

Math
Science
Social Studies
English
World Languages
Art
Music
Health
Business
Technology
Financial Literacy

DESIGNING The TESTS

- CCSS Appendix B: Exemplars
- Complex, multi-step tasks
- Range of skills and content
- Multiple answers
- Performance-Based
- Scaffolded tasks in math

3rd Grade Math Problem

Ms. Clancy uses a backpack on a hiking trip. She took about 2 kg of food out of her backpack to make it lighter. The scale below shows how much the backpack weighed after she took out the food.

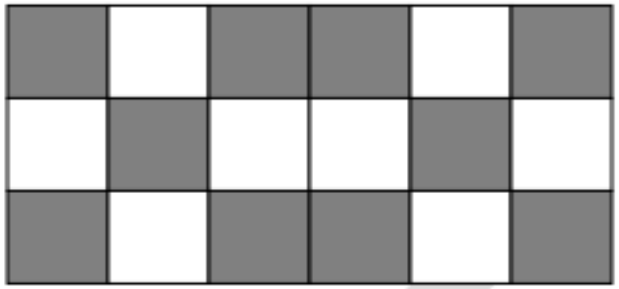
(Numbers are shown on scale)

How much did the backpack weigh, in kg, before she took the food out?

_____kg.

6th Grade Math Problem

3 The new floor in the school cafeteria is going to be constructed of square tiles that are either gray or white and in the pattern that appears below:



Part A: What is the ratio of gray tiles to white tiles?

Answer: _____

Part B: What is the ratio of white tiles to the total number of tiles in the pattern?

Answer: _____

Part C: If the total cost of the white tiles is $12, what is the unit cost per white tile?

Answer: $_____

High School Math Problem

1. The first four terms of a sequence are: 8,12,18,27,…

Write a recursive function for this sequence:

_____

2. Hannah makes 6 cups of cake batter. She pours all the batter into a rectangular cake pan with a length of 11 inches, a width of 7 inches, and a depth of 2 inches. One cubic inch is approximately 0.069 cup.

What is the depth of the batter in the pan to the nearest 1/8 of an inch. (Empty pan is illustrated)

ELA Questions Grade 3

1. What is one main idea of "How Animals Live?"
   - a. There are many types of animals on the planet.
   - b. Animals need water to live.
   - c. There are many ways to sort different animals.
   - d. Animals begin their life cycles in different forms.
2. Write an ending for the story you read that tells what the characters say and describes actions and events.
3. Watch an informational video and read two articles about dental health. Take notes on these sources, and then write an informational essay about dental health.

ELA Questions: Middle School

- Grade 7: The passage says that hurricanes form over warm ocean water. Which sentence reveals that hurricanes sometimes move across land?
- Grade 7: Explain the meaning and purpose of the metaphor in the final sentence of the text. Use details from the text to support your response.

ELA Questions: High School

- Grade 10: What does the word *vanity* mean in these lines from the text " Daedalus and Icarus " ?

  " Proud of his success, the foolish Icarus forsook his guide, and, bold in vanity, began to soar " (line 348)

  a. arrogance

  b. fear

  c. heroism

  d. enthusiasm

- Grade 11: Identify the main idea of each passage you read and explain how Locke's treatise supports Anthony's argument.
- Grade 11: Explain why the author most likely provided general information about estuaries BEFORE the "Principles and Concepts" section. Support your answer using details from the passage.

Social Studies, Science, Technical

- Grade 10: (read about political cartoons, review a packet of cartoons) Plan an oral presentation on the power of political cartoons as a tool for defining issues and influencing public opinion. Support your analysis with details from what you have read and viewed.
- Grade 10: Read an article about solar panels and revise the highlighted sentence to match the language and style of the paragraph.

Rate your own current knowledge and practice of CCSS

1	2	3	4	5
Minimal		It's coming along		Ready for prime time

What will you do to grow your CCSS skills and knowledge?

REACHING INTO the 21st CENTURY

Competencies for Success Now and in the Future

asiasociety.org

TRENDS and DRIVERS

WHAT ARE THEY?

TRENDS AND DRIVERS

- Knowledge/Service Economy
- Globalization
- Technology
- Automation
- Workplace (less routine/ more complex jobs)
- Demographics
- Critical Thinking
- Information Proliferation
- Collaboration/Teamwork
- Communication
- Productivity
- Postsecondary

Tomorrow's illiterate will not be those who can't read but those who cannot learn, unlearn, and relearn.

Alvin Toffler, 1970

TARGET 2:
21st C. Skills?

P-21
U. Melbourne
CPE
OECD
Metiri/NCREL

And earlier…
Costa and Kallick
Benjamin Bloom
Edward Glaser

Complexity Simplified

- Thinking
- Acting
- Living

21st Century Thinking

- CRITICAL THINKING
  - Evaluate, Analyze, Synthesize
- PROBLEM SOLVING
  - Reason, Interpret, Apply
- CREATIVITY
  - Curiosity, Innovation
- METACOGNITION
  - Reflection, Mindfulness

