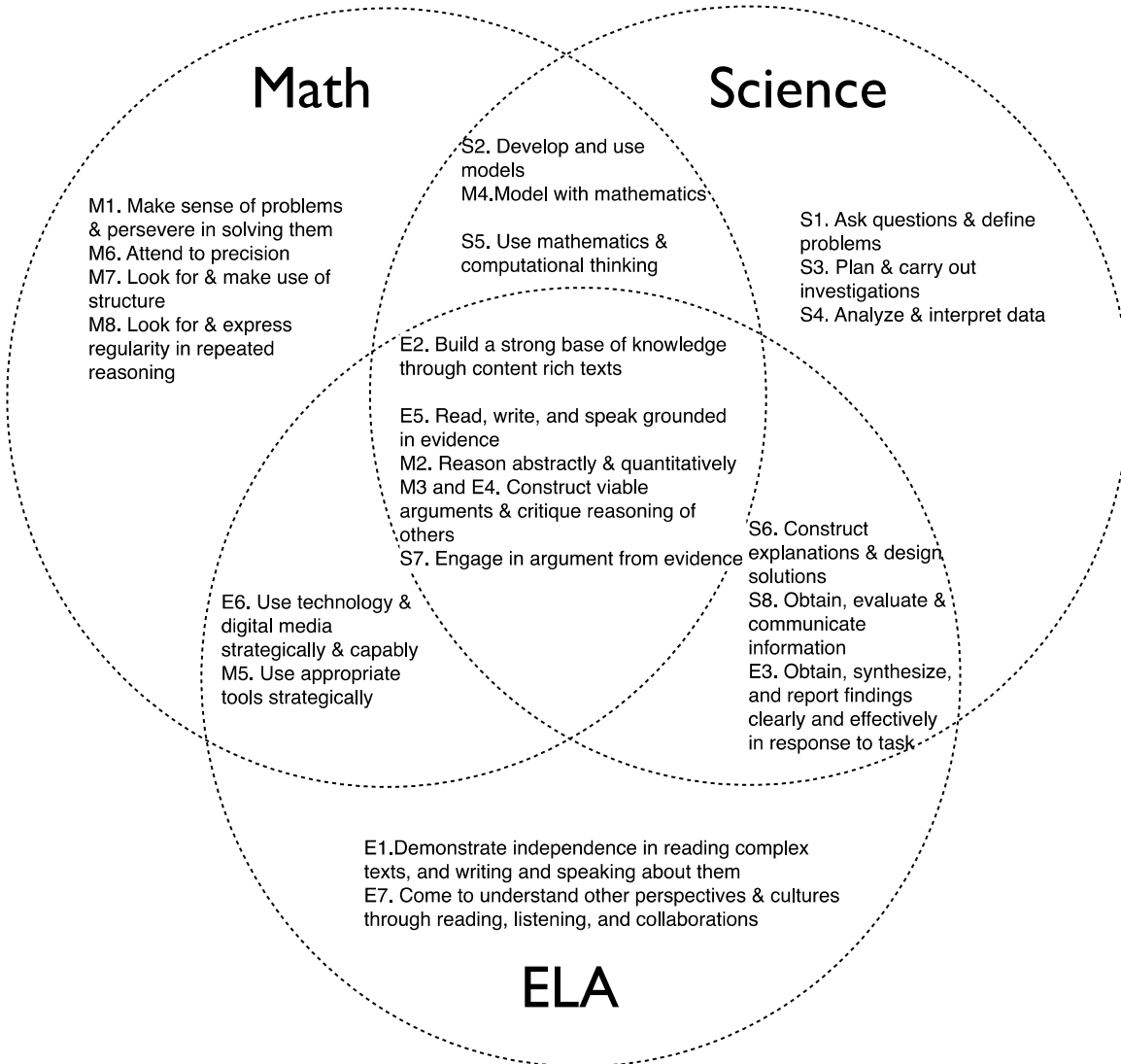


**Relationships and Convergences Found in the
Common Core State Standards in Mathematics (practices),
Common Core State Standards in ELA/Literacy*(student portraits), and
A Framework for K-12 Science Education (science & engineering practices).**

These student practices and portraits are grouped in a modified Venn diagram. The letter and number set preceding each phrase denotes the discipline and number designated by the content standards or framework. The Science Framework will be used to guide the production of the Next Generation Science Standards.



Sources:
Common Core State Standards for English Language Arts & Literacy* in History/Social Studies, Science, and Technical Subjects, p7.
Common Core State Standards for Mathematical Practice p6-8.
A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas, ES-3 and chapter 3: 1-32.

