An Overview of Pelham Middle School Curricula and Standards in Math, Science, and the Humanities

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Agenda

A. Overview of PMS Curriculum
B. ELA, Social Studies, Science, and Math
   - Framework/Standards
   - Assessments
C. Question and Answer Session

Introduction

A. Overview of PMS Curriculum
B. The IB Middle Years Programme

Timeline for Roll-Out

September 2017: Adoption of NYS Next Generation Learning Standards.

Phase I: Raise Awareness (Winter 2018-Winter/Spring 2019): Professional development on NYS Next Generation Learning Standards; two-day assessments measuring the 2011 P-12 Learning Standards.

Phase II: Build Capacity (Spring 2019-Summer 2020) Professional development continuing on NYS Next Generation Learning Standards; two-day assessments measuring the 2011 P-12 Learning Standards.

Phase III Full Implementation (September 2020-ongoing): Full implementation of the NYS Next Generation Learning Standards.

Spring 2021: New Grades 3-8 tests measuring the NYS Next Generation Learning Standards.

English Language Arts

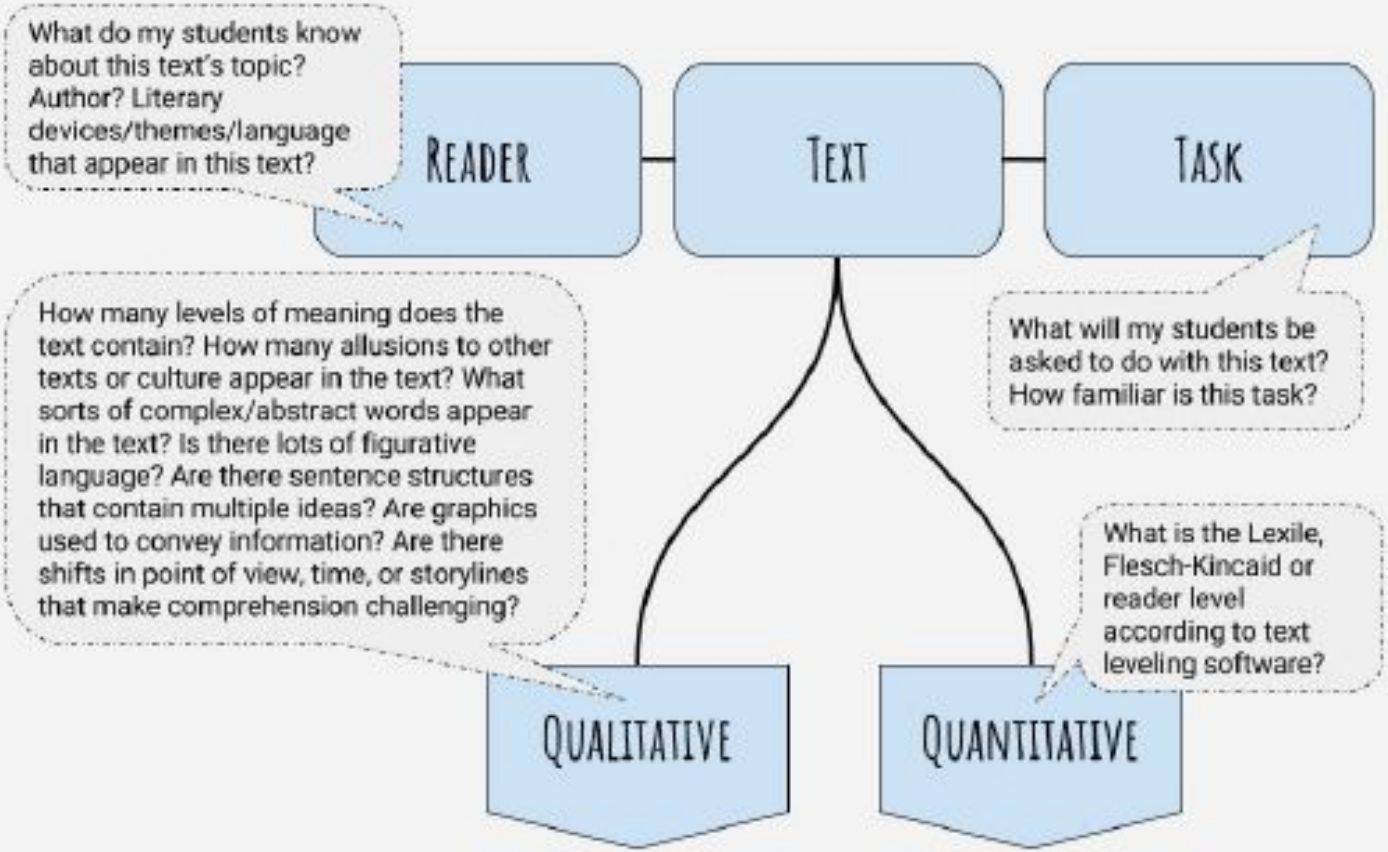
Next Generation ELA Standards - Strands

Reading ■ Making connections between complex ideas in written material ■ Evaluating arguments and claims ■ Analyzing foundational U.S. documents	**Writing** ■ Making an argument that is logical, well-reasoned, and supported by evidence ■ Writing a literary analysis, report, or summary that develops a central idea ■ Conducting research projects
Speaking and Listening ■ Responding to diverse perspectives and synthesizing claims ■ Sharing research clearly ■ Using digital media to enhance understanding	**Language** ■ Determining the meaning of words and phrases ■ Interpreting figures of speech ■ Demonstrating the conventions of grammar

Lifelong Practices of Readers and Writers

Lifelong Practices of Readers	Lifelong Practices of Writers
Readers: • think, write, speak, and listen to understand • read often and widely from a range of global and diverse texts • read for multiple purposes, including for learning and for pleasure • self-select texts based on interest • persevere through challenging, complex texts • enrich personal language, background knowledge, and vocabulary through reading and communicating with others • monitor comprehension and apply reading strategies flexibly • make connections (to self, other texts, ideas, cultures, eras, etc.)	Writers: • think, read, speak, and listen to support writing • write often and widely in a variety of formats, using print and digital resources and tools • write for multiple purposes, including for learning and for pleasure • persevere through challenging writing tasks • enrich personal language, background knowledge, and vocabulary through writing and communicating with others • experiment and play with language • analyze mentor texts to enhance writing • strengthen writing by planning, revising, editing, rewriting, or trying a new approach