Bloom Meets the 21st Century

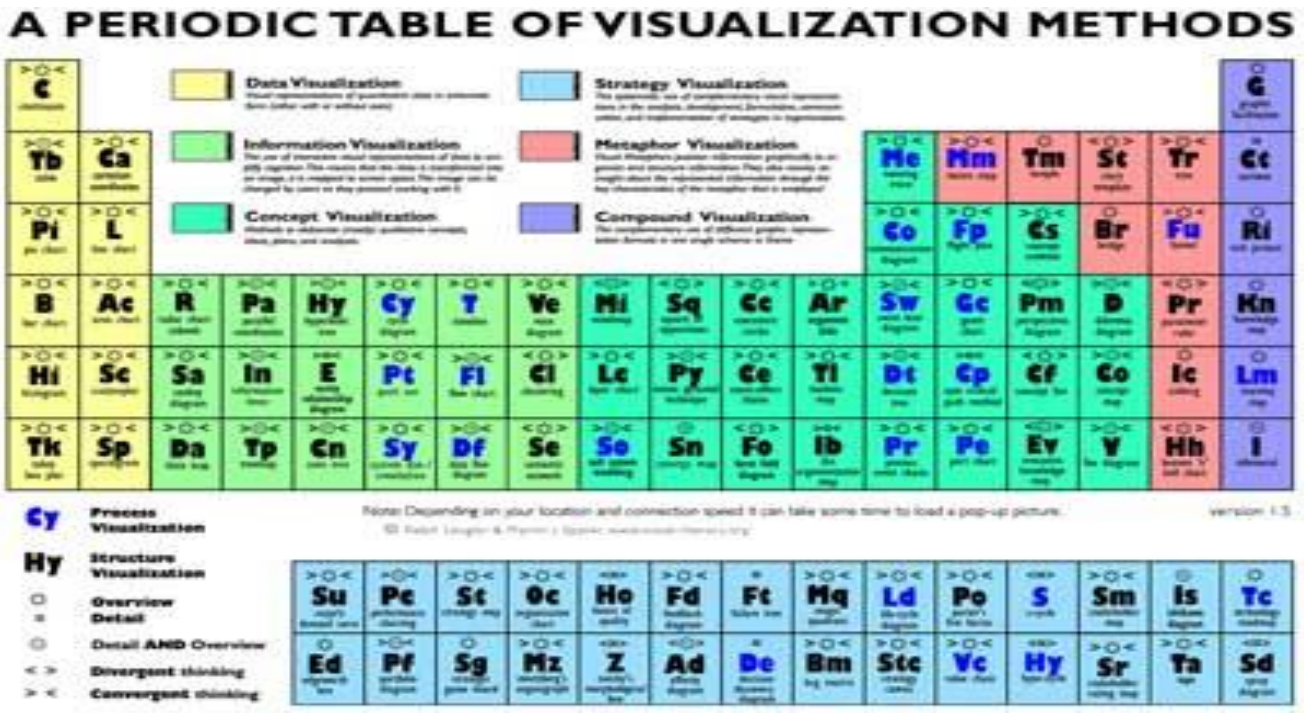
20th Century	21st Century	Demonstration of Learning
Remember-recall of information	Mastery of core content	Bookmark important information
Understand: make sense of content; describe and organize it	Communication and collaboration. Expressing ideas/working with others	Present a livecast, podcast, or webinar
Apply- Use the information	Applying past to new Problem solving	Create a wiki and invite people to help solve a community problem
Analyze-Thoughtfully consider the components	**Metacognition: learning and self-aware thinking**	**Blog your ideas with illuminations of your thinking**
Evaluate: Judge a position; support a decision; reason	Productivity, Accountability, Leadership, Citizenship	Contribute to a review/ratings website. Respond to a blog
Create- produce original works or ideas	Creativity and innovation for applied purposes at work and home	Design a unique global awareness website. Games and simulations

Students use creativity and problem solving skills every day.

