Judith Kuehn
Assistant Superintendent for Curriculum, Instruction & Professional Development
2015 - 2017

The Hull Public Schools uses the Massachusetts Curriculum Frameworks and criteria selected from current research on best practices, to revise curriculum on a regular basis.

District Mission Statement

The Hull Public Schools will facilitate the development of students into independent thinkers and life-long learners who are continually increasing their achievement, self-esteem and self-confidence in order to become socially responsible individuals.

Curriculum Vision and Review of Curriculum Materials

Working together, the Hull Public Schools will provide and engage in professional development that supports staff to understand and address the learning needs of all students. Collegial discussions will occur about curriculum, instruction, and assessment to understand and apply best practices to improve student achievement. The district requires that individual teaches review all educational materials for simplistic and demeaning generalizations, lacking intellectual merit, on the basis of race, color, sex, gender identity, religion, national origin and sexual orientation. Appropriate activities, discussions and/or supplementary materials are used to provide balance and context for any such sterotypes depicted in such materials.

Time on Learning

To support continuous improvement within the Hull Public Schools, the school day for all schools has been lengthened to provide 60 additional minutes of instructional time. In September 2014, an additional 30 hours of instructional time will be added.

Hull Public Schools Pathway to College & Career Readiness for 21st Century Learners Goals

- 1. Graduates of the Hull Public Schools will have demonstrated the ability to think critically and to problem solve in and out of the classroom.
- 2. Graduates of the Hull Public Schools will have demonstrated the ability to collaborate across networks and lead by influence in and out of the classroom.
- 3. Graduates of the Hull Public Schools will have demonstrated agility and adaptability in and out of the classroom.
- 4. Graduates of the Hull Public Schools will have demonstrated initiative and entrepreneurism in and out of the classroom.
- 5. Graduates of the Hull Public Schools will have demonstrated the ability to effectively communicate, both orally and in writing, in and out of the classroom.
- 6. Graduates of the Hull Public Schools will have demonstrated the ability to access, assess and analyze information in and out of the classroom.
- 7. Graduates of the Hull Public Schools will have demonstrated curiosity and imagination in and out of the classroom

Descriptions of Pathway to College & Career Readiness for 21st Century Learners Goals

All graduates of the Hull Public Schools will have demonstrated the ability to think critically and to problem solve in and out of the classroom.

The Hull Public Schools is committed to providing situations where students have to use critical thinking and problem solving skills. This will happen across all areas of the curriculum and at all grade levels. Critical thinking is a mode of thinking — about any subject, content, or problem — in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It entails effective communication and problem-solving abilities. Problem solving requires the use of various resources, methods and strategies to find solutions to challenges.

All graduates of the Hull Public Schools will have demonstrated the ability to collaborate across networks and lead by influence in and out of the classroom.

The Hull Public Schools is committed to providing situations where students have to collaborate across networks and lead by influence. This will happen across all areas of the curriculum and at all grade levels. Cooperative interaction, both in person and through the use of networks, is necessary in all areas of the 21st century world. In order to be successful, individuals must have the capacity to positively affect the character, development, or behavior of others or of a situation. ii

All graduates of the Hull Public Schools will have demonstrated agility and adaptability in and out of the classroom.

The Hull Public Schools is committed to providing situations where students have to use agility and adaptability to manage challenges. This will happen across all areas of the curriculum and at all grade levels. Students must be able to anticipate change and react quickly and positively to that change. They must be able to thrive in settings in which they are not familiar. Students should be able to learn from their mistakes and apply what they have learned. They will be prepared to participate responsibly in school and in civic life and respect differences. iii

All graduates of the Hull Public Schools will have demonstrated initiative and entrepreneurism in and out of the classroom.

The Hull Public Schools is committed to providing situations where students have to use initiative and entrepreneurism. This will happen across all areas of the curriculum and at all grade levels. Students need to have the freedom to take responsibility for their own learning. They must have the opportunity to produce something functional with little instruction. They must acquire the skills and confidence to take risks to achieve goals in school and in other appropriate settings. iv

All graduates of the Hull Public Schools will have demonstrated the ability to effectively communicate, both orally and in writing, in and out of the classroom.

The Hull Public Schools is committed to providing situations where students have to effectively use written and oral communication. This will happen across all areas of the curriculum and at all grade levels. Because of the direction communication is moving on a local, national, and global level, individuals must have exceptional writing skills. Students adapt their communication in relation to audience, task, purpose, and discipline. Students must learn to be concise in their writing, but convey their point in an interesting way that engages an audience, whether that is in written form or oral communication. V

All graduates of the Hull Public Schools will have demonstrated the ability to access, assess, and analyze information in and out of the classroom.

The Hull Public Schools is committed to providing situations where students have to access and analyze information. This will happen across all areas of the curriculum and at all grade levels. It is not just the amount of information given, but how one finds and evaluates the quality of the information. Students tailor their searches to acquire useful information efficiently and integrate information from various sources. Students must be discerning and able to use valid information for a variety of purposes, including interpreting data, making inferences and drawing reasonable conclusions.

All graduates of the Hull Public Schools will have demonstrated curiosity and imagination in and out of the classroom.

The Hull Public Schools is committed to providing situations where students have to use curiosity and imagination. This will happen across all areas of the curriculum and at all grade levels. Students need be inquisitive and have a desire for life-long learning. Students must be given opportunities to imagine, conceptualize, determine their own informed opinions and ideas, and be able to express this creativity in a variety of mediums and settings.

Note: The Pathway to college and career readiness goals are aligned with Massachusetts Department of Secondary and Elementary Education Standards and Indicators as well as Conditions for Effective Schools.

¹ http://www.criticalthinking.org/pages/our-concept-of-critical-thinking/411

¹ http://oxforddictionaries.com/us/definition/american_english/influence

¹ <u>http://www.corestandards.org/ELA-Literacy/introduction/students-who-are-college-and-career-ready-in-reading-writing-speaking-listening-language</u>

¹ https://sites.google.com/site/7survivalskills/home/photo-gallery

Curriculum Guides

Curriculum Guides are aligned with the Massachusetts Department of Education Curriculum Frameworks. They focus on the set of standards that students will learn within certain disciplines at appropriate grade levels. Each area of the Frameworks is divided into general strands (broad categories) under which the standards fall. When we speak of "standards-based" classroom instruction, we mean that students are measured against their proficiency of these standards. The MCAS test (PARCC in SY 2015) is the test that assesses how well the students know the standards as outlined by the Massachusetts Department of Elementary and Secondary Education for their grade level.

English & Mathematics

The Massachusetts Board of Elementary and Secondary Education voted, on July 21, 2010, to adopt the Common Core State Standards. These national standards have been adopted by 44 of the 50 states in United States of America. In the spring of 2011, the Massachusetts Department of Elementary and Secondary Education released the final versions of the Massachusetts Common Core Curriculum Frameworks.

Hull Public Schools has begun a comprehensive review of our programs and materials to insure that all materials are fully aligned for and ready for implementation of the Massachusetts Common Core Curriculum Frameworks.

Science, Social Studies, Comprehensive Arts & Technology/Engineering

The Massachusetts Department of Elementary and Secondary Education have developed state frameworks and standards for History/Social Science, Science/Technology/Engineering, Comprehensive Health, and the Arts. All Hull Public Schools curricula are based upon these frameworks. Our district curriculum documents provide parents with an overview of the curriculum areas, expectations and suggestions for how they might provide assistance at home.

The Hull Public Schools uses the Massachusetts Curriculum Frameworks and criteria selected from current research on best practices, to revise curriculum on a regular basis.

Department of Elementary and Secondary Education Curriculum Framework Cycle

Curriculum Framework	First Adopted	Revised / Updated
Mathematics	1995	2000, 2004, March 2011
English Language Arts	1997	2001, 2004, March 2011
Science and Technology / Engineering	1995	2006, January 2016
History / Social Science	1997	2003
Comprehensive Health	1995	1999
Arts	1995	1999
Foreign Language	1995	1999
Vocational Technical Education	2006	July 2014
WIDA English Language Development Standards		2012 - 2013

Curriculum Review Cycle

<u>2011 – 2012</u>

Math Grades 6 – 12

2012 - 2013

Math Grades K – 12 English Language Arts Grades K – 12 History/Social Science 9 - 12

<u>2013 – 2014</u>

English Language Arts Grades 6 - 12

<u>2014 – 2015</u>

Math Grades Grades K – 2 English Language Arts Grades K – 5 History/Social Science Grades 9 - 12

<u>2015 – 2016</u>

Math Grades 3 – 5 English Language Arts Grades 6 - 12

<u>2016 – 2017</u>

Science/Technology Engineering Grades PreK - 12

2017 - 2018

Wellness Grades PreK – 12 World Language Grades 7 – 12 Fine Arts (Music/Visual Arts) Grades K - 12

<u>2018 – 2019</u>

English language Arts Grades PreK - 12

2019 - 2020

Math PreK - 12

2021 - 2022

Science/Technology Engineering Grades PreK - 12

2022 - 2023

Wellness Grades PreK – 12 World Language Grades 7 – 12 Fine Arts (Music/Visual Arts) Grades K - 12

2023 - 2024

History/Social Science Grades PreK - 12

2024 - 2025

Internal program reviews as needed (i.e. ELL, elementary program resources, special education programs, full-day Kindergarten, preschool program, etc.)