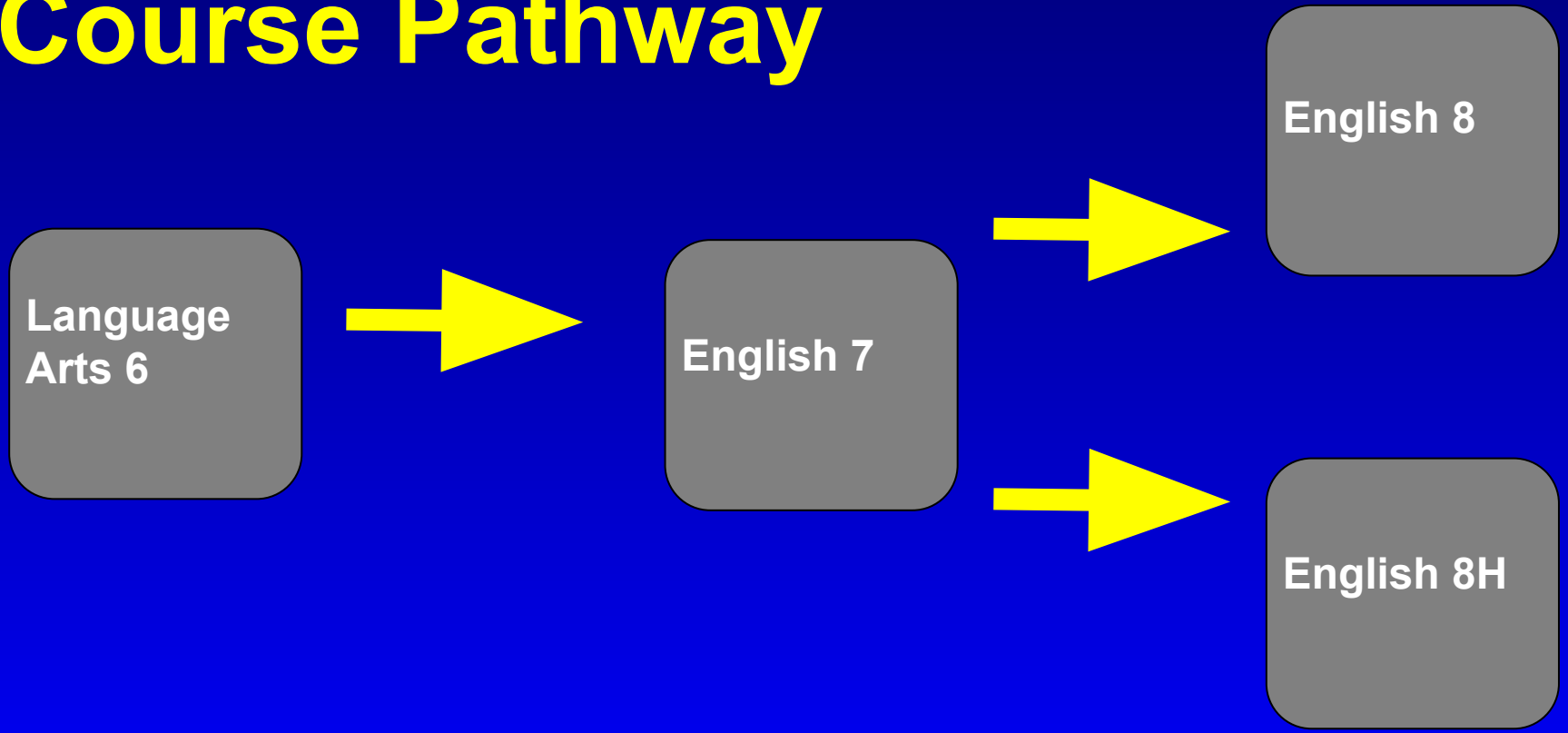
How to Estimate a Text's Complexity for a reader



Fostering Advanced Literacies

- ***Advanced literacies*** denote a set of skills and competencies that enable communication, spoken and written, in increasingly diverse ways and with increasingly diverse audiences.
- They promote the understanding and use of text for a variety of purposes.
- Students work with engaging texts that feature big ideas and rich content
- Students discuss text to build both conversational and academic language and knowledge
- Students write to build language and knowledge
- Students study small sets of high-utility vocabulary words and academic language structure to build breadth and depth of knowledge

Course Pathway



Assessments

- State Assessment in ELA (April 2nd and 3rd) - Two days, untimed
  - 8 passages
  - 35 Multiple Choice Questions
  - 6-7 Short Response Questions
  - 1 Extended Response Questions
  - 3-5 Literary and three-five Informational Passages

- Regents in Common Core English (11)
  - Part 1 - Reading Comprehension
  - Part II—Writing from Sources: Argument Writing
  - Part III—Text Analysis

- AP Exams and Classes (11, 12)

Social Studies

Framework and Standards

- History of the US & NY, World History, Geography, Economics, & Civics
- It was adopted in 2014 and is based on the C3 Framework
- Students are to develop an understanding of concepts and key ideas through inquiry, analysis of primary and secondary source documents, and disciplinary skills and practices.
- Grade 6 Eastern Hemisphere - Paleolithic Era through the 1300s
- Grade 7 Colonial and constitutional foundations of the US through the Civil War
- Grade 8 US History - Reconstruction through the present day

Social Studies Practices

1. Gathering, Using, and Interpreting Evidence
2. Chronological Reasoning and Causation
3. Comparison and Contextualization
4. Geographic Reasoning
5. Economics and Economics Systems
6. Civic Participation

Course Pathway

Assessment

- New Regents in Global History and Geography (10 - 2020
  - New Regents

    Part 1: 28 Stimulus-Based Multiple-Choice Questions

    Part 2: Two sets of Stimulus-Based Short-Answer Constructed-Response Questions (CRQs)

