Karen B. Salmon, Ph.D.
State Superintendent of Schools

TO: Members of the State Board of Education

FROM: Karen B. Salmon, Ph.D.

DATE: December 3, 2019

SUBJECT: Curriculum Vetting

PURPOSE:

The purpose of this agenda item is to share the outcomes of the curriculum vetting process in school systems that have schools identified for comprehensive support and improvement (CSI).

BACKGROUND/HISTORICAL PERSPECTIVE:

The Maryland Every Student Succeeds Act (ESSA) Consolidated Plan requires schools identified as CSI to complete specific actions to support school improvement. All CSI schools must:
1. Complete a needs assessment.
2. Have a root cause analysis completed by an external party.
3. Use the outcomes of the needs assessment and root cause analysis to inform the development of an intervention plan. The intervention plan must be written in partnership with the school community and identify evidence-based interventions that will be implemented to address the root cause(s) of school performance problems. The intervention plan must be approved by the school, school system, and the Maryland State Department of Education (MSDE).
4. Use curriculum vetted by the MSDE.
5. Participate in customized professional learning experiences and leadership coaching as part of the Leading for School Improvement Institute.
6. Participate in on-site and virtual progress monitoring visits by the MSDE.
7. Develop a sustainability plan and have it approved by the school, local school system, and MSDE.

CSI schools have three years to exit CSI status. Schools that do not exit CSI status will receive more rigorous interventions from the MSDE.

EXECUTIVE SUMMARY:

CSI schools were identified in Baltimore City, Prince George's County, and Anne Arundel County Public School Systems. Each school system submitted their ELA and mathematics curricula to the MSDE for vetting in alignment with ESSA requirements. Staff from the MSDE along with 26 curriculum vetters representing 17 school systems vetted the submitted curricula for alignment to Maryland College and Career Ready Standards. Curriculum Vetting Reports were produced for each school system identifying areas of promise, opportunities for growth, and recommendations for improvement. The MSDE will collaborate with school systems to address curricular gaps and support the implementation of standards-aligned curricula.

ACTION:

For information only. No actions required.

Attachments (7)
Attachment I - Curriculum Vetting PowerPoint
Attachment II - English Language Arts Grade K Curriculum Vetting Rubric
Attachment III- English Language Arts Grade 1 Curriculum Vetting Rubric
Attachment IV - English Language Arts Grade 2 Curriculum Vetting Rubric
Attachment V - English Language Arts Grades 3-10 Curriculum Vetting Rubric
Attachment VI- Mathematics Curriculum Vetting Rubric
Attachment VII - Prince George's County Algebra I Curriculum Vetting Report

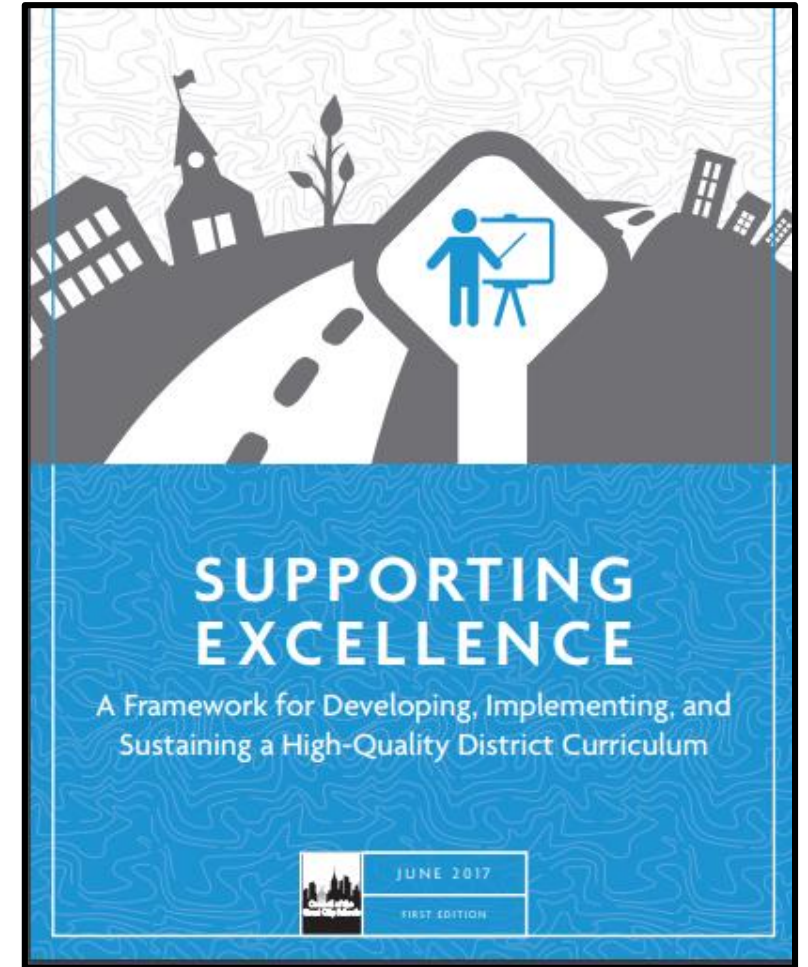# Curriculum Vetting in Comprehensive Support and Improvement Schools

December 3, 2019

Maryland State Board of Education Meeting

MARYLAND STATE DEPARTMENT OF
EDUCATION
EQUITY AND EXCELLENCE

Defining Curriculum

- ✓ Essential content to be taught and how deeply to teach it so that each student has access to rigorous academic experiences and instructional supports to meet academic standards.
- ✓ Comprehensive academic content and assessments aligned to standards.
- ✓ Builds instructional coherence within and across grade levels and reflects a clear vision about student learning and achievement.

SUPPORTING EXCELLENCE
A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum

JUNE 2017
FIRST EDITION

MARYLAND STATE DEPARTMENT OF
EDUCATION
EQUITY AND EXCELLENCE

Impact of High-Quality Curriculum

"…….content-rich, standards-aligned, and high-quality curricula can have a powerful influence on student achievement."

"High-quality, research-backed curricula can improve student outcomes with very little added cost to districts.."

Local School Systems must Demonstrate Evidence that Curriculum Aligns to Standards

✓ **Maryland Every Student Succeeds Act Consolidated State Plan:**

Requires comprehensive support and improvement schools to use curriculum that has been vetted by the Maryland State Department of Education (MSDE).

✓ **Code of Maryland Regulations:**

Requires all school systems to demonstrate evidence that English language arts and mathematics curriculum aligns to Maryland College and Career Ready Standards.

MSDE Developed Rubrics Support a Holistic View of Curriculum

English Language Arts Grades K-2 and 3-10

- Alignment with the Maryland College and Career Ready Standards

- Evidence of Key Shifts (complex text, text-evidence, and literary non-fiction)

- Instructional Supports to Build Proficiency and Independence for all Students

- Assessment Design and Purpose

**Ratings:
Meets all Criteria (4) –
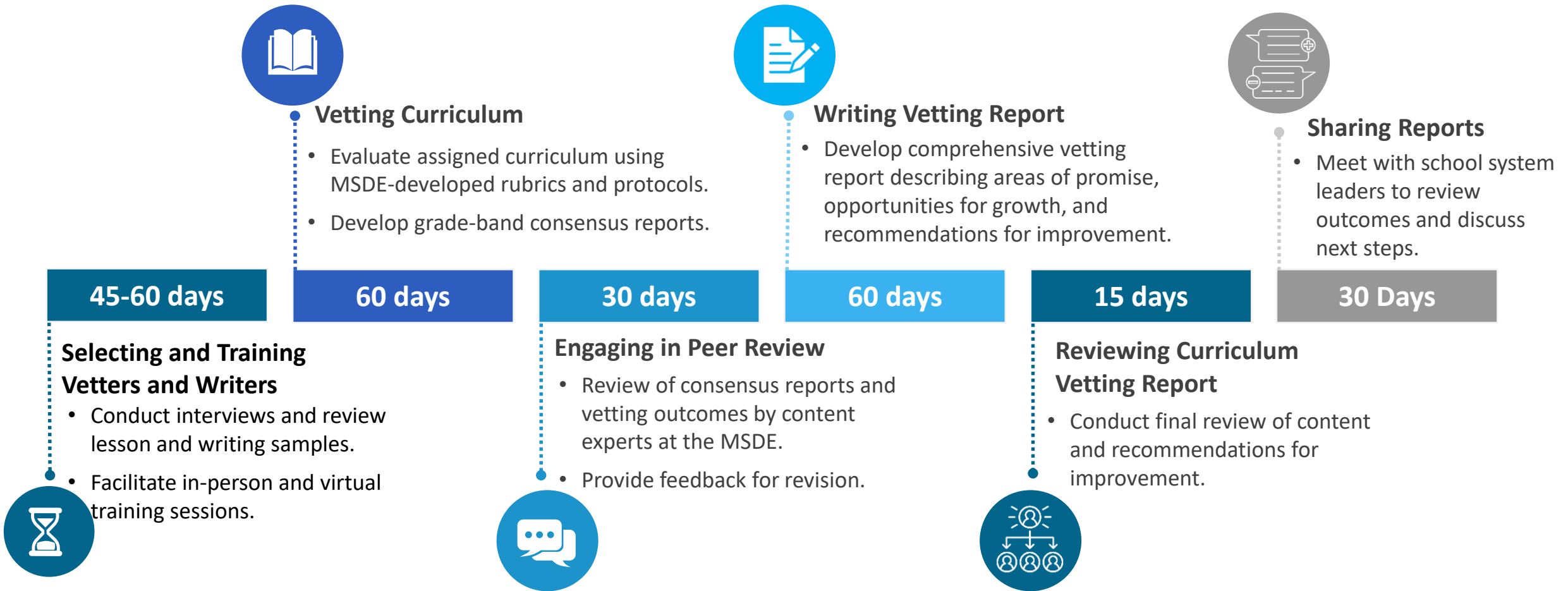Does not Meet Criteria (0)**

Mathematics Grades K – 8 and Algebra I

- Focus and Rigor for Grade Level or Course (alignment with Maryland College and Career Ready Standards)

- Coherence Within and Across Grade Levels

- Instructional Supports to Build Proficiency and Independence for all Students

- Assessment *of* and *for* Learning

**Ratings:
Exceeds Expectations (4) –
Unsatisfactory (1)**

Curriculum Vetting Timeline and Process

Vetting Curriculum
- Evaluate assigned curriculum using MSDE-developed rubrics and protocols.
- Develop grade-band consensus reports.