Working Draft v4b, 12-13-11 by Tina Cheuk, ell.stanford.edu

New Haven Public Schools 21st Century Skills

21 st Century Competency		As demonstrated by a student's ability to...
1	Problem Solving and Critical Thinking	<ul style="list-style-type: none">• Reason effectively• Make insightful judgments and decisions• Solve problems
2	Accessing and Analyzing Information*	<ul style="list-style-type: none">• Use research tools to access and evaluate information from multiple sources• Organize and synthesize information using multiple methods
3	Communication and Collaboration* (digital)	<ul style="list-style-type: none">• Articulate ideas clearly and effectively to a variety of audiences using multiple modes• Communicate effectively and work productively with others
4	Creativity and Innovation	<ul style="list-style-type: none">• Demonstrate originality and inventiveness in work
5	Initiative, Self-Direction and Accountability	<ul style="list-style-type: none">• Set and meet high standards and goals for one's self and others• Manage time and resources to produce high quality results in a timely manner• Take responsibility for one's own learning
6	Citizenship and Responsibility	<ul style="list-style-type: none">• Exercise empathy and respect for diverse cultures and perspectives• Contribute to and take responsibility for the larger community

plan: 11-12 9th grade (select 8th grade) for capstone projects in place in 14-15.

<http://www.corestandards.org/the-standards>

Common Core Instructional Shifts for ELA/Literacy:

1. **Building knowledge** through **content-rich non-fiction** and **informational texts**.
2. Reading and writing grounded in **evidence** from text.
3. Regular practice with **complex text** and its **academic vocabulary**.

Common Core Instructional Shifts for Mathematics

1. **Focus** strongly where the Standards focus.
2. **Coherence: Think** across grades, and **link** to major topics within grades.
3. **Rigor**: Require **fluency, application** and **deep understanding**.

English Language Arts Common Core

READING (10 standards):

- Key Ideas and details (1. Read close, 2. Central/Supporting Ideas 3. Analyze development)
- Craft & Structure (4. Interpret meaning, 5. Analyze structure, 6. Assess point of view/purpose)
- Integration of Knowledge & Ideas (7. Integrate content, 8. Evaluate arguments/claims, 9. Analyze/compare)
- Range of reading and Level of Text Complexity (10. Complex text)

WRITING (10 standards)

- Text Types and Purposes (1. Arguments 2. Informative 3. Narratives)
- Production and Distribution of Writing (4. Coherent 5. Develop 6. Technology)
- Research to Build and Present Knowledge (7. Focused 8. Gather Info 9. Use Evidence)
- Range of Writing (10. Time/Task/Purpose/Audience)

SPEAKING AND LISTENING (6 standards)

- Comprehension and Collaboration (1. Collaborate 2. Integrate/Evaluate Info 3. Evaluate speaker)
- Presentation of Knowledge and Ideas (4. Present info, 5. Strategic Use of media, 6. Adapt to context)

LANGUAGE (6 standards)

- Conventions of Standard English (1. Grammar/usage, 2. Conventions)
- Knowledge of Language (3. Context)
- Vocabulary Acquisition and Use (4. Determine meaning, 5. Figurative language, 6. Acquire/use vocabulary)

See how science and literacy are related at

<http://www.newhavenscience.org/ScienceLiteracy.htm>

- **<http://www.newhavenscience.org/CCSSNewHavenK-5.doc>**
- **<http://www.newhavenscience.org/CCSSGrades6-12.doc>**
- **<http://www.newhavenscience.org/CCSSHistoryScienceTechnology6-12.doc>**

MATHEMATICS **8 Practices** <http://www.corestandards.org/the-standards>

1. Make sense of problems and persevere
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

DOMAINS (K-8):	Counting and Cardinality	The Number System
	Number/Operations in Base Ten	Ratios & Proportions
	Fractions	Operations and Algebraic Thinking
	Expressions & Equations	Functions
	Measurement and Data	Geometry
	Statistics and Probability	
HIGH SCHOOL	Number and Quantity	Algebra
	Functions	Modeling
	Geometry	Statistics and Probability

Common Core State Standards/Next Gen Science Standards
New Haven Public Schools Science

see also <http://www.newhavenscience.org/ScienceCCSS.htm>
<http://www.newhavenscience.org/ScienceCommonCore.htm>

Next Generation Science Standards <http://www.nextgenscience.org>
(see <http://www.newhavenscience.org/NGSSFramework.pdf>)

1 Scientific and Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information