    - 1 Cause/Effect Set
    - 1 Similarities/Differences Set OR 1 Turning Point Set

    Part 3: One extended Enduring Issues Essay based on a set of five documents

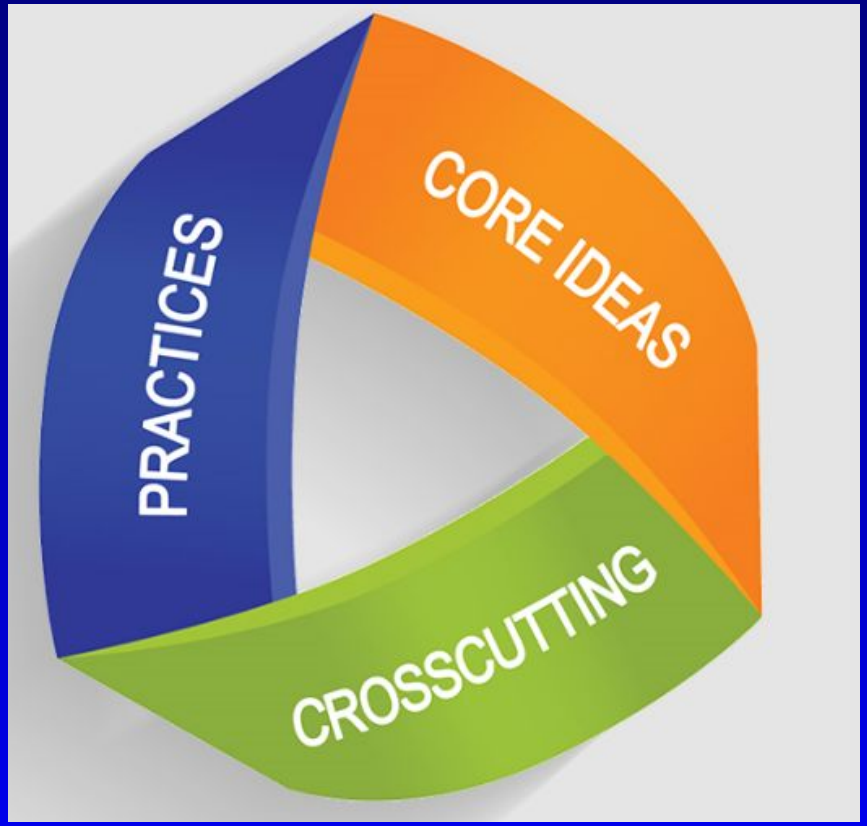
- New Regents in US History and Government (11 - 2021)
- AP Courses and Exams (10, 11, and 12th)

Science

Standards

- New standards were just adopted in December 2016
- The standards are based primarily on the Next Generation Science Standards (NGSS)
- Next Generation Science Standards focus on three dimensions of science education, with a new emphasis on PROCESS and REAL WORLD CONNECTIONS.
- New York's version of the NGSS is called the New York State Science Learning Standards (NYSSLS)

The “old” standards focused mainly on covering content. The new skills address the need to balance core ideas within the curriculum with a focus on specific skills and a recognition of how ideas can cut across science and other disciplines.



Typical PMS Science Pathway

Science 6

Science 7

Regents Earth Science
(HS Level Course)

Core Ideas and Skills

- 6th and 7th Grade Science courses survey concepts in life science, chemical, and physical science
- 8th Grade Science begins our high school sequence (3 credits) which dives into each specific science subject area starting with Earth Science.