Writing Vetting Report
- Develop comprehensive vetting report describing areas of promise, opportunities for growth, and recommendations for improvement.

Sharing Reports
- Meet with school system leaders to review outcomes and discuss next steps.

| 45-60 days | 60 days | 30 days | 60 days | 15 days | 30 Days |

Selecting and Training Vetters and Writers
- Conduct interviews and review lesson and writing samples.
- Facilitate in-person and virtual training sessions.

Engaging in Peer Review
- Review of consensus reports and vetting outcomes by content experts at the MSDE.
- Provide feedback for revision.

Reviewing Curriculum Vetting Report
- Conduct final review of content and recommendations for improvement.

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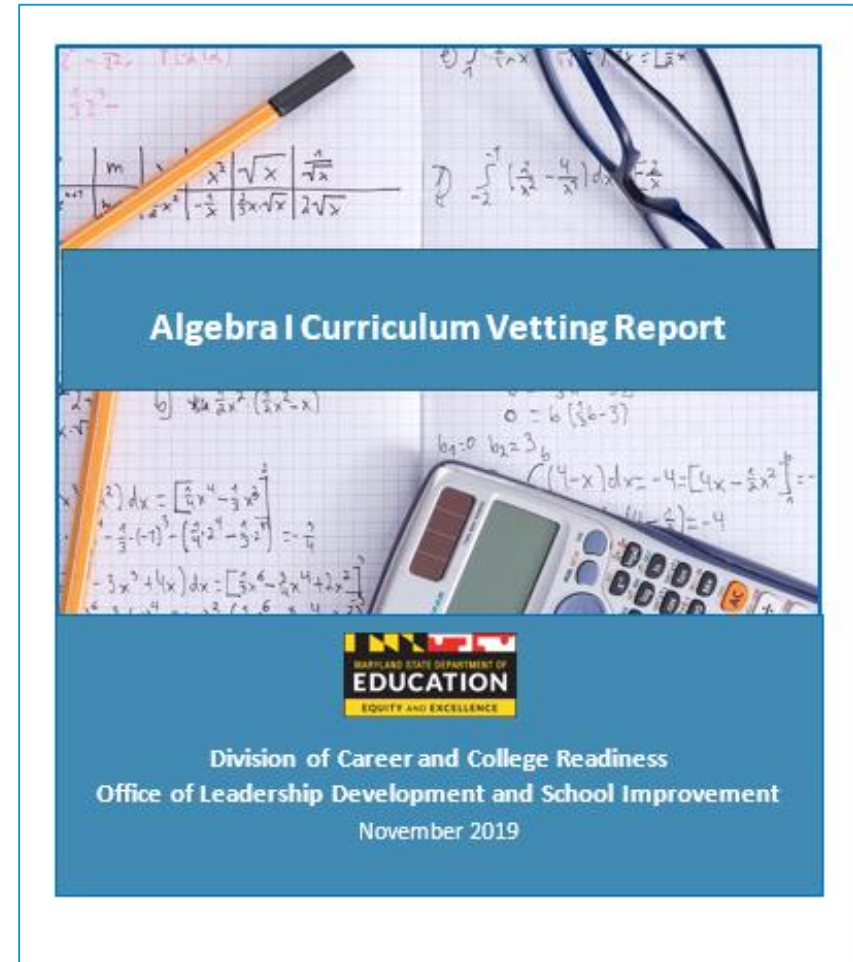EQUITY AND EXCELLENCE

Comprehensive Support and Improvement Schools

Comprehensive support and improvement schools that participated in the curriculum vetting process were the lowest achieving 5% of Title I schools and high schools that did not graduate one third or more of their students.

Baltimore City 31 Schools	Anne Arundel County 2 Schools	Prince George's County: 3 Schools
• 5 Elementary Schools • 8 Elementary/Middle Schools • 2 Middle Schools • 6 Middle/High Schools • 10 High Schools ➢ 1 Alternative	• 1 Alternative School Serving Grades K-12 • 1 Evening High School with 6 Different Locations Around the County	3 High Schools ➢ 2 Comprehensive ➢ 1 Evening/Saturday

Curriculum Vetting Report Structure

I.   Overview

II. Areas of Promise

III. Opportunities for Growth

IV. Overall Rating

V.   Recommendations for Improvement

VI. Conclusion

VII. Appendices

    A. Rubrics

    B. Consensus Reports

    C. Evidence Organizer

    D. Curriculum Vetters

Algebra I Curriculum Vetting Report

Division of Career and College Readiness
Office of Leadership Development and School Improvement
November 2019

Curriculum Vetting Overview: Prince George's County Public Schools
Curriculum Developed by the School System

Grade 9 and 10 English Language Arts Curriculum	Algebra 1 Curriculum
Areas of Promise • Includes variety and appropriate complexity of text • Incorporates text-dependent questioning and responses • Includes methods for assessments to measure student proficiency	**Areas of Promise** • Includes an "Unpacking the Standards" to align content standards with Standards of Mathematical Practice • Balance of major, supporting, and additional standards • Includes a "Top 10" resource to support scaffolding and differentiation
Opportunities for Growth • Clear and consistent alignment with the Maryland College and Career Ready Standards • Improve vocabulary acquisition and development • Provide supports for all learners	**Opportunities for Growth** • Clear and consistent alignment with the Maryland College and Career Ready Standards • Equal balance for aspects of rigor (concepts, procedures, and application)
Recommendations • Measurable alignment between standards and lesson objectives • Incorporate frequent and regular vocabulary acquisition and development techniques • Ensure print and digital resources are available and appropriate for diverse learners	**Recommendations** • Measurable alignment between standards and lesson objectives • Ensure print and digital resources are available and appropriate for diverse learners

Prince George's County - Algebra I Curriculum Vetting Results

Criteria on the Mathematics Curriculum Vetting Rubric				
Key Features	**Focus and Rigor**	**Coherence**	**Instructional Supports**	**Assessment of and for Learning**
A high-quality curriculum is evaluated for these indicators	• Alignment to Standards • Connections between Standards for Mathematical Practice and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Supporting Standards) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/Thinking • Formative Assessments • Summative assessments
Overall Rating	**3**	**2**	**2**	**3**

Prince George's County- English 9 and 10 Curriculum Vetting Results

Criteria on the ELA Grade 3-10 Curriculum Vetting Rubric				
Key Features	Alignment with the Maryland College and Career Ready Standards	Key Shifts	Instructional Supports	Assessment Design and Purpose
Characteristics of a high-quality curriculum are evaluated for these indicators	• Measurable Alignment • Text Complexity • Vocabulary Acquisition • Variety of Text	• Text-based Evidence • Writing From Source • Academic Vocabulary • Balanced of Non-fiction To Literary Text	• Equal Access to Text • Close Reading Techniques • Evidence of Differentiation • Extensions Are Appropriate	• Valid Measures • Success Criteria • Accommodations And Accessibility • Reliable Measures
English 9 Rating	2	3	3	3
English 10 Rating	2	3	3	2

Curriculum Vetting Overview: Anne Arundel County Schools
Curriculum Developed by the School System

Grade 9 and 10 English Language Arts Curriculum	Algebra 1 Curriculum
Areas of Promise • Access to a variety and diversity of text • A variety of differentiated options to engage students in reading and writing tasks	**Areas of Promise** • Variety of resources aligned to standards • Integration of manipulatives throughout curriculum • Evidence of coherence within curricular documents
Opportunities for Growth • Clear and purposeful alignment of curriculum with grade-level Maryland College and Career Ready Standards • Specific resources for all learners, including English learners and students with disabilities, etc.	**Opportunities for Growth** • Clear and consistent alignment with the Maryland College and Career Ready Standards • Clear identification of major, supporting, and additional standards
Recommendations • Identify and align grade-appropriate standards for all lessons, units, activities, and tasks • Provide instructional supports for struggling readers, English learners, and students with disabilities	**Recommendations** • Identify and align grade-appropriate standards to all instructional materials • Provide instructional supports for struggling readers, English learners, and students with disabilities

Anne Arundel County - Algebra I Curriculum Vetting Results

Criteria on the Mathematics K-12 Curriculum Vetting Rubric				
Key Features	**Focus and Rigor**	**Coherence**	**Instructional Supports**	**Assessment of and for Learning**
A high-quality curriculum is evaluated for these indicators	• Alignment to Standards • Connections between Standards for Mathematical Practice and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Additional/ Supporting) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/ Thinking • Formative Assessments • Summative Assessments
Overall Rating	1	1	2	2

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Anne Arundel County- English 9 and 10 Vetting Results

Criteria on the ELA Grade 3-10 Curriculum Vetting Rubric				
Key Features	Alignment with the Maryland College and Career Ready Standards	Key Shifts	Instructional Supports	Assessment Design and Purpose
Characteristics of a high-quality curriculum are evaluated for all of these indicators	• Measurable Alignment • Text Complexity • Vocabulary Acquisition • Variety of Text	• Text-based Evidence • Writing from Source • Academic Vocabulary • Balanced of Non-fiction to Literary Text	• Equal access to text • Close Reading Techniques • Evidence of Differentiation • Extensions are Appropriate	• Valid Measures • Success Criteria • Accommodations and Accessibility • Reliable Measures
English 9 Rating	2	3	3	2
English 10 Rating	2	3	3	3

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Curriculum Vetting Overview: Baltimore City Public Schools

K-8 Mathematics and Algebra 1: *Eureka Math Curriculum*

Areas of Promise

- Alignment with Maryland Career and College Ready Standards
- Clear lesson structure and scope and sequence
- Extensive instructional guidance for teachers

Opportunities for Growth

- Instructional supports for diverse learners (models, manipulatives, examples)
- More information regarding student misconceptions and errors
- Connections to future learning

Recommendations

- Incorporate multiple experiences for application of concept (real-word)
- Add evidence-based practices for specific student groups
- Offer guidance for addressing student misconceptions and error correction

Baltimore City K-2 Mathematics Curriculum Vetting Results

Criteria on the Mathematics K-12 Curriculum Vetting Rubric				
Key Features	**Focus and Rigor**	**Coherence**	**Instructional Supports**	**Assessment of and for Learning**
A high-quality curriculum is evaluated for these indicators	• Alignment to Standards • Connections between Standards for Mathematical Practice and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Additional/ Supporting) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/ Thinking • Formative Assessments • Summative assessments
Overall Rating	3	3	2	3