Common Core Implementation Timeline

Spring 2009- National Governor's Association and the council of Chief State School Officers propose a project to develop a common core of K-12 state standards in English Language Arts and mathematics.

July 2010- Common Core state standards adopted in Massachusetts to replace the current Massachusetts Curriculum frameworks in ELA and Math contingent upon augmenting and customizing the common core.

December 2010- The DESE board votes to adopt additional standards to the Common Core. In Mathematics there are 4% additional standards including 10 K-8 additions and 9 high school additions. In ELA there are 2.5%, or 27 additional standards including pre-k standards.

School year 2011 – 2012 – Introduction of 2010 standards and MCAS based solely on the 2001/2004 ELA and the 2000/2004 Mathematics Frameworks.

School year 2012- 2013 – Near full implementation of 2010 standards. MCAS for 2012 will be based on the standards in *common* between the new and old frameworks. Some test items will be included which are based on the new frameworks and not included in the old versions but will not be included in the score. MCAS science remains unchanged.

School year 2013 = 2014 – Full implementation of 2010 standards and pilot field tests of PARCC.

School year 2014-2015- The national test which is the next generation of assessments PARCC will be given.

School year 2015 – 2016 – In grades 3 – 8 PARCC will be administered in English language arts and math. MCAS will be administered in grade 10 in English language arts and math. MCAS will continue to be administered in science for grades 5, 8 and 10.

School years 2016 and beyond - MCAS 2.0 for all districts in Massachusetts

^{*}Information from Massachusetts Department of Elementary and Secondary Education

Transition from MCAS to MCAS 2.0

MCAS 2.0

The Need to Build a New MCAS

A good testing system is tied directly to good teaching and learning. In Massachusetts, we set high learning standards-what a student should know and be able to do at each grade level and in each subject. Then, educators create classroom lessons and select textbooks and other resources to provide each child the best education possible.

To find out how well students understand what is being taught, educators give students local and state tests. Using test results, school districts and teachers can identify areas where students need more help, refine lesson plans, and even select different curriculum resources to help students reach high expectations.

The MCAS tests, used in concert with ambitious learning standards, have played an important role in the achievement gains of the past 20 years. Our K-12 public school students lead the nation in academic achievement and are competitive internationally. That success would not have been possible without a high-quality testing system that provides feedback on student, school, district, and state achievement and progress.

However, MCAS was not designed to measure readiness for success in college or a career after high school. In fact, more than a third of the state's public school graduates who attend Massachusetts's public colleges or universities are <u>placed in remedial courses</u>. The remedial rate is closer to 70 percent for two-year colleges. These courses often consume a student's financial aid, are not credit-bearing, and do not count toward graduation. Too often, these students do not graduate college on time or at all.

Today, we have a better understanding about learning progressions in mathematics, text complexity and the interplay of reading and writing, and the academic expectations of higher-education institutions and employers.

Now that we have upgraded our learning expectations over the years through revisions to our curriculum frameworks and content standards, it is time to upgrade our assessments for the next generation of students. *

Last Updated: February 12, 2016 *Information from Massachusetts Department of Elementary and Secondary Education

Key Shifts in the ELA/Literacy Standards

- Equal emphasis on literary and informational texts.
- Reading, writing, and speaking grounded in evidence from text.
- Writing in response to one or more texts.
- Regular practice reading complex texts and academic language.

Key Shifts in the Mathematics Standards

- Each grade focuses on fewer standards:
 - o each standard addressed more deeply
 - o coherent progression across grades
- Conceptual understanding of topics is foundational.
- Students are expected to extend their knowledge to real-life modeling and application.

The PARCC summative assessments:

- Focus on grade-level or course-specific standards leading to college & career readiness.
- Include performance-based assessments (PBAs) that provide opportunities for students to demonstrate their mastery of skills and abilities where current assessments fall short.
 - o <u>ELA</u>: literary analysis, narrative writing, research simulations.
 - o Math: real-life modeling and applications.

^{*}Information from Massachusetts Department of Elementary and Secondary Education

Teams for Curriculum Articulation and Professional Development

Overarching Objectives:

- 1) Expand the capacity of teachers and administrators through curriculum articulation and professional development; and
- 2) Create systems and structures to support professional development. Rationale:
 - NEASC Self-Study identified the need to focus on curriculum writing and professional development offerings.
 - Common Core standards were adopted by MA DESE and the district needs to initially focus on the primary testing areas and support teachers in the process of understanding, prioritizing, and benchmarking the standards.
 - School Committee requested an articulation in mathematics K-12 and articulation in ELA K-12.
 - K-12 teams will be made up of teachers and administrators through both vertical and horizontal teams and will use the expertise of teachers in content areas to facilitate professional development.
 - Current research and data from MCAS, SAT, AP, Terra Nova, Readistep, District Determined Measures, formative and summative assessments by grade/subject will be used to support decision making.

Curriculum Maps

Curriculum maps are valuable planning tools for teachers, helping them to begin with the end in mind and chart a course for the year. Typically, annual curriculum maps are organized by month or marking period and provide an overview of:

- the enduring understandings and overarching goals
- the standards-based essential skills and concepts
- the methods of assessment that the teacher and students will be working on throughout the year (assignments, projects, performances)
- the major content resources

Curriculum mapping is a comprehensive way of looking at not only "what" teachers teach, but also "Why?" they are teaching it. An important part of mapping is the identification of the assessment tools that will provide the teacher with the information that what has been taught has been learned by the students.

Curriculum Review

All curriculum is reviewed and revised to a form that addresses standards, assessment, essential questions, understandings, activities, materials and the integration of technology. The Hull Public Schools uses the Understanding by Design method of curriculum unit development coupled with curriculum maps. These documents present a comprehensive system that is user friendly to staff as well as parents. As the district reviews the curriculum it looks at the following important considerations: Analysis of current curriculum including review, research and pilots (as appropriate), creation of curriculum documents including units and maps, Implementation including purchase of necessary materials and professional development, and evaluation including effectiveness, student achievement and necessary modifications/adjustments.

Hull Public Schools Curriculum Frameworks Review Process

Components K—12 Standards Based System

- Curriculum Renewal Cycle
- K-12 Standards Based Curriculum
- Corresponding core vocabulary
- Essential Reading list to support standards & supplemental list of resources (protocol for choosing material and textbooks)
- Textbook adoption cycle
- Professional development for teachers to ensure understanding of what learning will look like to achieve the various levels

Categorizing Standards

- Process that ensures vertical and horizontal articulation
- Prioritize standards (mastery, power, developing, introduce, etc.)

Unpacking and Benchmarking Standards

- Unpacking standards
- Identifying a coherent sequence of teaching standards rather than the order of textbooks, will the curriculum spiral certain concepts?
- Attending to the verbs and identify how something will be assessed
- Identifying essential vocabulary
- Chunking of concepts to determine essential questions/big ideas

Identifying Common Summative and Formative Assessments

- Defining summative and formative assessments
- Generating common formative or summative assessments
- Calibrating the assessments
- Determining benchmarking dates for formative or summative assessments and how to use grades
- Generating rubrics
- Identifying anchor papers/evidence of learning

Hull Public Schools Curriculum Frameworks Review Process

Overview of steps in developing a standards-based curriculum guide:

- 1. Understand current state standards
- 2. Prioritize list of standards
- 3. Determine the power and developing standards
- 4. Unpack standards, if necessary, and determine essential grade-level vocabulary
- 5. Secure teacher review
- 6. Evaluate benchmarking tasks
- 7. Review teacher recommendations
- 8. Determine performance benchmarks
- 9. Assimilate all benchmarks into K-12 format
- 10. Develop final product
- 11. Design scope and sequence
- 12. Learning objectives/essential questions
- 13. Generate final product in Aspen

Step 1: Understand current state standards

Review state guides for the specific content area.