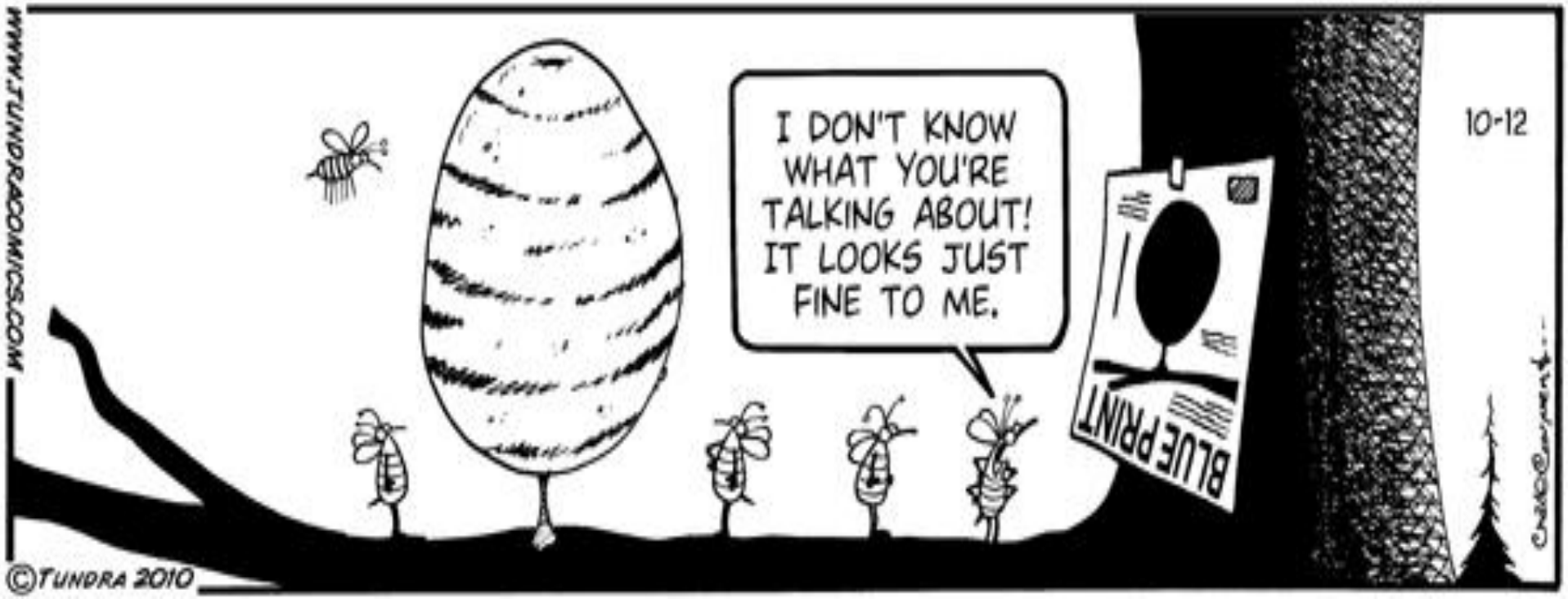
21st Century Actions

- COMMUNICATION
- COLLABORATION
- DIGITAL LITERACY
- TECHNOLOGY PROFICIENCY

Visual Literacy



Students communicate, collaborate, and use technology every day.



Tundracomics.com

21st Century LIVING in the World

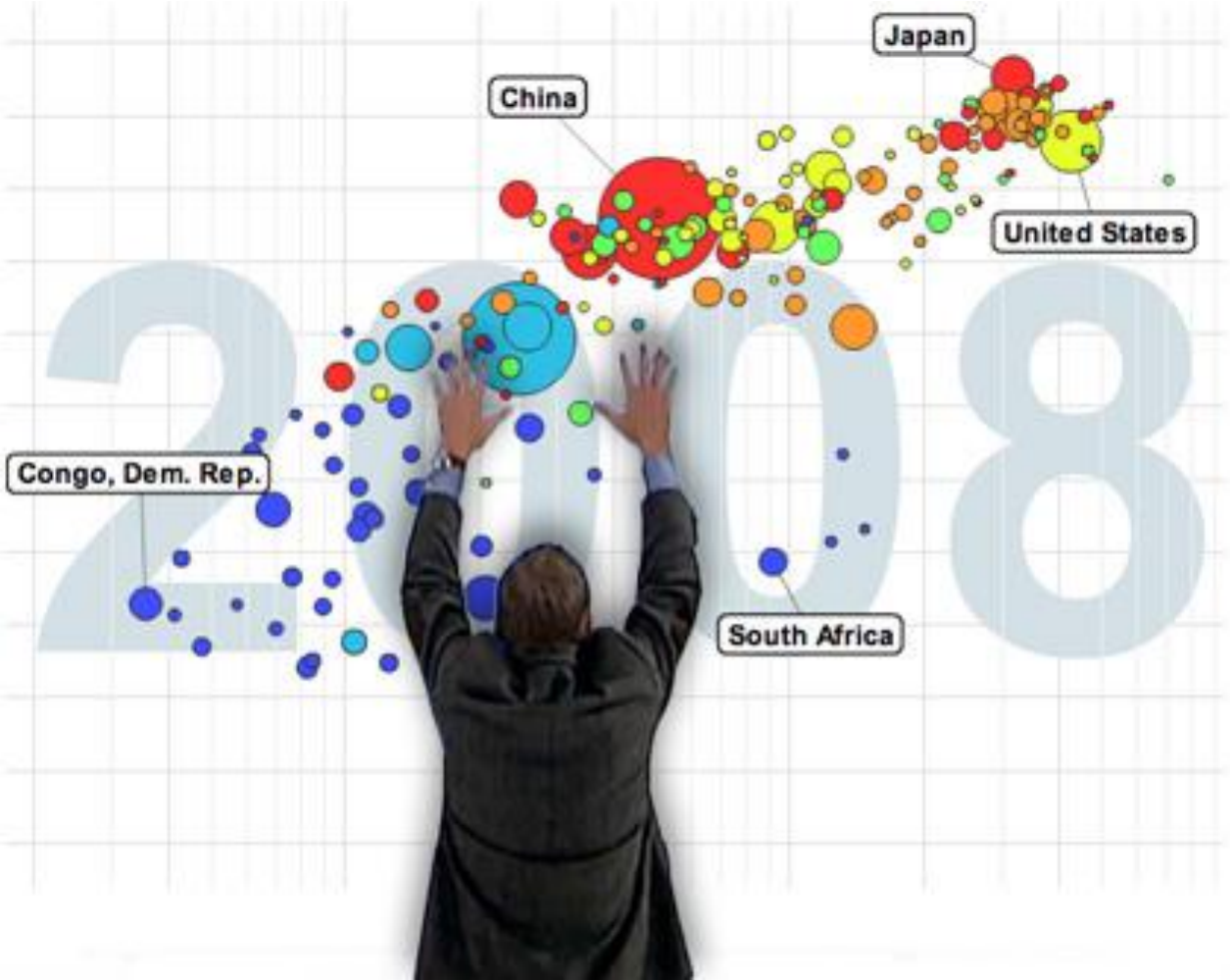
- CIVIC RESPONSIBILITY
- GLOBAL UNDERSTANDING
- LEADERSHIP AND RESPONSIBILITY
- COLLEGE AND CAREER SKILLS:

  Work Ethic, Goal Setting,

  Time Management, Integrity

Global Awareness

- GAPMINDER (2:35 min)



Planning, personal responsibility, and a positive work ethic contribute to success

We can't start a new beginning: We can make a new ending.