Baltimore City 3-5 Mathematics Curriculum Vetting Results

Criteria on the Mathematics K-12 Curriculum Vetting Rubric				
Key Features	**Focus and Rigor**	**Coherence**	**Instructional Supports**	**Assessment for Learning**
A high-quality curriculum is evaluated for these indicators	• Alignment to Standards • Connections between Standards for Mathematical Practice and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Additional/ Supporting) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/ Thinking • Formative Assessments • Summative assessments
Overall Rating	**3**	**3**	**2**	**3**

Baltimore City 6-8 Mathematics Curriculum Vetting Results

Criteria on the Mathematics K-12 Curriculum Vetting Rubric				
Key Features	**Focus and Rigor**	**Coherence**	**Instructional Supports**	**Assessment of and for Learning**
A high-quality curriculum is evaluated for these indicators	• Alignment to standards • Connections between Standards for Mathematical Practice and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Additional/ Supporting) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/ Thinking • Formative Assessments • Summative assessments
Overall Rating	3	2	2	3

Baltimore City - Algebra I Curriculum Vetting Results

Criteria on the Mathematics K-12 Curriculum Vetting Rubric				
Key Features	**Focus and Rigor**	**Coherence**	**Instructional Supports**	**Assessment of and for Learning**
A high-quality curriculum is evaluated for these indicators	• Alignment to Standards • Connections between Standards for Mathematical Practice and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Additional/ Supporting) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/ Thinking • Formative Assessments • Summative assessments
Overall Rating	3	3	2	3

Curriculum Vetting Overview: Baltimore City Public Schools

K-2 Grade Band English Language Arts: *Fundations* and *Wit & Wisdom Curriculum*

Areas of Promise

- Wit & Wisdom: Focus on text-based discussions
- Wit & Wisdom: Diversity of texts
- Evidence of instructional supports for all learners

Opportunities for Growth

- Alignment or presence of Maryland College and Career Ready Foundational Skills Standards in Fundations and Wit & Wisdom
- Formative and summative assessments to evaluate proficiency toward meeting Maryland College and Career Ready Standards

Recommendations

- Develop a comprehensive scope and sequence *between* Fundations and Wit & Wisdom to ensure all Maryland College and Career Ready Standards are addressed
- Increase opportunities for hand-on and exploration of literacy and information text

Baltimore City K-2 ELA Curriculum Vetting Results

Key Features	Criteria on the ELA Grade K-2 Curriculum Vetting Rubric for Fundations and Wit & Wisdom			
	Alignment with the Maryland College and Career Ready Standards and Foundational Skills Standards (Anchor Standard 2 and 3)	**Key Shifts**	**Instructional Supports**	**Assessment Design and Purpose**
A high-quality curriculum is evaluated for these indicators	• Measurable Alignment • Text Complexity • Vocabulary Acquisition • Variety of Text • Foundational Skills Standards	• Text-based Evidence • Writing From Source • Academic Vocabulary • Balanced of Non-fiction To Literary Text	• Equal Access to Text • Close Reading Techniques • Evidence of Differentiation • Extensions are Appropriate	• Valid Measures • Success Criteria • Accommodations And Accessibility • Reliable Measures
K-2 Rating	**2**	**3**	**3**	**2**

Curriculum Vetting Overview: Baltimore City Public Schools

3-8 Grade Band English Language Arts: *Wit & Wisdom Curriculum*

Areas of Promise-
- Frequent and regular evidence of text-based responses
- Recurrent use of success criteria or assessment criteria
- Consistent structure includes lesson sequence, standards addressed, and learning goals

Opportunities for Growth-
- Clear and consistent alignment with the Maryland College and Career Ready Standards
- Ongoing measures of student performance
- Need for instructional supports and scaffolds for diverse learners
- Opportunities to demonstrate mastery independently and proficiently

Recommendations-
- Correct standards alignment gaps, errors, and omissions
- Intentional grouping of students and gradual release of responsibility at all levels
- Improve lesson and unit structure to include high-quality components of curriculum

Baltimore City 3-5 ELA Curriculum Vetting Results

Key Features	Criteria on the ELA Grade 3-5 Curriculum Vetting Rubric			
	Alignment with the Maryland College and Career Ready Standards	**Key Shifts**	**Instructional Supports**	**Assessment Design and Purpose**
Characteristics of a high-quality curriculum are evaluated for these indicators	• Measurable Alignment • Text Complexity • Vocabulary Acquisition • Variety of Text	• Text-based Evidence • Writing From Source • Academic Vocabulary • Balanced of Non-fiction To Literary Text	• Equal Access to Text • Close Reading Techniques • Evidence of Differentiation • Extensions Are Appropriate	• Valid Measures • Success Criteria • Accommodations and Accessibility • Reliable Measures
Overall Ratings	2	3	3	2

Baltimore City 6-8 ELA Curriculum Vetting Results

Key Features	Criteria on the ELA Grade 3-5 Curriculum Vetting Rubric			
	Alignment with the Maryland College and Career Ready Standards	**Key Shifts**	**Instructional Supports**	**Assessment Design and Purpose**
Characteristics of a high-quality curriculum are evaluated for these indicators	• Measurable Alignment • Text Complexity • Vocabulary Acquisition • Variety of Text	• Text-based Evidence • Writing From Source • Academic Vocabulary • Balanced of Non-fiction To Literary Text	• Equal Access to Text • Close Reading Techniques • Evidence of Differentiation • Extensions Are Appropriate	• Valid Measures • Success Criteria • Accommodations and Accessibility • Reliable Measures
Overall Ratings	**2**	**3**	**3**	**2**

Next Steps

1. Support school systems to address curricular gaps.
2. Provide professional learning on curriculum vetting.
3. Begin process to vet curriculum in:

2019-2020	2020-2021	2021-2022
• **Montgomery County:** Grades 9-10 ELA • **Baltimore County:** Math and ELA • **Dorchester County:** Math and ELA • **Somerset County:** Math and ELA • **Prince George's County:** K-8 Math and ELA	• **Garrett County:** Math and ELA • **Talbot County:** Math and ELA • **Wicomico County:** Math and ELA • **Caroline County:** Math and ELA • **Cecil County:** Math and ELA	• **Washington County :** Math and ELA • **Harford County:** Math and ELA • **Anne Arundel County:** K-8 Math and ELA • **Kent County:** Math and ELA

MARYLAND STATE DEPARTMENT OF
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ENGLISH LANGUAGE ARTS

Kindergarten Curriculum Vetting Rubric

Maryland State Department of Education

Division of Career and College Readiness

Overview

The Maryland State Department of Education's curriculum vetting rubrics are designed to serve as a support for school system leaders in identifying high-quality, standards-based curriculum. Code of Maryland Regulation 13A.04.14 requires each public school system to use curriculum that is aligned with the Maryland College and Career Ready Standards. The English language arts (ELA) curriculum vetting rubric can be used to evaluate curriculum for kindergarten to grade ten.

Curriculum defines the essential content to be taught and how deeply to teach it so that each student has access to rigorous academic experiences and instructional supports to meet academic standards (Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum). Curriculum is not a textbook or a set of instructional materials. It is the comprehensive academic content and assessments aligned to standards. Curriculum builds instructional coherence within and across grade levels and reflects a clear vision about student learning and achievement. Curriculum includes but is not limited to a scope and sequence; measureable goals and student learning outcomes; instructional scaffolds and benchmarks; supporting instructional materials; and formative and summative assessments.

The development of the ELA curriculum vetting rubric was informed by Achieve's *Educators Evaluating the Quality of Instructional Products* (EQuIP) rubrics, the *Grade-Level Instructional Materials Evaluation Tool- Quality Review* (GIMET-QR), Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum, and peer-reviewed research.

The K-2 ELA curriculum vetting rubric is designed to support a holistic view of curriculum with a focus on key criteria:
- alignment with Maryland College and Career Ready Standards;
- evidence of key shifts;
- instructional supports to build proficiency and independence, and
- assessment design and purpose.

The ELA curriculum vetting rubric provides school system leaders with a resource to facilitate a review of their kindergarten through grade ten ELA curriculum. The vetting process will highlight areas of strength and opportunities for growth in the curriculum to inform improvements. The Maryland State Department of Education (MSDE) will provide training to support the implementation of the rubric and vet the curriculum of school systems to ensure alignment to standards. A list of vetted curriculum can be found on the Maryland Resource Hub.

Criteria 1 Background: Lessons must reflect a wide range of text types and genres, as required by the standards. Knowledge built at one grade level should be expanded in other grade levels. Lessons must reflect explicit instruction of foundational reading skills as required by standards.

Ia: Alignment to Maryland College- and Career-Ready Standards: **Kindergarten Foundational Skills: Phonological Awareness** and **Phonics** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
Phonological Awareness: *Lessons include analysis of sounds of oral language (words, syllables, phonemes). CCR Anchor Standard 2* ☐ Recognize and produce rhyming words ☐ Count, pronounce, blend, and segment syllables in spoken words ☐ Blend and segment onsets/rimes of single-syllable spoken words ☐ Isolate/pronounce the initial, medial, and final phonemes in CVC words ☐ Add/substitute individual phonemes to make new words **Phonics and Word Recognition**: *Lessons include explicit phonics instruction and word analysis skills in decoding words. CCR Anchor Standard 3* ☐ Demonstrate knowledge of one-to-one letter-sound correspondences ☐ Associate the sounds with the spellings of the five major vowels ☐ Read common high-frequency words by sight (the, of, to, my, she, is, are, do, does, etc.) ☐ Distinguish between similarly spelled words by identifying the sounds of the letters that differ		
1b: Alignment to Maryland College-and Career-Ready Standards for the **Reading, Writing,** and **Language** Strands *Criteria*		
Curriculum includes or provides- ☐ **Measurable Alignment:** Clear and specific purpose between MCCRS and the behavioral (measurable) objective/outcome. ☐ **Text Complexity:** Engaging texts that align with the requirements in the standards and are of sufficient scope for the purpose. ☐ **Vocabulary Acquisition:** Strategies for vocabulary acquisition ☐ **Variety of Texts:** There is a range of materials, both print and		

digital, which feature diverse cultures, represent high-quality, and are appropriate in topic and theme for the grade level. For essential skills and knowledge aligned to this standard, please see the Maryland College-and Career-Ready Curriculum Framework		

Qualitative Summary of Evidence

Rating Scale for Part I: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Criteria II Background: The Key shifts, as indicated in the adoption of the MCCRS (CCSS), are evident throughout. Thoughtful/Sustained focus on these shifts means students must have access to and regular practice with complex text and related academic language, reading, writing, and language standards. Instruction explicitly calls for students' responses to be grounded in evidence from texts, both literary and informational. (corestandards.org)

II: Key Shifts are Evident *Criteria*	Strengths *Provide specific evidence or examples of commendations.*	Challenges and Concerns *Provide specific evidence or examples of areas for improvement.*
❏ **Text-based evidence**: Lessons facilitate rich text-based discussions and responses driven by thought-provoking questions about common texts (including read alouds and other media). ❏ **Writing from sources:** Lessons provide opportunities for students to routinely draw evidence from texts and present ideas and information through writing and/or drawing and speaking. ❏ **Academic vocabulary:** Lessons focus on explicitly building students' vocabulary and concepts of syntax. ❏ **Balanced of Informational to Literary text:** In K-2, there is a 50/50 balance of informational and literary texts.		