Assessments

- There are no state mandated standardized assessments in 6th and 7th grade science
- There is a statewide 8th grade science assessment
- All Pelham students are accelerated in science and take a high school level course one year early.
- As a high school course offered in the middle school through acceleration, the final grade in Earth Science and on the accompanying Regents exam (June 20th) appears on the college transcript

Mathematics

Standards

- Standards in mathematics are based on the Common Core State Standards Initiative (CCSSI) from 2011.
- Math concepts are separated into domains, and those domains are visited year after year with increasing complexity (spiralling)
- Research has concluded that spiralled math improves comprehension and skill
- Spiralled math makes it difficult to take two CCSSI courses concurrently or to “skip” a year

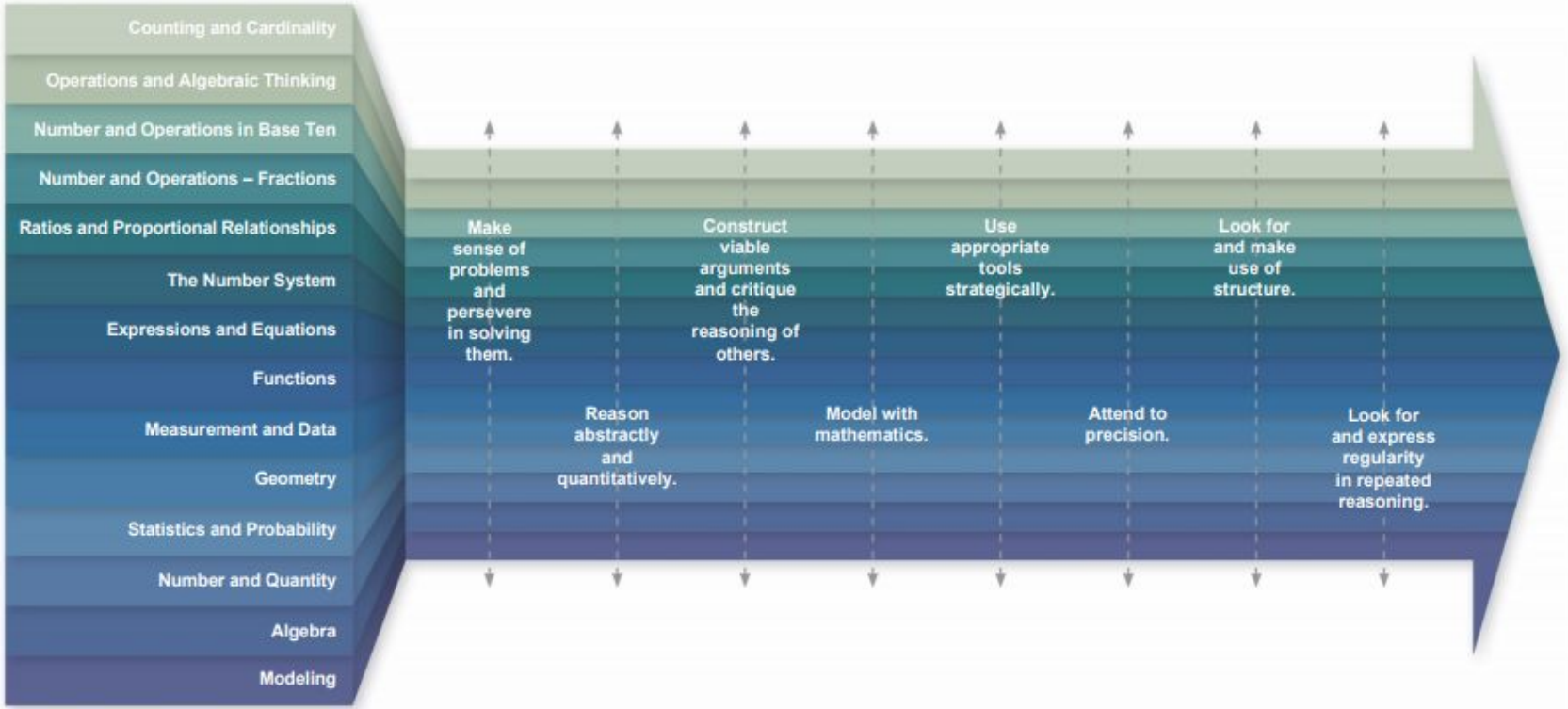
Revisions in 2017 to 2011 CC

- Renamed the Next Generation Math Learning Standards
- Some movement in condensing/expanding/eliminating grade level expectations in CC
- Heavy emphasis on skill development