Target 3: Finding the Union

Different schools, different learners, different content, different skills = different teaching, learning, and assessing

Extending The Core

CORE

- **Literacy**
- **Numeracy**
- ELA in History, Science, Tech

21st CENTURY

- **Thinking**: critical thinking, problem solving, ~~creativity, metacognition~~
- **Acting**: Communication, Collaboration, ~~Digital Literacy, Technology Proficiency~~
- **Living**: ~~Citizenship, Leadership, Global Understanding, College/Career~~

What About: World Language, The Arts, Music, Fitness/Health, Business, Vocational, Career?

PARADIGM: Lessons Worth Learning

- 20th and 21st century knowledge and skills are not mutually exclusive
- Multi-century skills have been learned since before millennium were counted
- Content-rich learning must be integrated with authentic applications

PROGRESSIONS

Target 4: Planning and Assessing

CORE	21st CENTURY	STRATEGY	ASSESSMENT

PROGRESSIONS: Standards-Based

CORE	21st CENTURY	STRATEGY	ASSESSMENT
PRIMARY			
Reading, Geography	**Research, Technology**	**Create an electronic tour guide of a country/culture**	**Label Landmarks Select/Use Technology**
Writing	Collaboration, Communication	Electronic Pen Pals Populate a web page	Applied Writing Inform/Persuade Creativity
Reading and Math	Global Understanding	7 Billionth Person Track data using gapminder.org	Data Analysis Critically Evaluate
SECONDARY			
Math	Technology for Problem Solving	Use Excel to show global trade dollars	Data Comparison Problem Solving
Science	Digital Literacy, Creativity	Create Glogster or Prezi on food science	Persuasiveness Research Skills Applied Technology

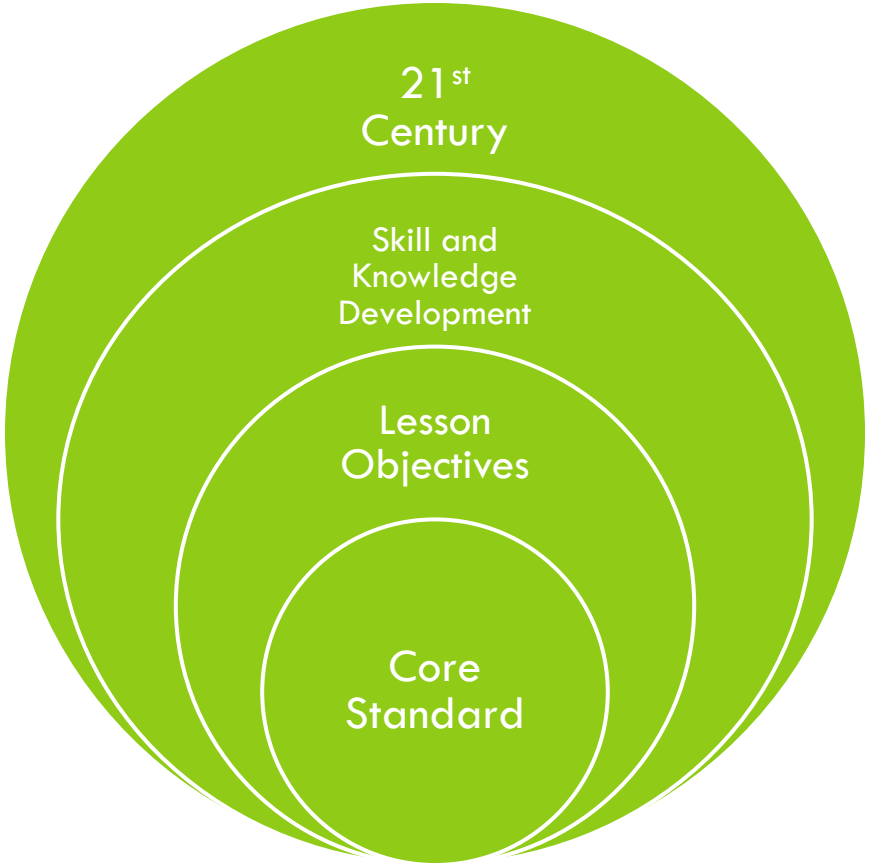
PROGRESSIONS: Skill-Based

20th Century	21st Century	Strategy	Assessment
Understanding- Making sense of core content	**Communication and collaboration**	**Design a webpage or present a webinar**	**Content Knowledge Research Skills Rubric**
Utilization- Using the information	Problem solving	Create a wiki and invite people to solve a community problem	Checklist of Prob.Solv.Process Peer Review
Creation- Production of original works	Creativity and innovation for applied purposes	Design games, simulations, and virtual worlds	Creativity, Content, Technology Project Log
Literacy: Determine central ideas	Verify data in a news report	Debate on a current topic	Research Skills Debate Rubric
Numeracy: Solve real world math problems	Class develops and produces a math decathlon	Decathlon is aired	Problem Solving Collaboration Learning Contract

You Try It

CORE	21st CENTURY	STRATEGY	ASSESSMENT

21st Century Wrappers



- **21st CENTURY**: Problem solving in relation to proportion of income spend at different income levels; collaboration with each person representing a different family members, metacognition about what drives decision making