Qualitative Summary of Evidence

Rating Scale for Part II: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Criteria III Background: While scaffolds are not a part of the standards themselves, it is important to meet the range of student needs in the classroom. Supports and scaffolds should include small group instruction informed by the assessment of foundational skills including phonological awareness and phonics. All scaffolding and supports require ongoing formal and informal assessments that provide multiple opportunities for students to demonstrate their proficiency, both cooperatively and independently. Scaffolding is not just intended for struggling students, but also for students who are ready for above grade-level work.

III **Instructional Supports Build Proficiency and Independence** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
❏ **Equal Access to Text:** Lessons provide all students with multiple opportunities to engage with text (including read alouds) of appropriate complexity for the grade level. ❏ **Close Reading Techniques:** Lessons model close reading of text (including read alouds) a central focus of instruction and includes opportunities for students to ask and answer text-dependent questions. ❏ **Evidence of Differentiation:** Considerations are made for students with disabilities, English learners, and students who are performing at or below grade level. ❏ **Extensions are Appropriate:** Provides extensions for students who read above grade level.		

Qualitative Summary of Evidence

Rating Scale for Part III: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Part IV Background: Since assessment drives instruction, lessons include regular formative and summative measures to determine whether students are mastering standards-based content and skills.

IV. Assessment Design and Purpose *Criteria*	Strengths *Provide specific evidence or examples of commendations*	Challenges or Concerns *Provide specific evidence or examples of areas for improvement*
❑ **Valid Measures**: Lessons elicit observable evidence of the degree to which a student can independently demonstrate foundational skills and targeted grade level literacy. ❑ **Success Criteria**: Lessons include aligned rubrics and/or assessment guidelines sufficient for interpreting performance. ❑ **Accommodations and Accessibility:** Assessments are appropriate for all students. ❑ **Reliable Measures:** Assessments, whether formal or informal, are designed to provide multiple opportunities for students to demonstrate their proficiency.		

Qualitative Summary of Evidence

Rating Scale for Part IV: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Sources:

- https://www.achieve.org/files/EQuIP-ELArubric-06-24-13-FINAL.pdf
- https://www.cgcs.org/cms/lib/DC00001581/Centricity/Domain/72/ELA_Rubric_Grades%209-10.pdf
- https://parcc-assessment.org/content/uploads/2017/11/PARCCMCFELALiteracyAugust2012_FINAL.pdf
- http://www.corestandards.org/assets/Appendix_A.pdf
- http://mdk12.msde.maryland.gov/instruction/curriculum/reading/includes/AdditionalFiles/Vertical%20Progressions%20-%20Reading%20Informational%20Texts.pdf

Maryland State Department of Education

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Brigadier General Warner I. Sumpter
President, Maryland State Board of Education

Division of Career & College Readiness | Office of Leadership Development and School Improvement

Tiara Booker-Dwyer, Assistant State Superintendent
Edmund Mitzel, Executive Director
Laura Liccione, Coordinator of Academic Improvement
Tara Corona, Continuous Improvement Specialist
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Non-Discrimination Statement

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ENGLISH LANGUAGE ARTS

Grade 2 Curriculum Vetting Rubric

Maryland State Department of Education

Division of Career and College Readiness

Overview

The Maryland State Department of Education's curriculum vetting rubrics are designed to serve as a support for school system leaders in identifying high-quality, standards-based curriculum. Code of Maryland Regulation 13A.04.14 requires each public school system to use curriculum that is aligned with the Maryland College and Career Ready Standards. The English language arts (ELA) curriculum vetting rubric can be used to evaluate curriculum for kindergarten to grade ten.

Curriculum defines the essential content to be taught and how deeply to teach it so that each student has access to rigorous academic experiences and instructional supports to meet academic standards (Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum). Curriculum is not a textbook or a set of instructional materials. It is the comprehensive academic content and assessments aligned to standards. Curriculum builds instructional coherence within and across grade levels and reflects a clear vision about student learning and achievement. Curriculum includes but is not limited to a scope and sequence; measureable goals and student learning outcomes; instructional scaffolds and benchmarks; supporting instructional materials; and formative and summative assessments.

The development of the ELA curriculum vetting rubric was informed by Achieve's *Educators Evaluating the Quality of Instructional Products* (EQuIP) rubrics, the *Grade-Level Instructional Materials Evaluation Tool- Quality Review* (GIMET-QR), Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum, and peer-reviewed research.

The K-2 ELA curriculum vetting rubric is designed to support a holistic view of curriculum with a focus on key criteria:
- alignment with Maryland College and Career Ready Standards;
- evidence of key shifts;
- instructional supports to build proficiency and independence, and
- assessment design and purpose.

The ELA curriculum vetting rubric provides school system leaders with a resource to facilitate a review of their kindergarten through grade ten ELA curriculum. The vetting process will highlight areas of strength and opportunities for growth in the curriculum to inform improvements. The Maryland State Department of Education (MSDE) will provide training to support the implementation of the rubric and vet the curriculum of school systems to ensure alignment to standards. A list of vetted curriculum can be found on the Maryland Resource Hub.

Criteria 1a Background: Lessons must reflect a wide range of text types and genres, as required by the standards. Knowledge built at one grade level should be expanded in other grade levels. Lessons must reflect explicit instruction of foundational reading skills as required by standards.		
Ia: Alignment to Maryland College- and Career-Ready Standards: **Grade 2 Foundational Skills: Phonics** and **Word Recognition** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
Phonics: *Curriculum includes explicit phonics instruction and word analysis skills in decoding words. CCR Anchor Standard 3* ☐ Distinguish long and short vowel sound-spelling patterns when reading regularly spelled one-syllable words (CVC, CVCE, CVVC) ☐ Know sound-spelling correspondences for additional common vowel teams ☐ Apply syllable division rules to decode regularly spelled two-syllable words with long vowels ☐ Decode words with common prefixes and suffixes (identify base word, prefix, suffix, and describe how the affix affects word meaning) ☐ Identify and read words with inconsistent but common spelling-sound correspondences ☐ Recognize and read grade-appropriate irregularly spelled words. ☐ Apply learned phonics patterns in connected, decodable text		
1b: Alignment to Maryland College-and Career-Ready Standards for the **Reading, Writing,** and **Language** Strands *Criteria*		
Curriculum includes or provides- ☐ **Measurable Alignment:** Clear and specific purpose between MCCRS and the behavioral (measurable) objective/outcome. ☐ **Text Complexity:** Engaging texts that align with the requirements in the standards and are of sufficient scope for the purpose. ☐ **Vocabulary Acquisition:** Strategies for vocabulary acquisition ☐ **Variety of Texts:** There is a range of materials, both print		

and digital, which feature diverse cultures, represent high-quality, and are appropriate in topic and theme for the grade level. For essential skills and knowledge aligned to this standard, please see the Maryland College-and Career-Ready Curriculum Framework		

Qualitative Summary of Evidence

Rating Scale for Part I: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Criteria II Background: The Key shifts, as indicated in the adoption of the MCCRS (CCSS), are evident throughout. Thoughtful/sustained focus on these shifts means students must have access to and regular practice with complex text and related academic language, reading, writing, and language standards. Instruction explicitly calls for students' responses to be grounded in evidence from texts, both literary and informational. (corestandards.org)

II: Key Shifts are Evident *Criteria*	Strengths *Provide specific evidence or examples of commendations.*	Challenges and Concerns *Provide specific evidence or examples of areas for improvement.*
Curriculum- ❏ **Text-based evidence**: Facilitates rich text-based discussions and responses driven by thought-provoking questions about common texts (including read alouds and other media). ❏ **Writing from sources:** Provides opportunities for students to routinely draw evidence from texts and present ideas and information through writing and/or drawing and speaking. ❏ **Academic vocabulary:** Focuses on explicitly building students' vocabulary and concepts of syntax. ❏ **Balanced of Informational to Literary text:** In K-2, there is a 50/50 balance of informational and literary texts.		

Qualitative Summary of Evidence

Rating Scale for Part II: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Criteria III Background: While scaffolds are not a part of the standards themselves, it is important to meet the range of student needs in the classroom. Supports and scaffolds should include small group instruction informed by the assessment of foundational skills including phonological awareness and phonics. All scaffolding and supports require ongoing formal and informal assessments that provide multiple opportunities for students to demonstrate their proficiency, both cooperatively and independently. Scaffolding is not just intended for struggling students, but also for students who are ready for above grade-level work.

III: **Instructional Supports Build Proficiency and Independence** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
Curriculum- ❏ **Equal Access to Text:** Provides all students with multiple opportunities to engage with text (including read alouds) of appropriate complexity for the grade level. ❏ **Close Reading Techniques:** Models close reading of text (including read alouds) a central focus of instruction and includes opportunities for students to ask and answer text-dependent questions. ❏ **Evidence of Differentiation:** Considers students with disabilities, English learners, and students who are performing at or below grade level. ❏ **Extensions are Appropriate:** Provides extensions for students who read above grade level.		

Qualitative Summary of Evidence

Rating Scale for Part III: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Criteria IV Background: Since assessment drives instruction, lessons include regular formative and summative measures to determine whether students are mastering standards-based content and skills.		
IV: Assessment Design and Purpose *Criteria*	Strengths *Provide specific evidence or examples of commendations*	Challenges or Concerns *Provide specific evidence or examples of areas for improvement*
Curriculum- ❏ **Valid Measures**: Elicits observable evidence of the degree to which a student can independently demonstrate foundational skills and targeted grade level literacy. ❏ **Success Criteria**: Includes aligned rubrics and/or assessment guidelines sufficient for interpreting performance. ❏ **Accommodations and Accessibility:** Includes assessments appropriate for all students. ❏ **Reliable Measures:** Includes assessments, whether formal or informal, designed to provide multiple opportunities for students to demonstrate their proficiency.		
Qualitative Summary of Evidence		
<u>Rating Scale for Part IV:</u> Select only one to support your summary above. ☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons. ☐**3-** Meets most of the criteria with strong connections between standards and lessons. ☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable. ☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak. ☐**0-** Does not meet the criteria.		