New York State Next Generation

Mathematics Learning Standards

2017



Math 6

- Domains
  - Ratios and Proportions
  - The Number System (fractions, negative integers, absolute value)
  - Expressions vs. Equations and Inequalities
  - Geometry (polygons, surface area, etc)
  - Statistics and Probability (simple models)

- Mathematical Practices (Skills)
  - Make sense of problems and persevering
  - Reason abstractly and quantitatively
  - Critique reasoning
  - Construct models
  - Use appropriate tools strategically
  - Look for structure
  - Look for repeated reasoning/patterns

Math 7

- Math 7 begins our optional acceleration in mathematics
- Students and Parents, in consultation with counselors, can choose to move a student into Math 7 or Math 7 Accelerated
- Enrollment in these classes is open, but the learning style of each individual student should be considered before a final placement decision is made.
- To facilitate scheduling, students earning a B+ or higher may be automatically placed into Math 7A after Math 6. This is not a final placement, it is a procedural one that helps to streamline the scheduling of our entire student population efficiently.

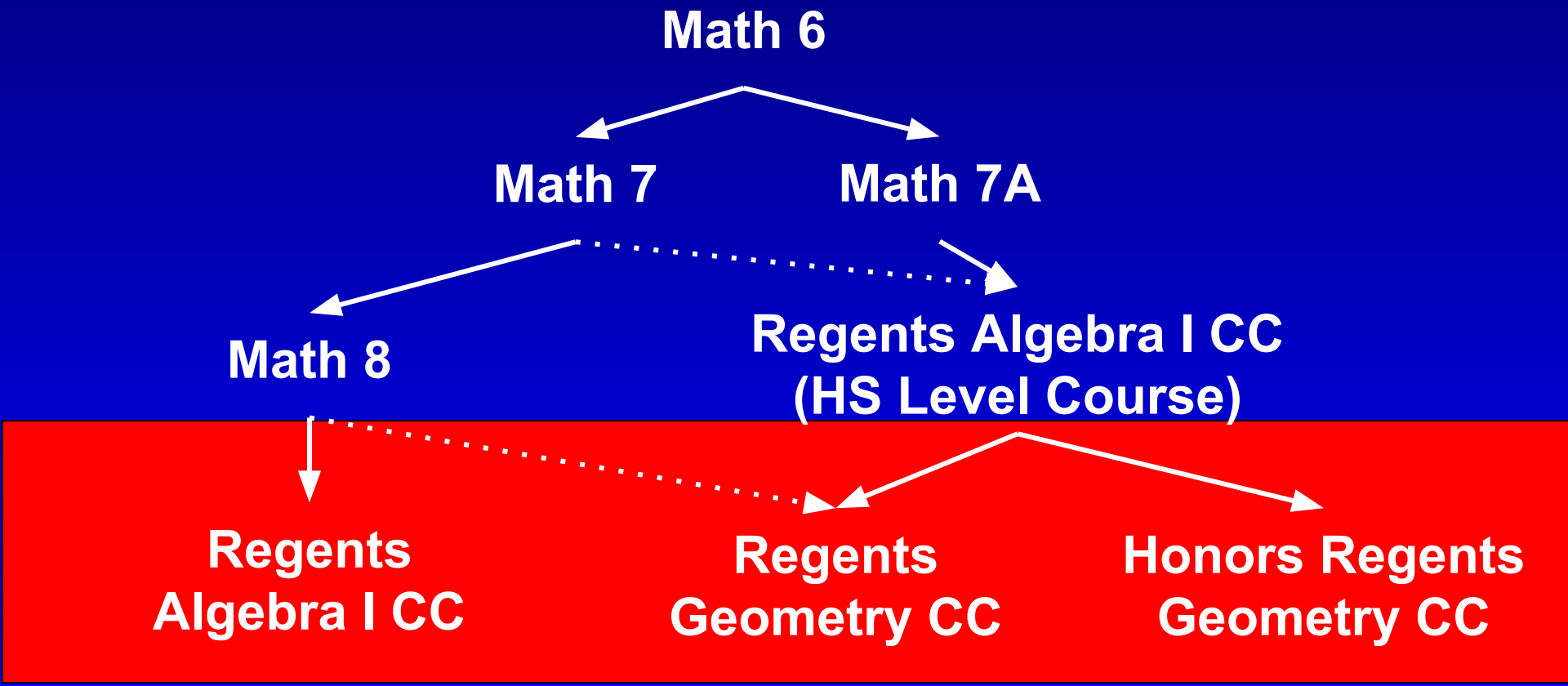
Important Notes

Acceleration and Honors are not the same thing!