Step 2: Prioritize standards

Prioritize the standards list. All standards are important, but the teachers prioritize the level of attention each standard should demand. Teachers use data and reflect on experience, knowledge of subject and understanding of student learning and development.

Step 3: Determine power and developing standards

Determine which standards will drive curriculum development. Identify power and developmental standards. Assign power standards to grade level(s) of school, i.e., HS, MS, EL. As a general rule of thumb, the final list of standards should include the following:

- 8-10 Power Standards Standards that are essential for all students to learn and be taught at a particular grade level.
- 6 8 Developmental Standards Standards fostered at appropriate occasions throughout the K-12 experience. Concepts appear at more than one grade level.

In identifying developmental standards, these standards should adhere to the following three criteria:

- Identify affective outcomes (behaviors, attitudes, and processes)
- Should not be developed at one grade level
- Should be reinforced on every appropriate occasion throughout students' academic career.

Step 4: Unpack standards, if necessary, and determine essential grade-level vocabulary analyze power and developing standards. If necessary, perform task analysis to identify components of each standard. Identify grade-specific vocabulary that is essential for all students. Highlight standards that are cross functional and can be supported in other content areas.

Step 5: Secure Teacher Review

Priority standards determined by teams should be given to all teachers for review for the grade level(s) for which the teachers are responsible. Collect recommendations from grade levels.

Step 6: Evaluate Teacher Reviews

After receiving feedback from the teachers, the design team determines which standards will be included in the final version. The following questions should guide the following review of final determination of priority standards:

- Are the power and developing standards few in number so that mastery can be accomplished?
- Are the standards developmentally appropriate?
- Are the standards clear?
- Do the standards progress in difficult and depth from year to year?
- Is there appropriate articulation between grades five and six and eight and nine?
- Are the standards effectively distributed over the grades so that one grade is not overloaded?
- Do the standards reflect recommendations from current research?

Step 7: Determine content emphasis

Determine each grade level what content should be emphasized. Begin the process by reviewing content emphasized in the current curriculum at grade level.

Step 8: Determine assessments for power standard benchmarks

Power standards express emphasis of the curriculum at each grade level. Assessments benchmarks do the following:

- help to establish clear learning targets
- require students to show what they know
- provide multiple opportunities for students to revise and improve
- help improve critical thinking ability

In order to design assessments, the following components will be considered:

- multiple assessments for power standards
- spectrum of activities basic to enrichment
- traditional tests used as concurrent validity instruments
- apply content knowledge and skills in real world situations
- provide evidence that standards have been met

Step 9: Assimilate all information into a K-12 format

All standards and benchmarks should be assimilated into one K-12 format in Aspen.

Step 10: Develop a final product

The design team should begin work on developing the final product. Teams should now begin work on putting the standards in a large scope-and-sequence chart in Aspen.

Step 11: Learning Objective/Essential Questions

The final component with respect to developing the guide will be to determining whether to include detailed learning objectives and/or essential questions.

Step 11: Generate the final product in Aspen

The final product should include the following:

- Title page including subject, content, revision date, committee members' names
- K-12 vision statement for subject content
- Scope and sequence for standards
- Learning objectives and/or essential questions
- Corresponding assessments
- Essential vocabulary
- Resource determination and alignment

Curriculum Overview Hull Public Schools PreK - 12

Aspen Curriculum and Learning

During the 2012-2013 school year, Hull Public Schools purchased Aspen Curriculum and Learning to allow curriculum maps to be digitally stored and available on the same platform where student information is accessed. By the end of the 2013 school year, most subjects revised and stored subject curriculum maps in Aspen. Science maps K-12 will be updated in Aspen when the Next Generation of Science Standards are adopted by the MA DESE.

Everyday Math 4 PreK - 5

At the elementary level, Everyday Math is implemented and pacing charts aligned with the Common Core Math standards provided by Everyday Math are followed by all teachers in grades PreK - 5. During the 2013 - 2014 school year the K - 5 teachers will participate in math professional development embedded into the school day, facilitated by Proceeding Droceeding Droc

Literacy Program PreK - 5

Literacy Curriculum Maps PreK – 5

The PreK -5 teachers created month by month literacy maps in collaboration with the literacy coach and the instructional coach during the 2012 - 2013 school year. The literacy maps are available in Aspen. In addition, power English Language Arts vocabulary words were identified in grades 3 - 5 (see addendum). Each student creates a vocabulary card for each word and the vocabulary words are added to a ring and transferred to the next grade level so new vocabulary words can be added.

Telian Lively Letters Integrated Preschool

The integrated preschool program implements the Telian Lively Letters program to train phonemic awareness and phonics skills. This program turns abstract letters and sounds into "lively" characters by embedding letters into colorful pictures that show students what to do with their mouths when making the sounds. Engaging music, pictures, hand/body cues, oral kinesthetic cues, and mnemonic stories are key features of this powerful, yet fun, program. Students systematically progress from learning isolated letter sounds with picture cues to reading and spelling multisyllable words in books and on paper.

Opening the World of Learning (OWL) Integrated Preschool

Owl covers all domains of early learning. The content of each unit is built around a carefully crafted daily routine within an activity-center day. Themes, skills, and concepts are developed through quality children's fiction and nonfiction trade books.

Handwriting Without Tears Integrated Preschool

The Handwriting Without Tears curriculum provides developmentally appropriate, multisensory tools and strategies to be implemented in the classroom. The program follows research that demonstrates children learn more effectively by actively doing, with materials that address all styles of learning.

Music and Literacy PreK - K

The South Shore Conservatory works with the Hull Public Schools to provide a music and literacy program for preschool and kindergarten students. The program is modeled after the *Marvelous Music* program, developed by the Kalamazoo Symphony and the Crescendo Academy of Music in Kalamazoo, MI, which incorporates Music Together curriculum and materials, story books and live music, and family participation. The overarching goal is to improve literacy among preschool and kindergarten students by focusing on building vocabulary, which has been identified as a primary need for this age group. The program uses music to reinforce reading readiness and vocabulary development. A secondary goal of the program is professional development to train teachers to incorporate music in the curriculum and family participation so that music and literacy are reinforced outside of the school setting.

Fundations K – 3

The Fundations program provides instruction to students with varying learning abilities a foundation for reading and spelling. The program provides teachers with the skills and tools needed to present a structured, sequential, and cumulative phonics/spelling program using multisensory teaching techniques. Fundations teaches the foundational skills of the Common Core and supports other Common Core standards in reading, writing, speaking, listening, and language. The Fundations Program highlights the following:

- Emphasis on systematic phonics and study of word structure.
- Skills taught explicitly and systematically.
- Instruction is cumulative and scaffolds presented skills.
- Assessments monitor students.
- Extensive practice allows more than one opportunity for skills application.
- Home support packet allow for parent involvement.

Description of Literacy Program K – 5 Assessment and Placement:

All students are assessed at the beginning of each school year. Kindergarten students are asked to identify the upper and lower case letters and to tell the sounds of the letters. Grades 1 and 2 students are given a Developmental Reading Assessment (DRA) to determine their instructional reading level. Grades 3-5 students are given a group Qualitative Reading Inventory (QRI) to identify those students needing more support. These assessment help guide teachers in grouping their students for reading instruction.

Materials:

Whole Group Lessons:

- Literacy Place by Scholastic, copyright 2000
- Several classes in grades 3, 4, and 5 are piloting two units of *National Geographic*

Small Guided Reading Lessons:

- Scholastic Leveled readers
- Two book rooms filled with multiple copies of various books which are leveled A-Z

Instructional Models for Reading:

Teachers use a variety of instructional models to teach reading: whole class, guided reading, and reading workshop.

Whole class reading:

All students read the same grade-level text. First students are instructed in reading strategies as a whole class. Then, using a flexible grouping model, students are grouped according to the amount of support they need to read the grade-level text: little or no support, some support, or significant support. Finally, students return to the whole group or are regrouped to discuss the reading.

Guided reading:

Students read books on their instructional level. Students read silently, and the teacher "listens in" on individual students as they read. Teachers provide necessary instruction and support as they listen to ensure that students understand the main idea of a paragraph or section. They may take a running record on struggling students and/or ELLs in order to analyze reading accuracy and fluency.

Reading Workshop model:

Students read self-selected texts on their independent reading level. Individual reading and writing allows students time to reflect on their learning and to use the reading strategies they have been taught in whole-class instruction.

Phonics Instruction

Students in grades K-3 are instructed daily using the Fundations Phonics program.

Wonderfully Exciting Books (WEB)

Students in grades 1 and 2 take home books to read at their independent reading level. They read these books multiple times to increase fluency. Reading specialists listen to all first and second grade students read the book they have practiced at home two times a week. Students then choose another book from the WEB cart at the same level to read. When students have become fluent on that level, they are able to move to the next level.