Sources:

- https://www.achieve.org/files/EQuIP-ELArubric-06-24-13-FINAL.pdf
- https://www.cgcs.org/cms/lib/DC00001581/Centricity/Domain/72/ELA_Rubric_Grades%209-10.pdf
- https://parcc-assessment.org/content/uploads/2017/11/PARCCMCFELALiteracyAugust2012_FINAL.pdf
- http://www.corestandards.org/assets/Appendix_A.pdf
- http://mdk12.msde.maryland.gov/instruction/curriculum/reading/includes/AdditionalFiles/Vertical%20Progressions%20-%20%20Reading%20Informational%20Texts.pdf

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ENGLISH LANGUAGE ARTS

Grade 1 Curriculum Vetting Rubric

Maryland State Department of Education

Division of Career and College Readiness

Overview

The Maryland State Department of Education's underlined:curriculum vetting rubrics are designed to serve as a support for school system leaders in identifying high-quality, standards-based curriculum. Code of Maryland Regulation 13A.04.14 requires each public school system to use curriculum that is aligned with the Maryland College and Career Ready Standards. The English language arts (ELA) curriculum vetting rubric can be used to evaluate curriculum for kindergarten to grade ten.

Curriculum defines the essential content to be taught and how deeply to teach it so that each student has access to rigorous academic experiences and instructional supports to meet academic standards (Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum). Curriculum is not a textbook or a set of instructional materials. It is the comprehensive academic content and assessments aligned to standards. Curriculum builds instructional coherence within and across grade levels and reflects a clear vision about student learning and achievement. Curriculum includes but is not limited to a scope and sequence; measureable goals and student learning outcomes; instructional scaffolds and benchmarks; supporting instructional materials; and formative and summative assessments.

The development of the ELA curriculum vetting rubric was informed by Achieve's *Educators Evaluating the Quality of Instructional Products* (EQuIP) rubrics, the *Grade-Level Instructional Materials Evaluation Tool- Quality Review* (GIMET-QR), Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum, and peer-reviewed research.

The K-2 ELA curriculum vetting rubric is designed to support a holistic view of curriculum with a focus on key criteria:
- alignment with Maryland College and Career Ready Standards;
- evidence of key shifts;
- instructional supports to build proficiency and independence, and
- assessment design and purpose.

The ELA curriculum vetting rubric provides school system leaders with a resource to facilitate a review of their kindergarten through grade ten ELA curriculum. The vetting process will highlight areas of strength and opportunities for growth in the curriculum to inform improvements. The Maryland State Department of Education (MSDE) will provide training to support the implementation of the rubric and vet the curriculum of school systems to ensure alignment to standards. A list of vetted curriculum can be found on the Maryland Resource Hub.

Criteria 1 Background: Lessons must reflect a wide range of text types and genres, as required by the standards. Knowledge built at one grade level should be expanded in other grade levels. Lessons must reflect explicit instruction of foundational reading skills as required by standards.		
Ia: Alignment to Maryland College- and Career-Ready Standards: **Grade 1 Foundational Skills: Phonological Awareness** and **Phonics** and **Word Recognition** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
Phonological Awareness: *Curriculum include analysis of sounds of oral language (words, syllables, phonemes). CCR Anchor Standard 2* ☐ Distinguish long from short vowels sounds in spoken words ☐ Orally blend phonemes to produce single-syllable words ☐ Isolate/pronounce the initial, medial, and final phonemes in CVC words ☐ Segment spoken single-syllable words into their complete sequence of individual phonemes ☐ Orally add, substitute, or delete phonemes at the beginning or end of words to make new words **Phonics and Word Recognition**: *Lessons include explicit phonics instruction and word analysis skills in decoding words. CCR Anchor Standard 3* ☐ Know the spelling-sound correspondences for common consonant digraphs ☐ Decode regularly spelled one-syllable words ☐ Know final –e and common vowel team conventions for representing long vowel sounds ☐ Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word ☐ Decode two-syllables words following basic patterns by breaking the words into syllables ☐ Read words with inflectional endings ☐ Recognize and rad grade-appropriate irregularly spelled words		
1b: Alignment to Maryland College-and Career-Ready Standards for the **Reading, Writing,** and **Language** Strands *Criteria*		
Curriculum includes or provides- ☐ **Measurable Alignment:** Clear and specific purpose between MCCRS and the behavioral (measurable) objective/outcome. ☐ **Text Complexity:** Engaging texts that align with the requirements in the standards and are of sufficient scope for the		

purpose. ☐ **Vocabulary Acquisition:** Strategies for vocabulary acquisition ☐ **Variety of Texts:** There is a range of materials, both print and digital, which feature diverse cultures, represent high-quality, and are appropriate in topic and theme for the grade level. For essential skills and knowledge aligned to this standard, please see the Maryland College-and Career-Ready Curriculum Framework		

Qualitative Summary of Evidence

Rating Scale for Part I: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1**- Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Criteria II Background: The Key shifts, as indicated in the adoption of the MCCRS (CCSS), are evident throughout. Thoughtful/Sustained focus on these shifts means students must have access to and regular practice with <u>complex text</u> and related academic language, reading, writing, and language standards. Instruction explicitly calls for students' responses to be <u>grounded in evidence from texts</u>, both literary and informational. (corestandards.org)		

II: Key Shifts are Evident *Criteria*	Strengths *Provide specific evidence or examples of commendations.*	Challenges and Concerns *Provide specific evidence or examples of areas for improvement.*
❏ **Text-based evidence**: Lessons facilitate rich text-based discussions and responses driven by thought-provoking questions about common texts (including read alouds and other media). ❏ **Writing from sources:** Lessons provide opportunities for students to routinely draw evidence from texts and present ideas and information through writing and/or drawing and speaking. ❏ **Academic vocabulary:** Lessons focus on explicitly building students' vocabulary and concepts of syntax. ❏ **Balanced of Informational to Literary text:** In K-2, there is a 50/50 balance of informational and literary texts.		

Qualitative Summary of Evidence

<u>Rating Scale for Part II</u>**:** Select only one to support your summary above. ☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons. ☐**3-** Meets most of the criteria with strong connections between standards and lessons. ☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable. ☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak. ☐**0-** Does not meet the criteria.

Criteria III Background: While scaffolds are not a part of the standards themselves, it is important to meet the range of student needs in the classroom. Supports and scaffolds should include small group instruction informed by the assessment of foundational skills including phonological awareness and phonics. All scaffolding and supports require ongoing formal and informal assessments that provide multiple opportunities for students to demonstrate their proficiency, both cooperatively and independently. Scaffolding is not just intended for struggling students, but also for students who are ready for above grade-level work.

III **Instructional Supports Build Proficiency and Independence** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
❏ **Equal Access to Text:** Lessons provide all students with multiple opportunities to engage with text (including read alouds) of appropriate complexity for the grade level. ❏ **Close Reading Techniques:** Lessons model close reading of text (including read alouds) a central focus of instruction and includes opportunities for students to ask and answer text-dependent questions. ❏ **Evidence of Differentiation:** Considerations are made for students with disabilities, English learners, and students who are performing at or below grade level. ❏ **Extensions are Appropriate:** Provides extensions for students who read above grade level.		

Qualitative Summary of Evidence

Rating Scale for Part III: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Part IV Background: Since assessment drives instruction, lessons include regular formative and summative measures to determine whether students are mastering standards-based content and skills.

IV. Assessment Design and Purpose *Criteria*	Strengths *Provide specific evidence or examples of commendations*	Challenges or Concerns *Provide specific evidence or examples of areas for improvement*
❏ **Valid Measures**: Lessons elicit observable evidence of the degree to which a student can independently demonstrate foundational skills and targeted grade level literacy. ❏ **Success Criteria**: Lessons include aligned rubrics and/or assessment guidelines sufficient for interpreting performance. ❏ **Accommodations and Accessibility:** Assessments are appropriate for all students. ❏ **Reliable Measures:** Assessments, whether formal or informal, are designed to provide multiple opportunities for students to demonstrate their proficiency.		

Qualitative Summary of Evidence

<u>Rating Scale for Part IV</u>: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lesson is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet the criteria.

Sources:

- https://www.achieve.org/files/EQuIP-ELArubric-06-24-13-FINAL.pdf
- https://www.cgcs.org/cms/lib/DC00001581/Centricity/Domain/72/ELA_Rubric_Grades%209-10.pdf
- https://parcc-assessment.org/content/uploads/2017/11/PARCCMCFELALiteracyAugust2012_FINAL.pdf
- http://www.corestandards.org/assets/Appendix_A.pdf
- http://mdk12.msde.maryland.gov/instruction/curriculum/reading/includes/AdditionalFiles/Vertical%20Progressions%20-%20Reading%20Informational%20Texts.pdf

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MAY 2019

ENGLISH LANGUAGE ARTS

Grades 3-10 Curriculum Vetting Rubric

Maryland State Department of Education

Division of Career and College Readiness

Overview

The Maryland State Department of Education's curriculum vetting rubrics are designed to serve as a support for school system leaders in identifying high-quality, standards-based curriculum. Code of Maryland Regulation 13A.04.14 requires each public school system to use curriculum that is aligned with the Maryland College and Career Ready Standards. The English language arts (ELA) curriculum vetting rubric can be used to evaluate curriculum for grades 3-10.

Curriculum defines the essential content to be taught and how deeply to teach it so that each student has access to rigorous academic experiences and instructional supports to meet academic standards (Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum). Curriculum is not a textbook or a set of instructional materials. It is the comprehensive academic content and assessments aligned to standards. Curriculum builds instructional coherence within and across grade levels and reflects a clear vision about student learning and achievement. Curriculum includes but is not limited to a scope and sequence; measureable goals and student learning outcomes; instructional scaffolds and benchmarks; supporting instructional materials; and formative and summative assessments.

The development of the ELA curriculum vetting rubric was informed by Achieve's *Educators Evaluating the Quality of Instructional Products* (EQuIP) rubrics, the *Grade-Level Instructional Materials Evaluation Tool- Quality Review* (GIMET-QR), Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum, and peer-reviewed research.

The 3-10 ELA curriculum vetting rubric is designed to support a holistic view of curriculum with a focus on:
- alignment with Maryland College and CareerReady Standards;
- evidence of key shifts;
- instructional supports to build proficiency and independence, and
- assessment design and purpose.