- **SKILL/KNOWLEDGE**: Determine what proportion each major category represents

- **OBJECTIVE**: Prepare a budget

- **CORE STANDARD**: Proportional relationships

21st CENTURY LESSON PLAN TEMPLATE

Common Core/Academic Standards
Big Idea/Essential Questions

21st Century Targets

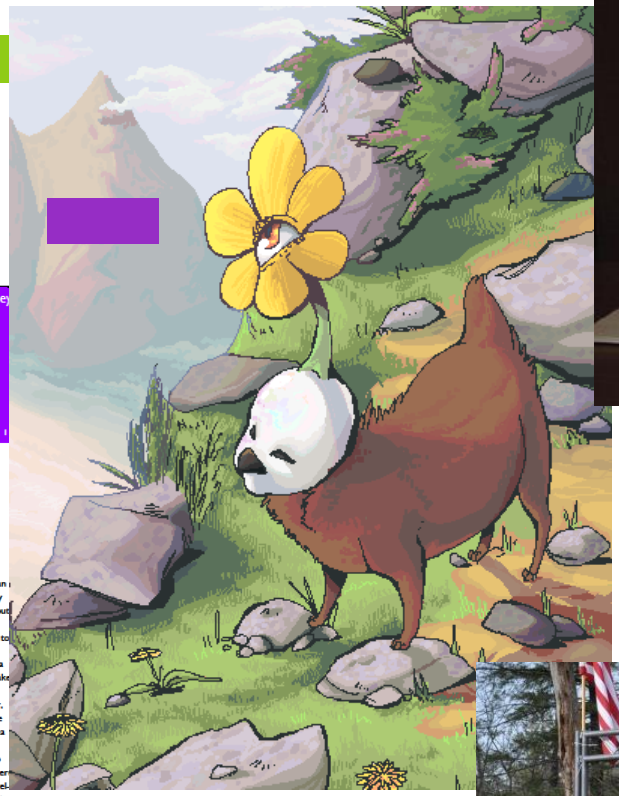
Initiation/Pre-Assessment
Instructional Strategies/Resources
Learning Process/Arrangement

Assessments/Products of Learning (Formative and Summative)

21st Century Demonstrations of LEARNING

- Performances
- Publishing
- Products
- Presentations
- Debates
- Portfolios
- Simulations/Case Studies
- Print and Multimedia
- Artistic Expressions

Student Products



Jarrod Varney

Baby Bulletin

VOLUME I, ISSUE I

SPECIAL POINTS OF INTEREST:

- Physical Development
- Social Development
- Feeding Choices
- Intellectual Development

Your Baby's Physical Development

As your baby grows, it is important to encourage their physical development with toys, games, and other objects that will help further their growth. At a few months old, your baby will be developing their large motor skills and at this age an activity mat is the perfect choice for him/her because it will help them start to develop muscle and co-ordination in their legs back and arms. More and more as they get older, babies will start to grasp objects and near 5-6 months some sort of a squeaky toy will keep them entertained as they work on their hand-eye coordination without even knowing it. This is beneficial in a couple ways for them, it works on their motor abilities and stimulates brain activity as they observe and study the object.

This will start to change around 8 months when it will be better for them to have some big soft building blocks which will help them develop small motor skills as well as brain activity because they have to think which way is best to stack the blocks. Now their grasp is more developed and they can handle this size toy. A toy that requires involvement make something happen would be great now because it will get them thinking . Now, as they near a year old, some type of game with simple objectives can really benefit your baby . They can now understand more about trying to attain a specific outcome and they will work hard to do this. For example, if they have to turn a wheel to make a song play they will work to make it happen. Moreover, as your baby, now practically a toddler, reaches about a year and some odd months, it is not a bad idea to start thinking about video games. You may think, "Video games? No way! However there is evidence to support the development of hand-eye coordination through the use of video games like Leapster. Yet, they shouldn't be used too often, going outside and being active is a necessity that can't be ignored.

Your Social Child

Your child is depending on you to help them advance their social and emotional qualities that will shape their future. If you comfort your child when they cry and you have a changing setting of other people around them, they will become more and more social and in the future, they will be more apt to make friends on their own and be the so called "conversation starter." This will benefit your child extremely in the way that they will never be lonely and they will most likely be able to relate to other people's feelings because of the emotions they've seen day in and day out with all of their friends. However, this is only attainable if their parents, i.e. you, are there for them when they are younger and need attention. You need to relate to your child when they are sad or angry in a way that they can see you understand what they are feeling which will help them become more emotional. Basically, it is a combination of these factors that decide your child's social/emotional growth.

Add the Assessment

Target 4: Planning Assmt

BEST ASSESSMENT Practices

20th Century

Aligned with Standards, Curriculum, Instruction

Generates Usable Data

Guides Decision Making

Valid, Reliable, Fair

Transition

Multiple Purposes:

Informative, Diagnostic, Summative

Integrated into Instruction:

Functional, Purposeful, Responsive

21st Century

Real-world Applications

Multiple Methods: Balanced

Student Focused, Personalized

Builds on Prior Learning; Considers Strengths and Weaknesses

Incorporates Meaningful Feedback, Self/Peer Reflection

Spectrum of 21st Century Assessments

- Rubrics
- Checklists
- Self Assessment
- Peer Review
- Observations
- Project Logs
- Anecdotal Records
- Journals
- Contracts
- Formal and Informal Questions