Social Studies PreK-5

The fifth grade classes use the History Alive textbook. Some of the units are Geography of the US, Native American Culture, Early English Settlements and Comparing Colonies. History and Social Studies is taught through a series of multidisciplinary units in grades 1-4. The teachers and literacy coaches used the themes and history of the Social Studies standards to develop non-fiction literacy units. The first grade creates a personal timeline. The second grade's unit is on the continents. Third grade has a focus on colonial and post-colonial United States culminating in a Revolutionary *Wax Museum*. Fourth grade developed units on immigration and the National Parks. Students in fourth grade present at a *Social Studies Fair*.

Students in PreK and K learn the standards by developing a classroom community which is then generalized to the larger community outside of the classroom. Grades 1-5 have weekly reinforcement of the Social Studies standards using *Scholastic News*.

Science PreK-5

Science by Scott Foresman is the text used by grades K-5. This series provides inquiry-rich content with hands-on activities; cross-curricular connections that link reading and science skills and leveled readers for differentiated instruction. Each grade level textbook is divided into four sections, life science, physical science, earth science and the human body. PreK and K standards are taught through hands on and observational lessons. Each month, grade levels PreK-5 attend an interactive science lesson presented by a science outreach instructor provided by the South Shore Science Center.

John Collins Writing PreK – 8

The <u>Collins Writing Program</u> integrates best practices into a simple, usable, and effective approach that improves instruction and student engagement through writing across the curriculum. The program features frequent writing assignments to increase academic engagement, authentic assessments that measure student performance, performance tasks so students must apply what they know, and a portfolio system that consist of both teacher and student reflection.

The teachers in grades Prek – 9 have participated in professional development, course work, and coaching with a John Collins consultant. The consultant consults with teachers to review student portfolios three times a year by grade level or course.

Technology Instruction

One to One Technology Initiative

The focus of technology in Hull Public Schools is on the three areas at the core of education: gathering information, analyzing and applying information, and communicating and collaborating. The district has made a significant investment in technology based on a firm belief that these tools can have a powerful influence on student learning. In grades 6-10 a one to one iPad learning platform is implemented and this initiative will continue to expand to include grades 10-12.

Technology Education 6 – 8

Technology Education at Memorial Middle School focuses on the engineering design process. All of the content standards can be addressed through the process, allowing students to innovate and create solutions to specific engineering challenges. All grades cover the basics of shop safety, measurement, sketching, technical drawing, and the proper use of tools and materials, but each grade targets different areas of engineering technology.

Sixth grade focuses on proper use of, materials, tools, and manufacturing technology. Among the projects are a catapult and the creation of a company where students design, produce, and market products.

Seventh grade focuses on transportation and bioengineering. As part of the transportation unit students design, build and test prototypes of magnetic levitation vehicles. In bioengineering students design and test hydraulic arms capable of lifting small objects.

In eighth grade the focus is on construction and communication. Eighth grade students compete in a wooden bridge competition and learn the fundamentals of communication technology through building a functional AM radio.

The projects are hands on and the students work in small groups. The emphasis is on collaborative learning as we explore the different areas of technology.

Technology Instruction 9 - 12 Web Design I

This project-based course is an introduction to the design, creation, and maintenance of websites using web-based publishing tools and basic HTML coding. Students learn how to critically evaluate website quality, learn how to update and troubleshoot web pages, learn about industry web design standards, and plan how to attract traffic to the websites they have created. In addition, we will explore various career opportunities requiring web design skills. The course culminates in students creating a website for a local business or nonprofit organization.

Web Design II

This course continues the study of development tools and techniques used to publish websites. Building on skills learned in Web Design I, students will be expected to learn advanced HTML scripting and presentational technologies without the aid of a software authoring application. Topics include XHTML, CSS, JavaScript, server hosting, site publication, site maintenance and search engine optimization. Students must prepare a digital portfolio of their work as a final project for this course.

Video Productions Techniques I

Video Production Techniques I is an introductory course to the production process with emphasis on digital video editing techniques. Students will be introduced to the basic concepts of script writing, story boarding, and on-camera communication skills. Students will also gain practical experience in filming, audio, lighting, graphic design, and will learn various career opportunities related to video production.

Video Productions Techniques II

Video Production Techniques II will further enhance the student's television production experience by combining the basic skills of single-camera field production with the introduction of post-production editing methods. The end result will contain the elements required for planning, writing, producing, and editing numerous video projects. This course is designed to develop shot composition skills, aesthetic considerations, and shooting for editing.

Virtual High School

Virtual High School provides a wealth of quality online education options for high school students. Through VHS, students have the opportunity to increase their educational options. Students gain access to a wide variety of courses not typically available and have the flexibility to take these courses anytime throughout the school-day, as best fits their schedule. VHS classes are supervised by the high school librarian, who assists the VHS instructor in assessing student performance, and in assigning grades.

Computer Repair

Students will learn the basics of computer repair including hardware troubleshooting, upgrades, printer setup, virus removal, and basic computer maintenance.

Technology Education I

This course is an entry level wood-working class. The main purpose is for students working in small groups to explore the design of different projects. They will research, design and build clocks, small furniture, and other projects, while promoting competency in the safe use of hand and power tools. They will practice the social skills necessary to produce teamwork. Other projects may include the use of CAD design and study on power mechanics and electronics, reading blue prints and designing sets for drama productions.

Building Construction

Students will develop solutions to real world construction problems utilizing academic and hands-on skills. They will work in small groups to research, design, build, and market their solutions much the same as they would in the business world. Projects such as sheds, gazebos, and miniature models may be built with hand and power tools using a variety of materials with an emphasis on safety.

Fine Arts Grades 6 - 12

Fine Arts program is a vital part of our educational program. The arts stimulate creativity in solving problems. They challenge students' perceptions and teach them to look at the world around them in new ways. By studying one or more of the arts, students can acquire skills in concentration, organization, problem solving, effective listening, artistic judgment, leadership, and self-discipline.

Visual Arts 9 – 12

The visual arts are taught in a sequence of courses at Hull High School. Each course builds upon what the students learned in visual arts K-8 and prior high school courses, and each introduces a new level of knowledge and understanding of contemporary visual arts practices. In each course an emphasis will be placed upon exploration, artistic behavior, intellectual curiosity, analysis, and the student's role in the artistic process. Each course is designed to engage students in learning the "how-to's" of art, such as how to draw or how to paint as well as demonstrate how this information can be useful and relevant in their own lives. Students will be exposed to the idea that art is a powerful tool that can be used to learn more about themselves, about others and about the environment/community that surrounds them. As students move on from their studies in the visual arts the hope is that they will be leaving with a greater sense of growth, confidence and awareness as both an artist and as an individual.

Wellness & Physical Education K - 12

The goal of personal wellness is to allow students to view health issues from a holistic perspective in which all interrelated aspects of human growth are considered: physical, emotional, social and cognitive. Course work provides students with the knowledge and the opportunity to explore ways to take positive actions towards their own health and wellness and to develop skills that will allow them to resist peer pressure, to resolve conflicts and to manage stress effectively. In addition, the physical education program helps students to meet the physical demands of everyday life and provides opportunities to develop self-confidence, initiative and leadership characteristics.

Wellness and Physical Education are offered for the purpose of promoting the physical well being of students. Physical education classes are coeducational. Students are required to participate in class wearing appropriate attire for physical/athletic activity (shorts or sweatpants, T-shirt or sweatshirt, sneakers and socks). Students should also be prepared for outdoor activities in cooler weather (i.e., sweatshirt or jacket).

The goals of the Wellness and Physical Education Department are to:

- 1. Expose students to a diverse number of sports and fitness activities in an effort to help students develop muscle power, improve motor skills and coordination;
- 2. Reinforce students' understanding of team play and team strategy;
- 3. Help students develop an ongoing lifetime interest in physical fitness, and;
- 4. Assist students in learning to accept, respect, and appreciate the differences and abilities of self and others.

English Language Arts 6 – 8

Students in grades 6 and 7 have a daily literature class and a daily writing class. The literature teacher and the writing teacher work together and integrate the Common Core Standards in each course. The goal of the middle school English Language Arts experience is to instruct students to be able to identify central ideas, determine the effect a narrator's point of view has on overall meaning and provide textual evidence to support analysis of literary or informational work. Students learn to produce clear and coherent argumentative, informative, and narrative writing that is appropriate to task, purpose, and audience. Students conduct short research projects, strengthen their writing through editing and revision, engage effectively in oral discussions and presentations, and acquire and use accurately grade-appropriate vocabulary.