The ELA curriculum vetting rubric provides school system leaders with a resource to facilitate a review of their kindergarten through grade ten ELA curriculum. The vetting process will highlight areas of strength and opportunities for growth in the curriculum to inform improvements. The Maryland State Department of Education (MSDE) will provide training to support the implementation of the rubric and vet the curriculum of school systems to ensure alignment to standards. A list of vetted curriculum can be found on the Maryland Resource Hub.

Criteria I Background: Curriculum and instructional materials must reflect a wide range of text types and genres, as required by the standards. Knowledge built at one grade level should be expanded in other grade levels as indicated in the Vertical Progressions.

I: **Alignment to Maryland College- and Career- Ready Standards** (MCCRS) *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
Curriculum- ❏ **Measurable Alignment:** includes a clear and specific purpose between MCCRS and the behavioral (measurable) objective. ❏ **Text Complexity:** consistently provides opportunities to read both literary and informational texts in the text complexity grade band, which include a mix of short and full selections. ❏ **Vocabulary Acquisition:** provides strategies for vocabulary acquisition. ❏ **Variety of Text:** There is a range of materials, both print and digital, which feature diverse cultures, represent high quality, and are appropriate in topic and theme for the grade level. **Additional tool:** Lexile Framework for Reading		

Qualitative Summary of Evidence

Rating Scale for Part I: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lessons is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet criteria.

Criteria II Background: The Key shifts, as indicated in the adoption of the MCCRS (CCSS), are evident throughout. Thoughtful/Sustained focus on these shifts means students must have access to and regular practice with <u>complex text</u> and related academic language, reading, writing, and language standards. Instruction explicitly calls for students' responses to be <u>grounded in evidence from texts</u>, both literary and informational. Lessons have a greater emphasis on informational texts in order to <u>build knowledge through content-rich nonfiction</u>, which includes literary non-fiction, historical documents, and scientific texts. (<u>corestandards.org</u>)

II: **Key Shifts are Evident** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges and Concerns** *Provide specific evidence or examples of areas for improvement.*
Curriculum- ❏ **Text-based evidence:** facilitates oral and written responses grounded in textual evidence and driven by higher-order thinking skills. ❏ **Writing from sources:** suggests that students routinely draw evidence from texts in writing to analyze, create, or argue. ❏ **Academic vocabulary:** focuses on building students' vocabulary through instruction and context. ❏ **Balanced of Non-fiction to Literary text:** In K-5, there is a 50/50[1] balance of nonfiction to literary texts, whereas in high school, nonfiction texts are to be more prominently featured in English classes as well as in science, history, and technical classes to maintain a 70/30* balance of nonfiction to literary texts.		

Qualitative Summary of Evidence

Rating Scale for Part II: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lessons is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet criteria.

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[1] *The balance of non-fiction and fiction should be evident over the course of the unit; however, breakdown may not necessarily be seen in each lesson. For example, over the course of a unit, literary text explicitly connected to standards-based lessons as well as non-fiction text should reflect the 50/50 or 70/30 split.*

Criteria III Background: While scaffolds are not a part of the standards themselves, it is important to meet the range of student needs in the classroom. Supports and scaffolds should draw students back to the text and provide strategies for vocabulary acquisition. All scaffolding and supports require ongoing formal and informal assessments that provide multiple opportunities for students to demonstrate their proficiency, both cooperatively and independently. Scaffolding is not just intended for struggling students, but also for students who are ready for above grade-level work.

III: **Instructional Supports Build Proficiency and Independence** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations.*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement.*
Curriculum- ❏ **Equal Access to Text:** provides all students with multiple opportunities to engage with text of appropriate complexity for the grade level. ❏ **Close Reading Techniques:** focuses on challenging sections of text(s) and engage students in productive struggle through academic discussion and text-dependent questioning techniques that build toward independence and proficiency. ❏ **Evidence of Differentiation:** Considers students with disabilities, English learners, and students who are performing at or below grade level. ❏ **Extensions are Appropriate:** Provides extensions for students who read well above grade level.		

Qualitative Summary of Evidence

Rating Scale for Part III: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lessons is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet criteria.

Criteria IV Background: Since assessment drives instruction, lessons include regular formative and summative measures to determine whether students are mastering standards-based content and skills.

IV. **Assessment Design and Purpose** *Criteria*	**Strengths** *Provide specific evidence or examples of commendations*	**Challenges or Concerns** *Provide specific evidence or examples of areas for improvement*
Curriculum- ❑ **Valid Measures**: elicits observable evidence of the degree to which a student can independently demonstrate mastery of the standards with appropriately complex text. ❑ **Success Criteria**: includes aligned rubrics and/or assessment guidelines sufficient for interpreting performance. ❑ **Accommodations and Accessibility:** includes assessments appropriate to all students. ❑ **Reliable Measures:** includes assessments, whether formal or informal, designed to provide multiple opportunities for students to demonstrate their proficiency.		

Qualitative Summary of Evidence

<u>Rating Scale for Part IV</u>: Select only one to support your summary above.

☐**4-** Meets almost all or all of the criteria with strong connections between standards and lessons.
☐**3-** Meets most of the criteria with strong connections between standards and lessons.
☐**2-** Meets some of the criteria, but connection between standards and lessons is questionable.
☐**1-** Meets few of the criteria and connections between standards and lessons is vague or weak.
☐**0-** Does not meet criteria.

Sources:

https://www.achieve.org/files/EQuIP-ELArubric-06-24-13-FINAL.pdf

https://www.cgcs.org/cms/lib/DC00001581/Centricity/Domain/72/ELA_Rubric_Grades%209-10.pdf

https://parcc-assessment.org/content/uploads/2017/11/PARCCMCFELALiteracyAugust2012_FINAL.pdf

http://www.corestandards.org/assets/Appendix_A.pdf

http://mdk12.msde.maryland.gov/instruction/curriculum/reading/includes/AdditionalFiles/Vertical%20Progressions%20-%20Reading%20Informational%20Texts.pdf

Maryland State Department of Education

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Mathematics K-12

Curriculum Vetting Rubric

Maryland State Department of Education

Division of Career and College Readiness

Overview

The Maryland State Department of Education's underlined[curriculum vetting rubrics] are designed to serve as a support for school system leaders in identifying high-quality, standards-based curriculum. Code of Maryland Regulation 13A.04.12 requires each public school system to use curriculum that is aligned with the Maryland College and Career Ready Standards. The mathematics curriculum vetting rubric can be used to evaluate curriculum for grades kindergarten-12.

Curriculum defines the essential content to be taught and how deeply to teach it so that each student has access to rigorous academic experiences and instructional supports to meet academic standards (Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum). Curriculum is not a textbook or a set of instructional materials. It is the comprehensive academic content and assessments aligned to standards. Curriculum builds instructional coherence within and across grade levels and reflects a clear vision about student learning and achievement. Curriculum includes but is not limited to a scope and sequence; measurable goals and student learning outcomes; instructional scaffolds and benchmarks; supporting instructional materials; and formative and summative assessments.

The development of the mathematics curriculum vetting rubric was informed by Achieve's *Educators Evaluating the Quality of Instructional Products* (EQuIP) rubrics, the *Grade-Level Instructional Materials Evaluation Tool- Quality Review* (GIMET-QR), Supporting Excellence: A Framework for Developing, Implementing, and Sustaining a High-Quality District Curriculum, and peer-reviewed research. Additionally, mathematics supervisors from local school systems provided input on the rubric development.

The rubric is designed to support a holistic view of curriculum to address the:

- focus and rigor for grade level or course;
- coherence within and across grade levels or courses;
- instructional supports for teachers of mathematics; and
- assessment for and of learning.

The mathematics curriculum vetting rubric provides school system leaders with a resource to facilitate a review of their kindergarten through high school mathematics curriculum and curricular resources. The vetting process will highlight areas of strength and opportunities for growth in the curriculum to inform improvements. The Maryland State Department of Education (MSDE) will provide training to support the implementation of the rubric and vet the curriculum of school systems to ensure alignment to standards. A list of vetted curricular resources can be found on the Maryland Resource Hub.

Key Feature #1: Focus and Rigor
Curricular documents explicitly articulate the content and performance expectations for a grade level or course.

Criteria *The mathematics curriculum:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
demonstrates full alignment to the Maryland College and Career Ready Mathematics Standards.		
makes explicit connections between the Standards for Mathematical Practice and the grade-level/ course-level mathematics content standards.		
provides instructional time frames that are appropriate for addressing the expectations for addressing major, supporting, and additional content.		
includes clear evidence that attention is paid to the aspects of rigor (procedural skills, conceptual understandings and ability to apply the targeted mathematics).		

Rating Scale for Key Feature #1 – **Focus and Rigor** (Select a __single__ rating that is reflective of the degree to which the criteria are met.)

4	Exceeds expectations for addressing the criteria for Key Feature #1 (**Exemplary**)
3	Satisfactorily addresses all of the criteria for Key Feature #1 (**Satisfactory**)
2	Addresses only some and/or only inadequately addresses some of the criteria for Key Feature #1. (**Needs Improvement**)
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #1. (**Unsatisfactory**)

Qualitative Summary of Evidence

Key Feature #2: Coherence
The curriculum builds coherence within and across grade levels/courses.

Criteria *The mathematics curriculum:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
deliberately communicates connections between major standards and additional and supporting standards within a course/grade.		
provides information on the vertical progression of targeted mathematics to illustrate how current learning connects to prior and future learning. See: http://mdk12.msde.maryland.gov/ instruction/curriculum/mathematics/index.html		

Rating Scale for Key Feature #2 – **Coherence** (Select a **single** rating that is reflective of degree to which the criteria are met.)

4	Exceeds expectations for addressing the criteria for Key Feature #2. (**Exemplary**)
3	Satisfactorily addresses all of the criteria for Key Feature #2. (**Satisfactory**)
2	Addresses only some and/or inadequately addresses some of the criteria for Key Feature #2. (**Needs Improvement**)
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #2. (**Unsatisfactory**)

Qualitative Summary of Evidence

Key Feature #3: Instructional Supports
Curricular documents include instructional support for teachers of mathematics.

Criteria *The mathematics curricular documents provide:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
guidance on which of the available resources best support the teaching and learning of targeted standards, including, when appropriate, the use of technology and media.		
scaffolds and/or other supports (differentiation) that address the needs of special populations (struggling learners, Gifted and Talented, English learner, students with gaps in learning, and students with disabilities).		
strategies for identifying and guidance on correcting common student errors and misconceptions.		