Hybrid Rubric

Standard/Target Rate each on a 1 to 4 scale	Student Rating: Exemplary, Proficient, Room for Growth, Novice with elaborated reflection	Teacher Assessment: Exemplary, Proficient, Room for Growth, Novice with elaborated feedback
Content: Main points are clearly described ____ Information is fully accurate ____		
Creative elements: Original ideas ____ Fluency: multiple ideas ____		
Reliable Research: Multiple sources are used ____ Sources are accurately cited ____ information is synthesized into a cohesive summary ____		
Presentation: Logical sequence ____ Stays focused on topic ____ Meets required length ____ All members participate ____		

Metacognitive reflection on writing

EASY_____HARD

Coming up with an idea _____explain_____

Writing an outline _____

Search for more information _____

Reading more about it _____

Taking notes _____

Synthesizing my ideas _____

Writing a draft _____

Asking another to read it _____

Revising content _____

Revising mechanics _____

Preparing final work _____

Public speaking

Checklist for Public Speaking	Comments
√ if satisfactory performance according to standard X if not satisfactory based on standard or guideline	
_____Introduction captures the attention of the audience	
_____Purpose is evident throughout	
_____Content is understandable and logically sequenced	
_____Speech: Language is appropriate to the purpose. Volume, rate, and articulation are effective.	
_____Engages with audience through body language, eye contact, and gestures.	
_____Used technology to support message	
_____Summary synthesizes main ideas in presentation	

DEBATE RUBRIC

STANDARD	4 Exceeds Expectations	3 Meets Expectations	2 Working Towards	1 Below Standard	SCORE
Content: Opening remarks, rebuttal	Strong argument with clear views. Logical, specific and on target.	Perspective is clear. Arguments are mostly convincing and focused.	Viewpoint is a little nebulous. Remarks are neutral and somewhat vague in detail.	Focus is not established. Unconvincing statements.	
Support	Support is fact-based, detailed and compelling	Support contains facts and data and is purposeful	Support is incomplete in facts, purpose, and focus	Support is not evident	
Organization	Fluent, clear, and logical process. Effective use of time.	Sequential progression of topic that demonstrates good use of time.	Sequence is difficult to follow. May not meet time requirements.	Limited sequence and organization. Doesn't meet time requirements.	
Presentation	Poised and professional resulting in high audience attention	Effective style that engages the audience	Needs further practice in presentation skills and audience engagement	Disengaged from presentation and audience	

Digital Literacy

- Evaluate internet information: i.e. Dihydrogen Monoxide,
- Students evaluate with an annotated checklist

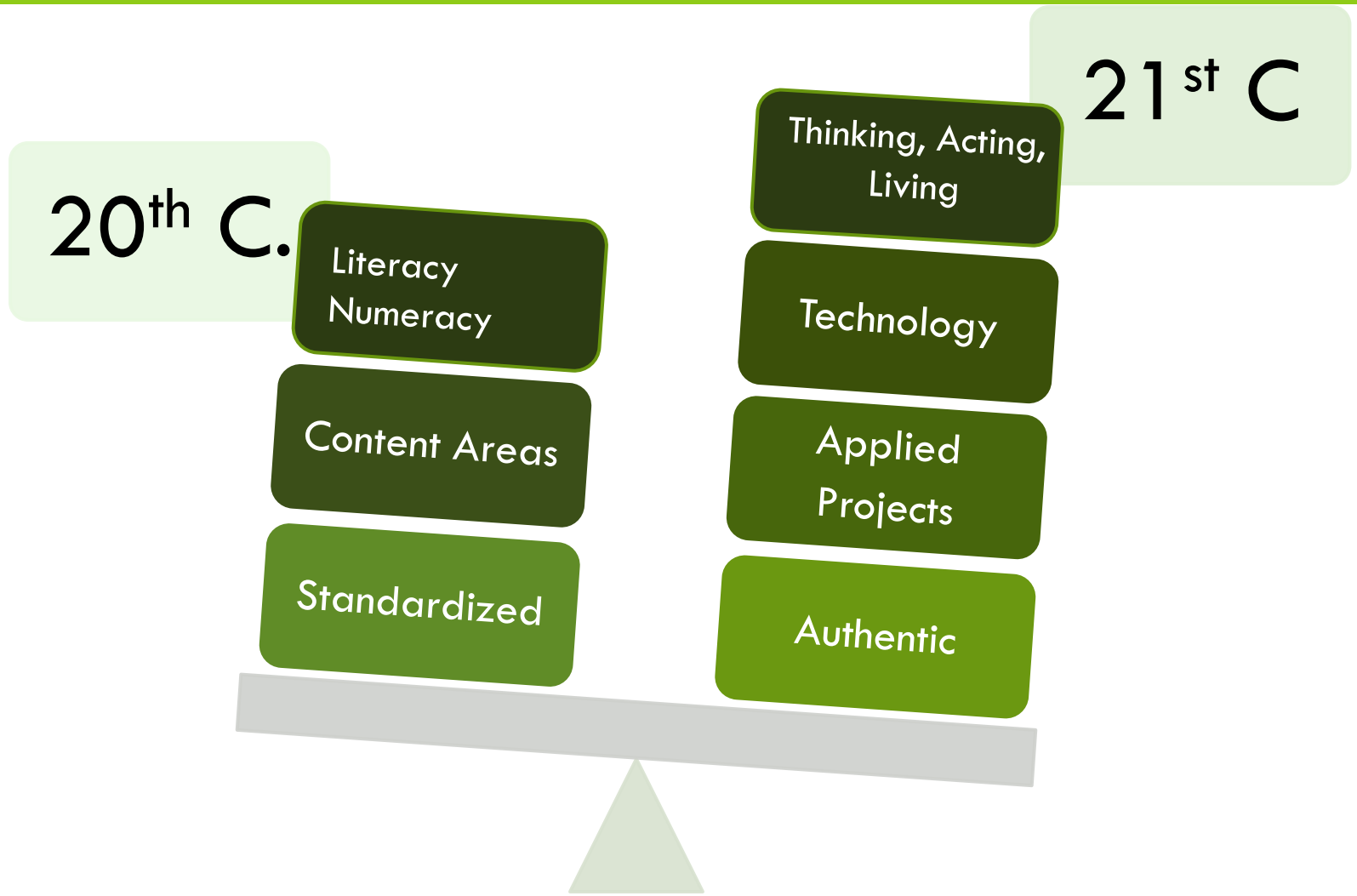
Digital Evaluation Criteria	Annotation/Support for your conclusions
Authority of the source	
Triangulate for accuracy	
Sources of data	
Scope/connectivity of information	
Is it current?	