English 9 - 12

The English curriculum is based on the communication skills of reading, writing, speaking, viewing, listening and presenting. Specifically, the curriculum provides instruction in the different modes of written and oral expression, analytical reading, vocabulary, grammar/usage and media study. All students must take English throughout their four years of high school. Consequently, courses are offered at a variety of levels so students may select courses that suit their needs, abilities and achievement. Students who fail any required English course must make up the credit.

The writing component of the English curriculum offers the student a comprehensive program from 9th to 12th grade that includes instruction and practice in the 7 stages of writing: audience analysis, prewriting, first draft, evaluating, revising, proofreading, and final composition. Students receive instruction and practice in the following writing formats: creative, descriptive, narrative, persuasive and expository writing. Analytical writing starts in the 9th grade and is followed by a comprehensive approach that culminates with full research writing by grade 12.

English Typical Sequence 9 - 12

	GRADE 9	GRADE 10	GRADE 11	GRADE 12
A	CP or Honors English 9 & Freshman Writing	CP or Honors English 10	AP English Language	AP English Literature
В	CP or Honors English 9 & Freshman Writing	CP or Honors English 10	CP or Honors English	CP or Honors English 12

Sequence A

This sequence of courses is designed for the student with outstanding ability and high interest and motivation in English. The student must be able to work and study on his/her own. Students should follow this sequence only on recommendation of the English department, and they are expected to maintain at least a "B" average or better to remain in the sequence.

Sequence B

This sequence of courses is designed for the student who has the interest and ability to complete a typical 4-year college preparatory program in English. The standard English courses required by most colleges are offered in this sequence.

Foreign Language 9 - 12

All foreign language courses require that the student invest a considerable amount of time and effort to perfect pronunciation, master vocabulary and correctly manipulate grammatical structures. The main emphasis is on the classroom experience as each course pays particular attention to the four basic language skills: speaking, listening, reading and writing. This is accomplished by using cassettes, videos, class and individual presentations, readings and formal writing. Students will also learn about the geography and culture of countries where the languages are spoken.

Foreign Language Typical Sequence

GRADE	GRADE	GRADE	GRADE
9	10	11	12
Spanish I	Spanish II	Spanish III	

Science 6 – 12

Advances in science and technology continue to dominate our changing world. Through a comprehensive curriculum based on an inquiry and investigative approach, the science program provides the students the opportunity to acquire the knowledge, skills and processes necessary to function in a technologically advanced society. Emphasis is placed on incorporating an interrelationship of science concepts with technological applications.

Science Typical Sequence 9 – 12

	GRADE 9	GRADE 10	GRADE 11	GRADE 12
A	CP or Honors Introductory Physics	CP or Honors Biology	CP or Honors Chemistry & AP Science Course	CP or Honors Physics & AP Science Course
В	CP or Honors Introductory Physics	CP or Honors Biology	CP or Honors Chemistry	CP or Honors Physics Or Science Electives

Sequence A

This sequence of courses is designed for the student with outstanding ability and high interest and motivation in science and mathematics. The student must be able to work and study on his/her own. Students should follow this sequence only on recommendation of the science department, and they are expected to maintain at least a "B" average or better to remain in the sequence.

Sequence B

This sequence of courses is designed for the student who has the interest and ability to complete a typical 4-year college preparatory program in science. The standard science courses required by most colleges are offered in this sequence.

Social Studies 6 – 8

Social Studies in grades 6 - 8 uses the History Alive textbook. Some of the units of studies focus on geography, ancient and classical civilizations, western civilizations, western Asia, world geography, world history, medieval period in Europe, origins of European Western expansion and the civilizations of Central and South America, and African history.

Social Studies 9 - 12

The Social Studies Department recognizes the effects of cultural diversity in history and society and strives to create an understanding of history's relevance and the importance of social studies in the process of developing active world citizens. Social Studies is the study of social relationships in all their variations both past and present. It draws its substance from the disciplines of anthropology, economics, geography, government, history, sociology and psychology. The social studies program strives to develop independent thinking skills in students in order to help them make rational decisions consistent with basic democratic values in a rapidly changing world.

Social Studies Typical Sequence 9 - 12

<u> - J F</u>	typical bequeice y = 12			
	GRADE	GRADE	GRADE	GRADE
	9	10	11	12
A	CP or Honors World History II	CP or Honors US History I	CP or Honors US History II or AP US History	Economics/ Government and Social Studies Electives
В	CP or Honors	CP or Honors	CP or Honors	Economics/
	World History II	US History I	US History II	Government

Sequence A

This sequence of courses is designed for the student who has the ambition and ability to complete a challenging 4-year college preparatory program in Social Studies. In this course sequence, students who perform well enough in Grade 10 Honors US History I may elect to take AP US History in their junior year (instead of taking Honors US History II).

Sequence B

This sequence of courses is designed for the student who has the interest and ability to complete a typical 4-year college preparatory program in social studies. This sequence provides courses that are most often required of students at the college level for satisfying social science or humanities requirements.

Mathematics 6 - 12

During the 2012 - 2013 school year, the 6 - 12 math teachers participated in vertical professional development during the school day to align math curriculum to the Common Core standards. This professional development was facilitated by Dr. Christine Moynihan. By the end of the year, curriculum maps for math were written in Aspen, math power words were established for grades and courses in grades 6 - 12, and formative and summative assessments were established for each grade and course. In addition, there was a mathematics textbook adoption for grades 8 - 11.

Math Offerings Grade 6 - 12

		Math Offerings Grade 0 - 12		
Grade 6	6th Grade Math			
Grade 7	Advanced 7th Grade Math	Standard 7th Grade Math		
Grade 8	Algebra I	Algebra I: Linear Emphasis	Pre-Algebra	
Grade 9	Geometry (H & CP)	Algebra I: Quadratic Emphasis (H & CP)	Algebra I (CP)	
Grade 10	Algebra II (H & CP)	Geometry (H & CP)	Algebra I: Linear Emphasis (H & CP)	
Grade 11	Pre-Calculus (H & CP)	Algebra II (H& CP)	Algebra I: Quadratic Emphasis (H & CP)	
Grade 12	Calculus (H & CP)	Pre-Calculus (H & CP)	Algebra II (H & CP)	Statistics (CP)

Math Textbook Adoption 8 – 12 Spring 2013

- Hull Public Schools math teachers in grades six (6) twelve (12) reviewed current math textbooks (copyright 1998 and 2001) and determined that they are not aligned with the new Massachusetts Mathematics Frameworks.
- Math consultant from Teachers 21 recommended the district purchase textbooks and resources aligned with the new Massachusetts Mathematics Frameworks.
- High school math teachers reviewed Pearson 2012 math series because it is the updated version of currently used textbooks.
- Hull Public Schools math teachers determined that the Pearson 2012 mathematics series should be adopted for the following reasons:
 - The textbooks are formatted according to Understanding by Design (UBD), giving essential questions, knowledge, understandings and skills, as well as common assessments.
 - o The textbooks are aligned with the new Massachusetts Mathematics Frameworks.
 - The textbooks address the Mathematical Practices and real world applications required by the new Massachusetts Mathematical Frameworks which will be included in MCAS testing starting with the spring 2013 assessment

Grade 1		
Count On	Quarters	
Digit	Fourths	
Attribute	Hour	
Value	Half Hour	
Unit	Analog	
Addition	Digital	
Subtraction	Penny	
Sum	Nickel	
Difference	Dime	
Operations	Quarter	
Equation	Dollar	
Plce Value	Cent/Cent Sign	
Hundreds Dollar and Cent Nota		
Halves	Inches	

Grade 2		
Addend	Pictograph	
Odd	Data	
Even	Meter	
Numeral	Quadrilateral	
Whole Number	Vertical	
Feet	Thirds	
Centimeter	Point	
Bar Graph	Partial Sum	
Array	Partition	
Compose	Face	
Decompose	Horizontal	
Expanded Form	Seconds	
Rows	Minutes	
Columns		

Grade 3			
Multiples	Gram		
Numerator	Kilogram		
Denominator	Liter		
Fraction	Scale		
Properties	Gaps		
Mass	Overlap		
Volume	Tiling		
Dividend	Square Unit		
Divisor	Line Plot		
Quotient	Side		
Commutative Property of Addition	Area		
Associative Property of Addition	Horizontal		
Associative Property of Multiplication	Vertical		
Factors	Plane Figure		
Products	Perimeter		
Rounding	Polygon		
Algorithm			