Rating Scale for Key Feature #3 – **Instructional Supports (**Select a <u>single</u> rating that is reflective of the degree to which the criteria are met.)

4	Exceeds expectations for addressing the criteria for Key Feature #3 (**Exemplary**)
3	Satisfactorily addresses all of the criteria for Key Feature #3 (**Satisfactory**)
2	Addresses only some and/or inadequately addresses some of the criteria for Key Feature #3. (**Needs Improvement**)
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #3. (**Unsatisfactory**)

Qualitative Summary of Evidence

Key Feature #4 Assessment for and of learning
Curricular documents provide guidance on how to measure whether students have met specific learning expectations.

Criteria *The mathematics curriculum:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
communicates the performance expectations at the grade/course level related to targeted standards for the unit.		
includes examples of the types of tasks that should be assigned to elicit evidence of student learning/thinking.		
provides guidance for common expectations for formative assessments.		
provides guidance for common expectations for summative assessments.		

Rating Scale for Key Feature #4 – **Assessment for learning and of learning.** (Select a <u>single</u> rating that is reflective of the degree to which the criteria are met.)

4	Exceeds expectations for addressing the criteria for Key Feature #4 (**Exemplary**)
3	Satisfactorily addresses all of the criteria for Key Feature #4 (**Satisfactory**)
2	Addresses only some and/or inadequately addresses some of the criteria for Key Feature #4. (**Needs Improvement**)
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #4. (**Unsatisfactory**)

Qualitative Summary of Evidence

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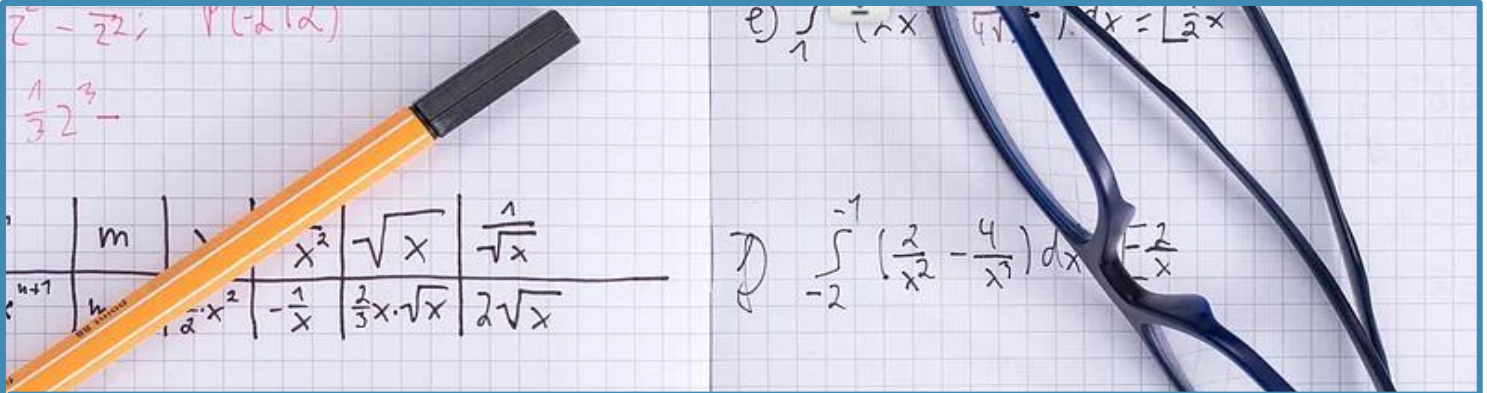Equity Assurance & Compliance Office
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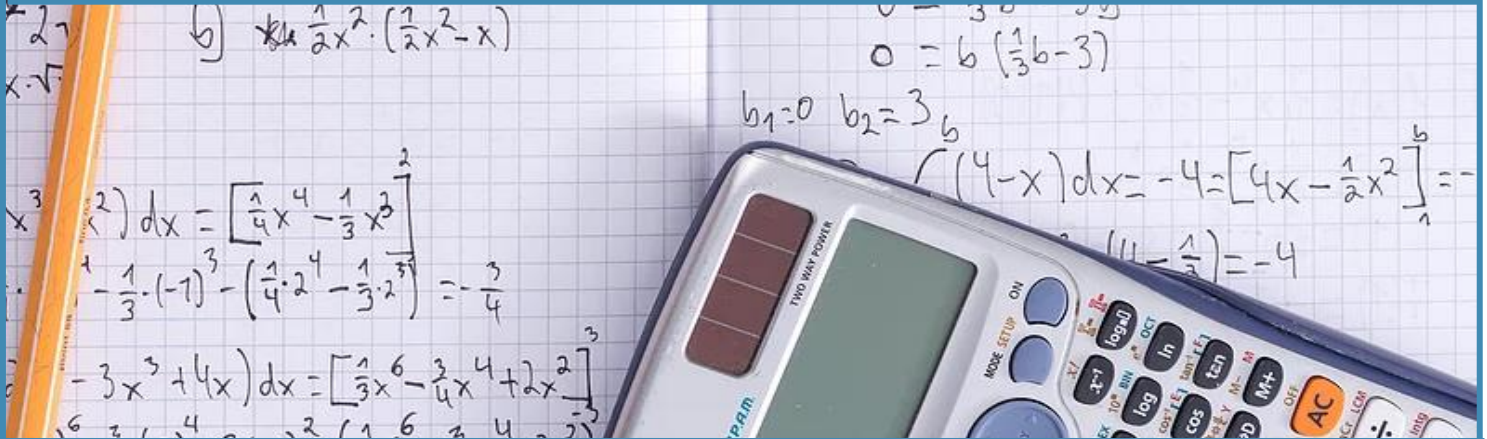Maryland State Department of Education
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Algebra I Curriculum Vetting Report
Prince George's County Public Schools

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Contents

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Overview

High-quality curricula can have a significant impact on student learning outcomes (Steiner, 2017). Curriculum defines the essential content to be taught and how deeply to teach it so that each student has access to rigorous academic experiences and instructional supports to meet academic standards (Council of Great City Schools, 2017). Curriculum is not a textbook or a set of instructional materials. It is the comprehensive academic content and assessments aligned to standards. Curriculum builds instructional coherence within and across grade levels and reflects a clear vision about student learning and achievement. Curriculum includes but is not limited to a scope and sequence; measurable goals and student learning outcomes; instructional scaffolds and benchmarks; supporting instructional materials; and formative and summative assessments.

In August 2019, the Maryland State Board of Education adopted revisions to Code of Maryland Regulation (COMAR) 13A.04.12.02 and 13A.04.14.02 requiring each local school system to demonstrate evidence that curriculum for English language arts (ELA) and mathematics align to Maryland College and Career Ready Standards. Acceptable forms of evidence include a vetting report produced by the Maryland State Department of Education (MSDE); a vetting report produced by a nationally recognized external party; or documentation of national ratings to demonstrate alignment to Maryland Career and College Ready Standards and level I or II evidence level as defined by the Every Student Succeeds Act.

The _Maryland Every Student Succeeds Act Consolidated State_ (ESSA) plan requires schools that have been identified for comprehensive support and improvement (CSI) to use ELA and mathematics curriculum that has been vetted by the MSDE. CSI schools are the lowest achieving five percent of Title I schools or high schools that do not graduate one third or more of their students based on the four-year adjusted cohort graduation rate.

Prince George's County has three high schools identified for CSI based on graduation rates. Table 1 summarizes the percent of students proficient in Algebra I as measured on state assessment for each high school and the 4-year adjusted cohort graduation rates.

Data Summary for Prince George's County Public Schools (PGCPS) **Comprehensive Support and Improvement (CSI) Schools**

Performance on the Algebra 1 State Assessment:	Graduation Rate for 4-year adjusted cohort:
2019 State results for Algebra 1: Percent Proficient = 27.2%	2018 State graduation rate: 87.1 %
2019 PGCPS results for Algebra 1: Percent Proficient = 9.7%	2018 PGCPS graduation rate: 78.5 %
2019 PGCPS High Point High Algebra I: Percent Proficient 5.3%	2018 PGCPS High Point High School: 64.9%
2019 PGCPS Northwestern High School Algebra I: Percent Proficient = 6.6%	2018 PGCPS Northwestern High School: 66.7%
2019 PGCPS Northwestern Evening High School Algebra I: Percent Proficient = <5.0%	2018 PGCPS Northwestern Evening High School: 20.2%
	2019 graduation rate data not available

Table 1. Data Summary for PGCPS CSI Schools

This report identifies the outcome of the algebra I curriculum vetting process for Prince George's County Public Schools. Areas of promise, opportunities for growth, and recommendations for improvement are described in the report. The MSDE is committed to supporting curricula improvements and associated

professional learning experiences for Prince George's County Public Schools in alignment with recommendations presented in this report.

The Vetting Process

The vetting process consists of six steps identified in Figure 1. The first steps include selecting curriculum vetters with demonstrated expertise in standards and curriculum analysis. Curriculum vetters participate in multiple face-to-face training workshops and virtual meetings facilitated by the MSDE. Vetters review and evaluate approximately 20-25% of the curricululm. The process culminates with a summary report highlighting areas of promise, opportunities for growth, and recommendations to maintain or improve curriculum based on a criterion-referenced rubric.
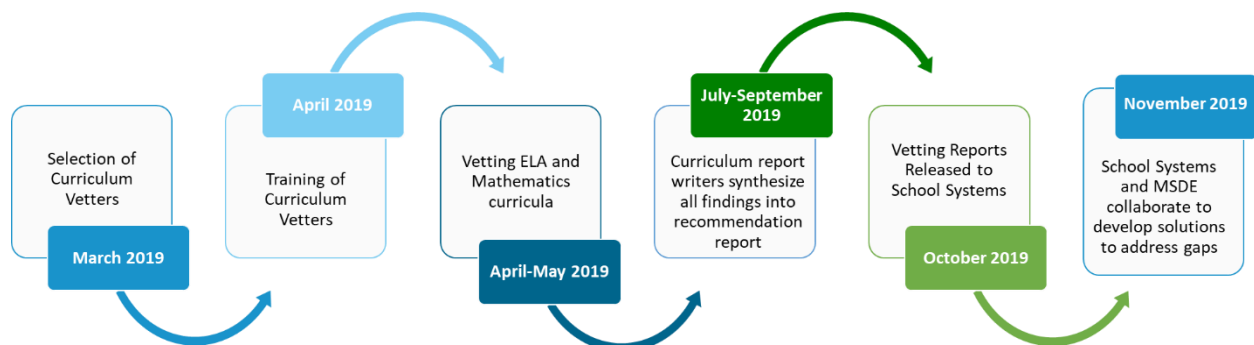

Figure 1. Summarizes the steps involved in vetting a school system curriculum led by the Maryland State Department of Education

Step 1: Selection of Curriculum Vetters:

The Office of Leadership Development and School Improvement at the MSDE released an invitation to secure curriculum vetters to evaluate ELA and mathematics curriculum to determine the extent to which each grade level or course is aligned with the Maryland College and Career Ready Standard (MCCRS). The invitation was sent to local school system central office leaders who are responsible for curriculum and instruction, deans of colleges of education, and the general public. 67 individuals applied for curriculum vetting positions, only 27 were selected.