- Digital Challenge: Students create real and bogus sites for their peers to evaluate

Tracker 4: 2 to Use

Finding Balance

Target 5: Developing Expertise



Changing Our Ways

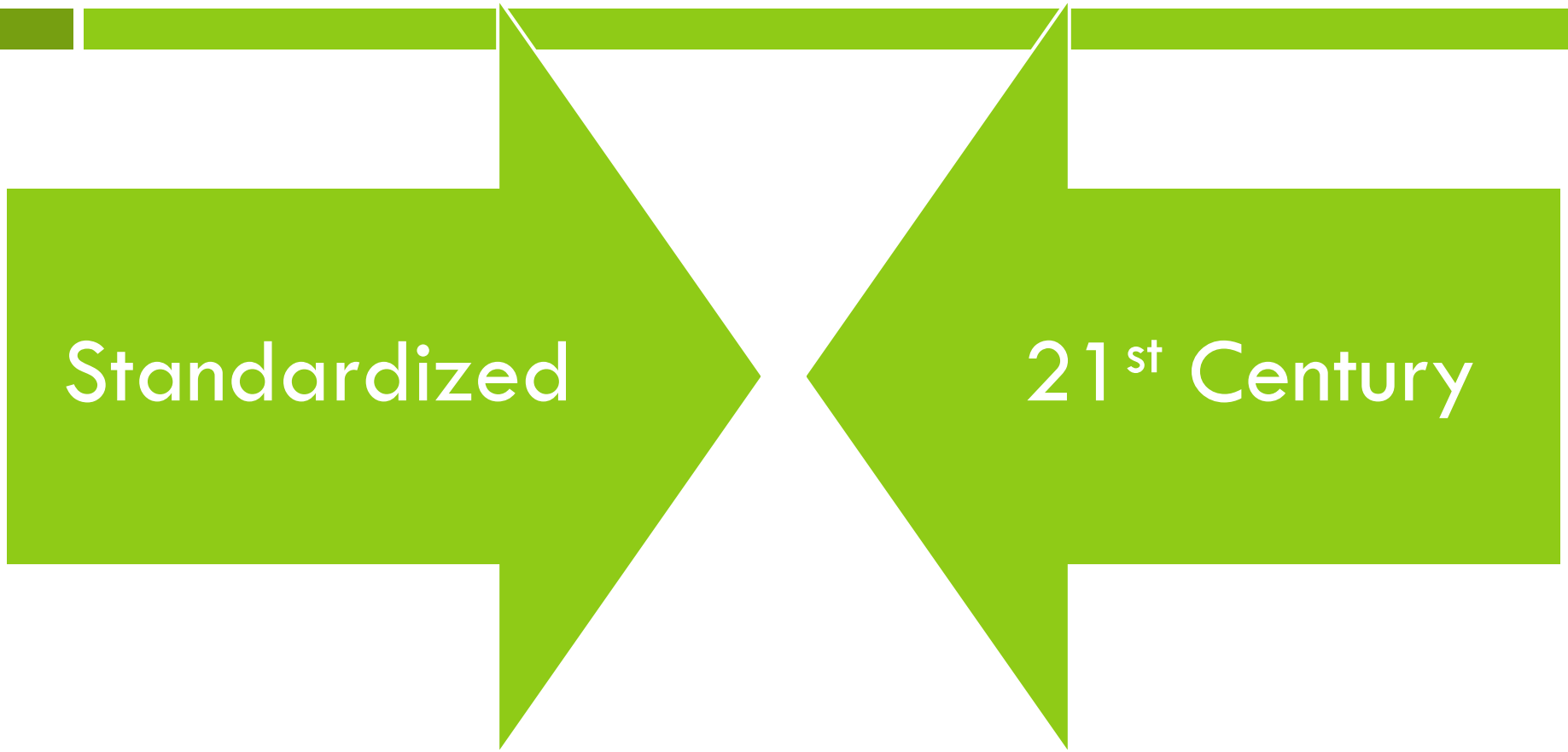
Large Scale Tests

- Authentic
- Adaptive
- A Few 21st C. Skills

Classroom and Local

- More 21st C. Skills
- Multiple Measures
- Integrated w. Learning
- Balanced Reporting