Grade 4		
Right Triangle	Degree	
Acute Angle	Decimal Notation	
Obtuse Angle	Line Segment	
Endpoint	Line of Symmetry	
Mean	Parallel	
Area Model	Simplest Form	
Angles	Variable	
Lines	Factor Pair	
Mixed Number	Prime Number	
Perpendicular	Composite	
Ray	Remainder	
Benchmark Fractions	Area Model	
Tenth	Median	
Hundredths	Mode	
Common Denominator	Range	

Grade 5		
Expression	Exponents	
Linear	Exponential Notation	
Additive	Powers of 10	
Integer	Cubic Unit	
Positive Integer	Formula	
Brace	Reflex Angle	
Bracket	Scalene	
Parentheses	Isosceles	
Inverse	Equilateral	
Rotation	Right Rectangular Prism	
Reflection	Negative Integer	
Coordinate Grid	Unlike Denominator	
Ordered Pair	Ratio	
Quadrant	Visual Fraction Model	
Axis/Axes	Numerical Patterns	
Origin Point		

Grade 6		
Absolute Value	Integer	
Algebraic Expression	Measure of Center and Variability	
Box Plot	Net	
Coeficient	Order of Operations	
Constant	Proportion	
Constant Rate of Change	Rational Number	
Dependent Variable	Relatively Prime	
Distribution	Statistical Question	
Equivalent Expression	Surface Area	
Factoring	Term	
Histogram	Unit Rate	
Independent Variable		

Grade 7	
AA Similarity	Linear Equations
Adjacent Angles	Percent Rate of Change (increase-decrease)
Arithmetic Sequence	Probability Models
Complementary Angles	Random Samples
Complex Fractions	Relative Frequency
Compound Probability	Sample Space
Constant of Proportionality	Scale Drawing
Cross Product	Similar
Cross Section	Statistics
Events/Outcome Probability	Supplementary Angles
Experimental Probability	Theoretical Probability
Geometric Sequence (progression)	Vertical Angles

Grade 8		
Alternate Interior Angle	Rate of Change	
Correlation	Real Number	
Corresponding	Reflections	
Dilations	Roots (Cubic Square)	
Discrete	Rotation	
Elimination Method	Scatter Plot	
Exterior Angle	Scientific Notation	
Function	Simultaneous Equations (Systems)	
Function Rule	Slope	
Interior Angle	Square Root	
Irrational	Substitution Method	
Line of Best Fit	Transformations	
Pythagorean Theorem	Translation	
Radicals	Transversal	

Algebra 1		
Axis of Symmetric Quadratic	Growth Factor	
Binomial	Linear Function	
Cube Root	Midpoint Formula	
Cubic Function	Parabola	
Decay Factor	Piece-Wise Function	
Degree	Polynomial	
Discriminant	Quadratic Equation	
Distance Formula	Quadratic Formula	
Domain	Range	
Exponential Decay	Recursive (Pattern/Sequence)	
Exponential Function	Sum/Difference of Squares	
Exponential Growth	Transitive Property	
Factoring	Vertex (Parabola)	
Function Notation	X and Y Intercepts	

Algebra II		
Absolute Maxima	Inverse Function	
Absolute Minima	Local Maxima	
Asymptote	Local Minima	
Binomial Theorem	Magnitude	
Completing the Square	Pascale's Triangle Reminder	
Complex Conjugates	Polnomials	
Complex Number	Quartic Function	
Conjugate	Rational Root Theorem	
Consecant	Secant	
Contangent	Sine	
Cosine	Synthetic Division	
End Behavior	Tangent	
Fundamental Theorem of Algebra	Theorem	
Imaginary Number	Zeroes of High Degrees	

Geometry		
Altitude	Minor Arc	
Apothem	Orientation	
ASA Congruence	Orthcenter	
Centroid	Postulate	
Chords	Proofs	
Circumcenter	Remote Interior	
Circumscribed Angles/Shapes	SAS Congruence	
Directrix	Sector	
Incenter	Semi Circle	
Inscribed Angles/Shapes	Skew	
Isometry	SSS Congruence	
Major Arc	Tangent Line	
Median	Theorem	
Midsegment	Vector	

Pre-Calculus		
Aphelion/Perihelion	Logarithm	
Arc Length	Matrix	
Directrix	Natural Log	
Dot Product	Odd Function	
Eccentricity	Parametric Equation	
Ellipse	Periodicity	
End Behavior	Polar Coordinates	
Even Function	Radian	
Focus (and length/width)	Regression Equation	
Frequency	Semiconjugate Axis	
Hyperbola	Semitransverse Axis	
Law of Cosines	Synthetic Division	
Law of Sines	Unit Circle	
Limit	Upper/Lower Bounds	
Linear Programming	Vector	

Calculus		
Anti-Derivative/Integral	Normal Line	
Average Value Function	Points of Inflection	
Concavity as it Relates to "y"	Product Rule	
Derivative	Quotient Rule	
Implicit Differentiation	Related Rates	
Intermediate Value Theorem	Secant Line	
Limit	Separable Differential Functions	
Mean Value Theorem	Tangent Line	

Statistics		
5-Number Summary	Normal Distribution	
Bias	Permutation	
Central Tendency	Quartiles	
Combination	Random	
Complement (in Probability)	Sampling	
Independent/Dependent Variables	Standard Deviation	
IQR	Stratified	
	Z-Score	

$\label{lem:condition} \begin{tabular}{ll} Hull Public Schools - Grade Level Expectations - Science \& Engineering Practices \\ \end{tabular}$

Science & Engineering	Grade Level		
Practice	Expectation		
	6 th	Student will be able to: • Questions are the beginning of the scientific method • Questions come from observation • Ask questions	
	7 th	Student will be able to: • Identify or differentiate between empirical and nonscientific questions	
1. Asking Questions and Defining Problems	8 th	Student will be able to: Distinguish between a scientific question and an engineering problem Solve a problem	
	9 th	Student will be able to: Formulate empirical questions that can be tested Ask questions about features, patterns or contradictions from observations	
	10 th	Student will be able to: • Ask probing questions with guidance	
	11 th	Student will be able to: • Ask probing questions independently	
	12th	Student will be able to: Ask empirical questions independently Define constraints and specifications of a solution	
Science & Engineering Practice		Grade Level Expectation	
	6 th	Student will be able to: Learn what a diagram is and how it can be used Construct drawings or diagrams as representation of events Make graphs	
2. Developing and Using Models	7 th	Student will be able to: • Given a drawing or diagram, can use it to explain or make a prediction	
	8 th	Student will be able to: • Interpret graphs	
	9 th	 Student will be able to: Use formulas Move between multiple types of modes and know when different ones are used for what purpose Use computer simulations for understanding and investigating 	
	10 th	Student will be able to: • Understand there are limitations and precision of models	
	11 th	Student will be able to:	

		Manipulate formulas
		Student will be able to:
		 Define limitations and precision of a model and then refine the
	12th	model
		Make and use a model to test a design
		Trace and use a model to test a design
Science & Engineering		Grade Level
Practice		Expectation
Tractice		Students will be introduced to:
		The difference between discovery science versus hypothesis
	6 th	driven science
	Ü	Definition of hypothesis
		Definition of variable
		Definition of constant
3. Planning and		Control group
Carrying Out		Guided data tables
Investigations		Metric measurements
		Quantitative versus qualitative
		A procedure Chaif in a set of large states and a set of set
-		Classifying materials needed to carry out simple investigations
		Students will:
	7 th	Practice the difference between discovery science and
	7	hypothesis driven science
		Identify hypothesizes, variables and constants
		Follow a procedure
_		Identify control group versus experimental group
		Students will:
	oth	Form a hypothesis
	8 th	Write out experimental procedures
Continued		Students will:
	ath	Emphasize that physics is quantitative science
	9 th	Identify hypothesis, variables and constants
		Independently produce data tables
		Introduced metric conversions
		Use metric measurements
		Begin writing experimental procedures independently
		Distinguish between prediction and hypothesis
		Caro do Lorrel
		Grade Level Expectation
		Students will be able to:
		Differentiate between discovery science versus hypothesis
	10 th	driven science independently
3.Planning and		Select materials
Carrying Out		Identify control and experimental groups
Investigations		