Acceleration offers a curriculum to students earlier in their 6-12 progression than NYS prescribes. Our middle school math offerings in both 7th and 8th grade are accelerations. Honors does not begin until Geometry in the high school.

Honors classes offer a curriculum in more depth and with more extension activities than are typically prescribed in a Regents curriculum. As a result, these courses are weighted more heavily in a student's GPA.

Typical PMS Math Pathway



8th Grade

Math 8

- Standard NYS Common Core Curriculum
- Final grade is not recorded on college transcript
- Grade 8 test score not reported on college transcript
- Acceleration can take place in the summer after 8th grade to take Geometry in 9th grade

Algebra Common Core

- Accelerated/ HS Curriculum
- Final grade appears on college transcript
- Regents score appears on college transcript
- This is not an honors course. The Honors courses begin in Geometry.
- Due to the fact that this course will move a student 1 year ahead indefinitely, parents must opt students in for honors placement

Curriculum Map

	Grade 9 -- Algebra I	Grade 10 -- Geometry	Grade 11 -- Algebra II	Grade 12 -- Precalculus	
20 days	M1: Relationships Between Quantities and Reasoning with Equations and Their Graphs (40 days)	M1: Congruence, Proof, and Constructions (45 days)	M1: Polynomial, Rational, and Radical Relationships (45 days)	M1: Complex Numbers and Transformations (40 days)	20 days
20 days					20 days
20 days	M2: Descriptive Statistics (25 days)	M2: Similarity, Proof, and Trigonometry (45 days)	M2: Trigonometric Functions (20 days)	M2: Vectors and Matrices (40 days)	20 days
20 days	M3: Linear and Exponential Functions		M3: Functions (45 days)		20 days
20 days	State Examinations (35 days)	State Examinations	State Examinations	State Examinations	20 days
20 days		M3: Extending to Three Dimensions (10 days)		M3: Rational and Exponential Functions (25 days)	20 days
20 days	M4: Polynomial and Quadratic Expressions, Equations and Functions (30 days)	M4: Connecting Algebra and Geometry through Coordinates (25 days)	M4: Inferences and Conclusions from Data (40 days)	M4: Trigonometry (20 days)	20 days
20 days	M5: A Synthesis of Modeling with Equations and Functions (20 days)	M5: Circles with and Without Coordinates (25 days)		M5: Probability and Statistics (25 days)	20 days
20 days	Review and Examinations	Review and Examinations	Review and Examinations	Review and Examinations	20 days

Key:	Number and Quantity and Modeling	Geometry and Modeling	Algebra and Modeling	Statistics and Probability and Modeling	Functions and Modeling

Standards by Domain

- Counting & Cardinality
- Operations & Algebraic Thinking
- Number & Operations in Base Ten
- Number & Operations—Fractions
- Measurement & Data
- Geometry
- Ratios & Proportional Relationships
- The Number System
- Expressions & Equations
- Functions
- Statistics & Probability

Figure 1a (left) is from EngageNY (2017).

Figure 1b(above) is from the CCSSI (2017).

Assessments

- 6th Grade Common Core Math (May 1st and 2nd)
- 7th Grade Common Core Math (May 1st and 2nd)
- Either 8th Grade Common Core Math (May 1st and 2nd) OR
- HS Algebra I Common Core Algebra Exam (June 19th)

Resources

Next Gen. ELA and Math NYSED

https://www.engageny.org/next-generation-learning-standards

Next Gen. Social Studies Framework

https://www.engageny.org/new-york-state-k-12-social-studies

Next Gen. Science Standards (Introduction)

http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/nysscienceintro.pdf

Questions?