Standards and 21st Century in Tandem



Characterization
Math Calculations

Story writing with MovieMaker
Build a Shed

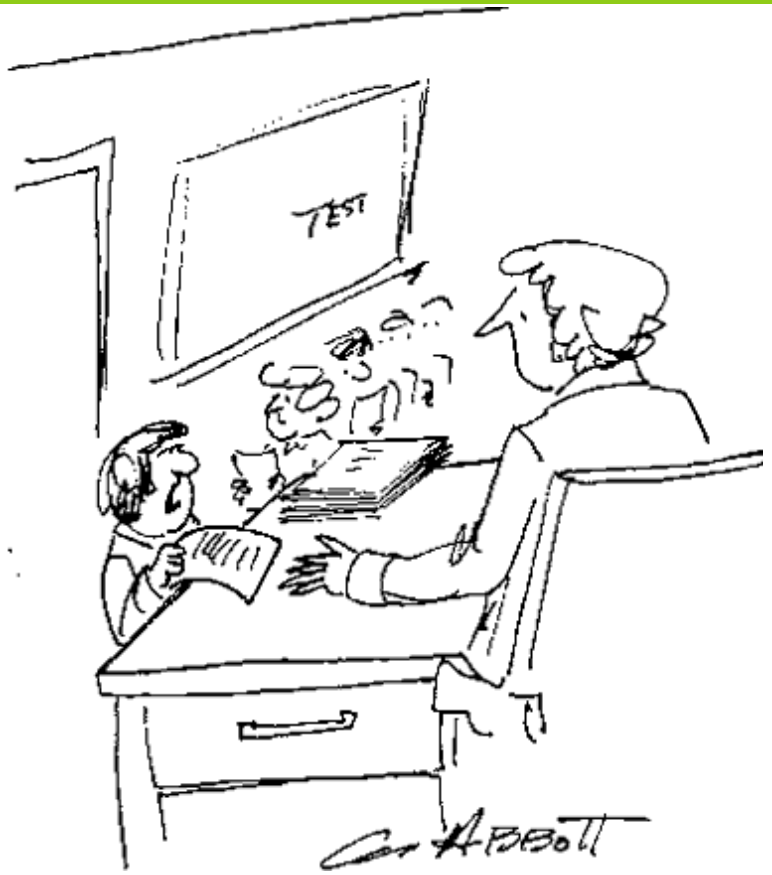
Implementation and Sustainability

- Policy that is designed for the whole child
- School missions that support the whole child
- 21st century leaders: Adjusting the sails
- Balanced assessment systems
- Focused curriculum
- Intentional teaching
- Planning forward

How do you hope to describe your students when they are 26 years old, 76 years old?

Ongoing Challenges

- Consensus on 21st Century skills/knowledge
- Commitment to their importance
- Ways to make thinking visible
- Psychometrics to support divergent responses
- Changing teaching/learning practices



I'm afraid I may not be in the mainstream on some of these answers

Pathways to Success

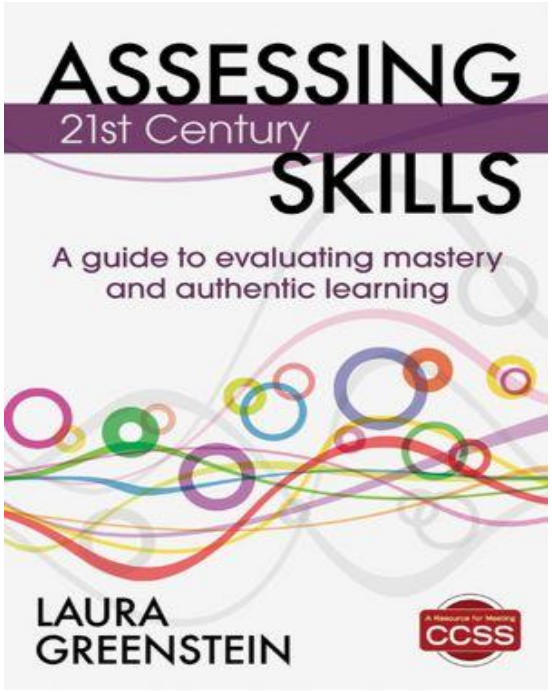
- Powerful vision
- Expanded professional development
- Develop leadership capabilities
- Create a 21st century school climate
- Implement supportive policies
- Emphasize balance

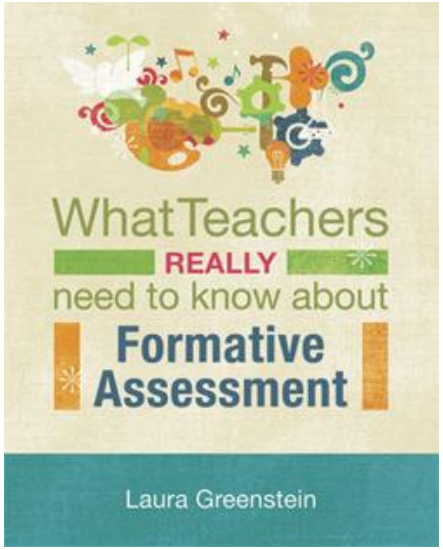
THANK YOU: Till we meet again…..

- Laura Greenstein
- lauragteacher@hotmail.com
- http://www.assessmentnetwork.net

Laura Greenstein

- *"Assessing 21st Century Skills"* Published by Corwin/Sage
- *"What Teachers Really Need to Know About Formative Assessment": an ASCD Publication*





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- PARCC Samples at http://parcconline.org/samples/items-task-prototypes