Science and Engineering Practice	11 th	Students will be able to: Independently define variables and constants to test a hypothesis Independently formulate hypothesis and prediction Follow a detailed procedure Independently perform metric conversions, percent error and significant figures Generate own data tables independently Students gather quantitative and qualitative data Students will be able to: Design an experimental procedure Independently select materials that fit the experiment
	6 th	Grade Level Expectations Students will be able to: • Make computer generated graphs
4. Analyzing and	7 th	 Support the hypothesis with data Students will be able to: Make graphs and identify outlines Understand that the conclusion indirectly related to hypothesis and data
Interpreting Data	8 th	Students will be able to: Identify error in experiments Interpret graphs
	9 th	Students will be able to: Draw conclusions from graphs Make computer generated spreadsheets Write a conclusion based on data and linked to the hypothesis and data independently
	10 th	Students will be able to: Identify patterns and relationships from data and form conclusions Independently form alternative hypothesis
	11 th	Students will be able to: Understand the use of statistics and statistical analysis of data Students will be able to: Identify the value of statistics and statistical error in data interpretation
		тистрістацоп

Science & Engineering	Grade Level	
Practice	Expectation	
	6 th	 Students will be introduced to: Equipment and technology Metric unites Scientific equations
5. Using Mathematics	7 th	Students will: • Work or enhance on the same skills as 6th grade
and Computational Thinking	8 th	 Students will be able to: Convert equations to symbols and express relationships in symbols
	9 th	 Students will be able to: Independent use of equipment and technology Math makes life easier because its predictions, patterns, and relationships Use correct units Use equations to solve problems and select appropriate equations
	a	Students will be able to:
	10 th	Use computer simulations to explain a concept
_	11 th	Students will be able to: Convert units Understand that equations can be derived/manipulated to show relationships
Science & Engineering Practice		Grade Level Expectation
	6 th	Students will;Define theory and law (introduction and identify) and conclusions
	7 th	
	8 th	Students will:
6. Constructing	9 th	 Start identifying physical basic laws Students will: Identify and differentiate between a law, theory, and conclusion
Explanations and Designing Solutions	10 th	
	11 th	Students will: • Apply physical laws to situations and observations • Construct explanations based on data and evidence
	12th	Students will: • Construct explanations based on theories and laws that explain evidence and data

Science & Engineering		Grade Level
Practice		Expectation
	6 th	Students will be introduced to: • The concept of arguing from evidence
<u> </u>	7 th	
 	8 th	
		Students will be introduced to:
	9 th	The importance of objectivity in science
		Students will:
7. Engaging in	10^{th}	Engage in arguments based on evidence
Argument from Evidence		Use objectivity in science
Evidence	45	Students will be introduced to:
	11 th	Peer review
		Students will:
	12th	Conduct a peer review
		Critically evaluate the strengths and weaknesses of an argument
Science & Engineering		Grade Level
Practice & Engineering	Grade Level Expectation	
Tructice		Reading Standards for Literacy in Science
		Key Ideas and Details
	6 - 8	1. Cite specific textual evidence to support analysis of science and technical texts.
		2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or
8. Obtaining,		opinions.
Evaluating, and Communicating		3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical
Information		tasks.
		Craft and Structure
		4. Determine the meaning of symbols, key terms, and other
		domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades</i> 6–8 <i>texts and</i>
		topics.
		5. Analyze the structure an author uses to organize a text,
		including how the major sections contribute to the whole and to an understanding of the topic.
		6. Analyze the author's purpose in providing an explanation,
		describing a procedure, or discussing an experiment in a text.
		Integration of Knowledge and Ideas
		7. Integrate quantitative or technical information expressed in
		words in a text with a version of that information expressed
		visually (e.g., in a flowchart, diagram, model, graph, or table). 8. Distinguish among facts, reasoned judgment based on research
		findings, and speculation in a text.
		9. Compare and contrast the information gained from experiments,
		simulations, video, or multimedia sources with that gained from
		reading a text on the same topic.
		Range of Reading and Level of Text Complexity

	10. By the end of grade & read and comprehend science/technical
	10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and
	proficiently
	proneicity
	Reading Standards for Literacy in Science
	Key Ideas and Details
9 – 10	1. Cite specific textual evidence to support analysis of science and
	technical texts, attending to the precise details of explanations or
	descriptions.
	2. Determine the central ideas or conclusions of a text; trace the
	text's explanation or depiction of a complex process,
	phenomenon, or concept; provide an accurate summary of the text.
	3. Follow precisely a complex multistep procedure when carrying
	out experiments, taking measurements, or performing technical
	tasks, attending to special cases or exceptions defined in the
	text.
	Craft and Structure
	4. Determine the meaning of symbols, key terms, and other
	domain-specific words and phrases as they are used in a specific
	scientific or technical context relevant to grades 9–10 texts and
	topics.
	5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force</i> ,
	friction, reaction force, energy).
	6. Analyze the author's purpose in providing an explanation,
	describing a procedure, or discussing an experiment in a text,
	defining the question the author seeks to address.
	Integration of Knowledge and Ideas
	7. Translate quantitative or technical information expressed in
	words in a text into visual form (e.g., a table or chart) and
	translate information expressed visually or mathematically (e.g.,
	in an equation) into words. 8. Assess the extent to which the reasoning and evidence in a text
	8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a
	scientific or technical problem.
	9. Compare and contrast findings presented in a text to those from
	other sources (including their own experiments), noting when
	the findings support or contradict previous explanations or
	accounts.
	Range of Reading and Level of Text Complexity
	10. By the end of grade 10, read and comprehend science/technical
	texts in the grades 9–10 text complexity band independently and
	proficiently.

11-12	Reading Standards for Literacy in Science Key Ideas and Details 1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account. 2. Determine the central ideas or conclusions of a text; summarize
	 2. Determine the central ideas of conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. 3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
	Craft and Structure
	4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11–12 texts and topics</i> .
	5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved. Integration of Knowledge and Ideas
	7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
	8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
	9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
	Range of Reading and Level of Text Complexity
	10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently.

6 - 8	Writing Standards for Literacy	
	Text Types and Purposes	
	1. Write arguments focused on <i>discipline-specific content</i> .	
6 – 8	 a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. c. Use words, phrases, and clauses to create cohesion and clarify th relationships among claim(s), counterclaims, reasons, and evidence. d. Establish and maintain a formal style. e. Provide a concluding statement or section that follows from and supports the argument presented. 2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to inform about or explain the topic. 	
	e. Establish and maintain a formal style and objective tone.	
	 f. Provide a concluding statement or section that follows from and supports the information or explanation presented. Production and Distribution of Writing 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. 5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well 	
	purpose and audience have been addressed. 6. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. Research to Build and Present Knowledge 7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	
	8. Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility	

	,
	and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. 9. Draw evidence from informational texts to support analysis, reflection, and research. **Range of Writing** 10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
0.10	Writing Standards for Literacy
9 - 10	Text Types and Purposes
	2. Write informative/explanatory texts, including the narration of
	historical events, scientific procedures/ experiments, or technical processes.
	 a. Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension. b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic. c. Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts. d. Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers. e. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. f. Provide a concluding statement or section that follows from and
	supports the information or explanation presented (e.g.,
	articulating implications or the significance of the topic).
	 Production and Distribution of Writing 4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
	5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
	6. Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to

	display information flexibly and dynamically. 7. Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. 8. Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. 9. Draw evidence from informational texts to support analysis,
	reflection, and research. Range of Writing 10. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
11 - 12	 Writing Standards for Literacy Text Types and Purposes Write arguments focused on discipline-specific content. a. Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. b. Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases. c. Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. d. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. e. Provide a concluding statement or section that follows from or supports the v argument presented.
11 – 12	2. Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
	a. Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g.,

	headings), graphics (e.g., figures, tables), and multimedia when
	useful to aiding comprehension.
	b. Develop the topic thoroughly by selecting the most significant
	and relevant facts, extended definitions, concrete details,
	quotations, or other information and examples appropriate to the
	audience's knowledge of the topic.
	c. Use varied transitions and sentence structures to link the major
	sections of the text, create cohesion, and clarify the relationships
	among complex ideas and concepts.
	d. Use precise language, domain-specific vocabulary and
	techniques such as metaphor, simile, and analogy to manage the
	complexity of the topic; convey a knowledgeable stance in a
	style that responds to the discipline and context as well as to the
	expertise of likely readers.
11 - 12	e. Provide a concluding statement or section that follows from and
11 12	supports the information or explanation provided
	Note: Students must be able to write precise enough descriptions of
	the step-by-step procedures they use in their investigations or
	technical work that others can replicate them and (possibly)
	reach the same results.
	Production and Distribution of Writing
	4. Produce clear and coherent writing in which the development,
	organization, and style are appropriate to task, purpose, and
	audience.
	5. Develop and strengthen writing as needed by planning, revising,
	editing, rewriting, or trying a new approach, focusing on
	addressing what is most significant for a specific purpose and
	audience.
	6. Use technology, including the Internet, to produce, publish, and
	update individual or shared writing products in response to
	ongoing feedback, including new
	arguments or information.
	Research to Build and Present Knowledge
	7. Conduct short as well as more sustained research projects to
	answer a question (including a self-generated question) or solve
	a problem; narrow or broaden the inquiry when appropriate;
	synthesize multiple sources on the subject, demonstrating
	understanding of the subject under investigation.
	8. Gather relevant information from multiple authoritative print
	and digital sources, using advanced searches effectively; assess
	the strengths and limitations of each source in terms of the
	specific task, purpose, and audience; integrate information into
	the text selectively to maintain the flow of ideas, avoiding
	plagiarism and over reliance on any one source and following a
	standard format for citation.
	9. Draw evidence from informational texts to support analysis,
	reflection, and research.
	Range of Writing
	10. Write routinely over extended time frames (time for reflection
	and revision) and shorter time frames (a single sitting or a day or
	two) for a range of discipline-specific tasks, purposes, and
	audiences.

HULL HIGH SCHOOL READING RUBRIC

Expectation: A Hull High School student will read print and electronic media actively and critically.

	Exceeds expectations	Meets expectations	Approaches expectations	Does not meet expectations
Recognizes vocabulary in context	Student consistently and correctly recognizes vocabulary in context	Student correctly recognizes vocabulary in context	Student sometimes can correctly recognize vocabulary in context	Student seldom or never can correctly recognize vocabulary in context.
Comprehends and processes information	Student consistently demonstrates a strong conceptual understanding of the main ideas and relevant details	Student demonstrates a general conceptual understanding of the main ideas and relevant details	Student demonstrates a limited conceptual understanding of the main ideas and relevant details	Student is unable to identify or understand the main ideas and relevant details
Makes Connections	Student consistently makes solid connections to prior knowledge and experience	Student usually makes simple connections to prior knowledge and experience	Student sometimes makes vague connections to prior knowledge and experience	Student makes no connections to prior knowledge and experience
Distinguishes fact from opinion	Student makes a consistent thorough and thoughtful examination of the language, distinguishing fact from opinion	Student usually makes a sufficient examination of the language, distinguishing fact from opinion	Student makes a cursory examination of the language, seldom distinguishing fact from opinion	Student does not examine the language enough to distinguish fact from opinion
Establishes inferences	Student makes consistent insightful or creative inferences	Student usually can make insightful or creative inferences	Student sometimes makes vague or incorrect inferences	Student is unable to make inferences
Follows Instructions	Student consistently understands and executes instructions	Student usually understands and executes instructions	Student occasionally understands and executes instructions	Student does not understand or execute instructions

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HULL HIGH SCHOOL PRESENTATION RUBRIC

 $\underline{\textbf{Expectation:}} \ \textbf{A} \ \textbf{Hull High School Student will present information and ideas fluently and comfortably before an audience.}$

	Exceeds Expectations	Meets Expectations	Approaches Expectations	Does Not Meet Expectations
Organization	has a clear focus and directions and is organized in a fluent and coherent manner that is easily	has a clear focus with minimal inconsistencies. There	Student's presentation lacks a clear focus. There is a limited underdeveloped introduction and conclusion.	Student's presentation has no focus or organization. There is no introduction, conclusion or transitions evident.
Content	Student demonstrates a full understanding of the topic. The information presented clearly relates to the main topic. It includes several supporting details and/or examples.	Student demonstrates understanding of the topic. The information presented relates to the main topic. It provides one to two supporting details or examples.	Student demonstrates a limited understanding of the topic. The information presented partially relates to the main topic. No details or examples are given.	Student demonstrates little to no understanding of the topic. The information presented has little or nothing to do with the main topic.
Delivery		The student's stance is mostly controlled, with minimal distracting movements. Gestures are mostly visible, and effectively used for emphasis, and varied. The student mostly uses a variety of facial expressions and mostly maintains eye contact with the audience	The student's stance is somewhat controlled, with some distracting movements. The student somewhat uses a variety of facial expressions and somewhat maintains eye contact with the audience. Gestures are somewhat visible, and somewhat effectively used for emphasis, and varied.	Gestures are not used or not visible. The student does not use facial expressions The student does not maintain eye contact with the audience
Visual Aids/Technology		Student's visuals and/or application of technology are satisfactory in their content, creativity and style, contributing to the presentation.	Student's visuals and/or application of technology are basic in their content, creativity and style, somewhat contributing to the presentation.	Student's visuals and/or application of technology are inappropriate in their content, creativity and style, and/or do not contribute to the presentation.

HULL HIGH SCHOOL PROBLEM SOLVING RUBRIC

Expectation: A Hull High School Student will be a competent problem solver.

	Exceeds Expectations	Meets Expectations	Approaches	Does Not Meet
			Expectations	Expectations
Knowledge	Student identifies and	Student identifies and	Student identifies and	Student does not
(Understand the	demonstrates an	demonstrates an	demonstrates an	identify and does
problem)	understanding of all the			not demonstrate an
	concepts and processes	of the concepts and	of the concepts and	understanding of
	necessary to solve the		processes necessary to	concepts and
	problem.	solve the problem.	solve the problem.	processes necessary
				to solve the
				problem.
Data/Information	Student collects and	Student collects and	Student collects data	Student does not
(Collect/ organize the	efficiently organizes	organizes generally	and/or information in	collect sufficient
information and devise a	accurate data and/or	accurate data and/or	an attempt to solve the	data and/or
plan for solving the	information and	information and	problem.	information to solve
problem)	constructs a well-	constructs a plan to		the problem.
	defined plan to solve	solve the problem.		
	the problem.			
Analysis	Student's analysis is	Student's analysis is		Student's analysis is
(Analyze information,	complete, detailed,	accurate, organized	contains errors and/or	inaccurate,
solve the problem, and	organized	and appropriate for the		incomplete and/or
provide evidence and/or	and appropriate for the	problem may lack		inappropriate for the
reasoning)	problem. Final product			problem. Final
	is accurate and	mostly accurate and	product is moderately	product is
	provides clear evidence	1	accurate and provides	inaccurate and
	and reasoning.	evidence and	minimal evidence and	provides no
		reasoning.	reasoning.	evidence and
				reasoning.
Communication	Student work relates	Student work relates	Student work relates	Student work does
(Demonstrate	and applies clear and	and applies clear	and applies some	not relate or apply
understanding)	detailed explanations	explanations using	understanding but	an understanding of
	using evidence.	evidence.	limited in the use of	the problem.
			evidence.	

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HULL HIGH SCHOOL WRITING EXPECTATION RUBRIC

Expectation: A Hull High School student will communicate effectively through writing

Expectation: A	Expectation: A Hull High School student will communicate effectively through writing					
	Exceeds Expectations	Meets Expectations	Approaches Expectations	Does Not Meet Expectations		
Organization	Student's writing has a clear focus and is organized in a fluent and coherent manner that is easily understandable to multiple audiences.	Student's writing has a clear focus with minimal inconsistencies. There is evidence of a framework for organization within the writing.	Student's writing lacks a clear focus. There may be limited or underdeveloped organization.	Student's writing has no focus or organization.		
Ideas and Development	Student's main idea(s) stand out and details are carefully selected. The writing is a thorough and balanced explanation or exploration of a topic. Technology is always used effectively.	Student's writing has clear main idea(s) and supporting details are relevant. Technology is often used effectively.	Student's writing has an unclear purpose and main idea(s) and may include irrelevant details or extensive repetition Technology is used somewhat effectively.	Student's writing lacks main idea and has minimal development of ideas. Writing is consistently hard to follow. Does not use technology effectively when required.		
Language Use/ Voice	Student's writing incorporates a rich, varied, or specific word choice, appropriately adjusted to subject and audience	Student's writing includes appropriate and functional word choice, adjusted to subject and audience	Student's writing is monotonous and/or includes misused words. Writing is seldom adjusted to subject and audience	Student's writing includes limited and vague word choice, not adjusted to subject and audience.		
Sentence Fluency	Student's writing includes effective sentence flow with extensive variation in sentence structure, length, and beginnings.	Student's writing includes some sentence flow and some variety in sentence structure, length, and beginnings	Student's writing has a significant portion of text that is difficult to follow and sentence patterns are monotonous.	Student's writing contains incomplete sentences that make writing difficult to read.		

	Student's writing is	Student's writing is	Student's writing is	Student's writing
Conventions/ Mechanics	an example of a strong control of standard writing conventions. There is little need for	an example of adequate control of standard writing conventions. There may be minor errors	limited in control of standard writing conventions and errors begin to impede readability.	has numerous errors in usage, spelling, capitalization, and punctuation that repeatedly distract
	editing.	that do not impede readability.		the reader.