Criteria for Selecting Vetters

Criteria to select highly qualified individuals began with collaboration between the Office of Leadership Development and School Improvement and the Division of Curriculum, Instructional Improvement, and Professional Learning at the MSDE. A protocol was established to identify curriculum vetters who met essential qualifications and at least one preferred qualification.

Applicants submitted a resume, transcripts, teaching certificate, and a sample of a standards-aligned lesson for the content for which they applied. Applicants had to meet all essential qualifications (Level 1) and at least one preferred qualification (Level 2) to be considered for an interview (Table 2). The qualifications listed below were communicated in writing through the invitation to apply and were detailed in the online application.

	Level 1: Met <u>All</u> Essential Qualifications	Level 2: Met at Least <u>One</u> Preferred Qualification
Criteria for Selecting Highly Qualified Vetters	- Hold or be eligible for Advanced Professional Certificate (not applicable to non-school system applicants). - Exhibit experience in identifying and implementing curriculum aligned with the Maryland College and Career Ready Standards. - Provide a resume that demonstrated essential qualifications. - Provide at least one reference. - Provide a sample standards-aligned lesson for the content or grade-level for which applicant applied.	- Experience as a curriculum/instructional leader (Specialist, Coordinator, Supervisor, etc.) in one of Maryland's school systems; and/or - Experience in teaching a course(s) in curriculum at a Maryland Institute of Higher Education; and/or - Experience in working with the MSDE in developing or reviewing state assessment items; serving as a Master Teacher; writing example lessons; or leading ELA or mathematics professional learning experiences focused on standards.

Table 2. Shows the essential and preferred qualifications necessary to be invited to interview as a curriculum vetter for the MSDE.

Applicants who met the essential qualifications, matched an open vetting position, and met at least one of the preferred qualifications were invited to interview as potential candidates for a vetting position. Applicants who did not satisfy all essential qualifications and/or did not meet at least one preferred qualification were placed in a pool for consideration of a future opportunity with the MSDE and were not invited to interview.

Interview Scoring Rubric and Selection
Candidates were evaluated and selected by reviewing all parts of the interview process to include: knowledge and experience indicated on the resume; the quality of the lesson plan sample submission; at least one verifiable reference; and the composite scores from the interview panel questions.

Candidates were rated as *Recommended with Reservation*, *Recommended*, *Highly Recommended*, or *Not Recommended*. In determining key attributes that delineated the *Recommended* category and *Highly Recommended*, the interview panel carefully reviewed resumes and lesson plan samples. For more information on the curriculum vetters, please see Appendix D.

Step 2: Training of Curriculum Vetters
Curriculum vetters participated in continuous in-person and virtual training throughout the vetting process to ensure a reliable and valid evaluation was conducted using tools developed by the MSDE. The Mathematics 3-10 Grade Level Rubric was developed from research-based practices and exemplars rubrics such as the *Educators Evaluating Quality Instructional Products* (EQUIP), the *Instructional Materials Evaluation Tool* (IMET), and the *Grade-Level Instructional Materials Evaluation Tool/Quality Review* (GIMET-QR).

Four key features of the K-12 Mathematics Curriculum Vetting Rubric (Appendix A) include:

  I.   Focus and Rigor,
  II.   Coherence,

III.   Instructional Supports, and

IV.   Assessment for and of Learning.

Through key features I and II, curriculum is examined to determine the breadth and depth of the MCCRS and integration of the Standards of Mathematical Practices. Key Feature III takes into account necessary scaffolds and supports for English learners, students with disabilities, or those not yet meeting grade-level expectations. Key Feature IV evaluates how well performance expectations are communicated, inclusion of variety of task types, and the nature of formative and summative assessments.

To ensure the highest level of consistency and coherency throughout the evaluation process, the MSDE developed a protocol in which to engage each curriculum vetter in several sessions of using the grade level curriculum vetting rubric and the MCCR Vertical Progressions, PreK-12. To view all grade level and course-specific Vertical Progressions documents for Reading Prek-12 mathematics, please visit MCCRS Progression and Framework for Mathematics.

During training sessions with curriculum vetters, MSDE rubrics and a sample open education curriculum was used to calibrate ratings. Vetters determined the degree to which the sample curriculum was aligned with the MCCRS. This included identifying patterns, trends, strengths, and challenges or concerns across the lessons as it relates to each of the four criteria and indicators as shown on excerpt of the K-12 Mathematics Curriculum Vetting rubric in Table 3. During this time, vetters practiced recording objective and evidence-based comments. It was through this deeper engagement that vetters compared how comments and feedback were written revealing any inconsistencies, assumptions, and possible bias. Consequently, it allowed for clarifications and adjustments with the protocol, before the formal evaluation began (Office of Data, Analysis, Research, and Evaluation, 2016).

Rating Scale for K-12 Mathematics Curriculum

Focus and Rigor	Coherence	Instructional Supports	Assessment for Learning
4- Exceeds expectations for addressing the criteria **3-** Satisfactorily addresses all the criteria. **2-** Addresses only some and/or only inadequately addresses some of the criteria. **1-** Fails to address more than half of the criteria and or/ inaccurately addresses the criteria.			

Table 3. Shows the four key features curriculum vetters used to evaluate for a high-quality mathematics curriculum.

Following the in-person training sessions, curriculum vetters began the work of reviewing and rating (Table 4) their assigned grade level math curriculum based upon the four criteria and respective indicators. Staff from the MSDE were on hand fielding questions, offering guidance as it relates to the calibration protocol established, thus ensuring a smooth transition to the independent review that continued off-site.

Grade K-12 Curriculum Vetting Rubric Criteria and Indicators of a High-Quality Math Curriculum

Criteria	Focus and Rigor	Coherence	Instructional Supports	Assessment For and Of Learning
A high-quality curriculum is evaluated for all of these indicators	• Alignment to MCCRS • Connections between SMPs and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Additional/ Supporting) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/ Thinking • Formative Assessments • Summative assessments

Table 4. Each of the four criteria sections on the rubric conclude with a rating score based on the presence or absence of evidence for each indicator in Table 2.

During the final in-person training session, curriculum vetters synthesized evidence-based findings into a grade band consensus report ([Appendix B](#)). The purpose of this step is to identify the areas of promise, opportunities for growth, and recommendations for improvement to the math curriculum. Discussion around synthesized findings were used to evaluate and ensure consistency among comments and areas for consideration. As a result, vetters used this activity to edit or revise any comments for one grade band consensus.

Step 3: Lesson Selection and Curriculum Vetting

The MSDE used well-reputed best practices which suggest selecting some curricular documents undergo an evaluation rather than an entire curriculum. Assessing all curricular documents is not practical due to the amount of time such an evaluation would take and the complexity of the documents. Since this evaluation is not assessing the entire selection of curricular documents, collecting a sample size of documents across both courses is a feasible method as long as the same rubric is used and the evaluation is conducted by someone other than those who wrote the curriculum (Washington State University, 2018). With each quarter having the same or known chance of being selected, it is possible to make generalizations based on the sample size collected (Powell, 1998). From the quarters selected, approximately 20-25% was printed and placed in a binder for each vetter; however, the entire course was available on flash drive. Vetters also received all ancillary and supplemental curricular documents if they were provided by the school system.

Curriculum for Prince George's County Public Schools

Prince George's County Public Schools (PGCPS) developed their own curricula for both ELA and mathematics. The PGCPS curriculum is a "living document," meaning that the master document is housed electronically with updates, revisions, or additional resources added on an on-going basis as needed.

Each year, academic content offices for PGCPS administer a survey to teachers regarding all aspects of the written curriculum. Central office staff review the teacher surveys results, as well as external audit findings, observational data, and insights from teacher focus groups to determine areas of focus for revision. Qualified teacher applicants are trained to develop new curriculum and instructional supports. Curriculum writers utilize textbooks, selected materials, and research-based practices in their work.

Where applicable, the content offices partner to ensure content accessibility for all learners. The results of curriculum revisions inform professional learning opportunities for PGCPS.

Approximately 20-25% of the Algebra 1 course curriculum was vetted representing all or parts of the five units across the school system's Algebra 1 course:
- Unit Introductory pages (1-9)
- Unit 1- pp. 12-69
- Unit 2- pp. 16-20
- Unit 3- pp. 21-24
- Unit 4- pp. 58-64

As a point of reference, Prince George's County Algebra 1 curriculum is organized by units. Each unit begins with the same introductory pages which include a synopsis for each section of the unit. Sections of each unit include: *Maryland College and Career Readiness; Goals and Expectations* (Weekly Timeline, Curriculum Map, Unit at a Glance, etc.); *Assessments* (Student Self-Assessment, Unit Readiness Assessment and Answer Key, etc.); *Unpacking the Standards* (content-specific to the Unit); and *Resources* (student resource, teacher resources, and references).

Step 4: Curriculum Vetting Report Development

Curriculum report writers were acquired through a Request for Quotation (RFQ) submitted by the MSDE. All candidates had to submit evidence of technical writing experience with at least one writing sample, a resume demonstrating knowledge and experience of the MCCRS, a Master's degree, and current Maryland Educator certification. Six RFQs were submitted and staff at the MSDE interviewed the most qualified candidates who met the RFQ requirements. Selected report writers were assigned either English Language Arts or mathematics vetting reports or curricula, depending on their background and expertise.

Three report writers were trained which involved having access to the same materials as vetters, all the K-12 grade level curriculum vetting reports, and the K-12 consensus reports also developed by vetters. Training involved a similar calibration, as described earlier for vetters, in which writers objectively synthesized all findings against the respective ELA or mathematics curriculum vetting rubrics. As a first step in organizing all the vetting information, writers were required to complete an Evidence Organizer (Appendix C) before beginning a first draft report. This way, the MSDE could ensure a consistent and accurate account of the findings from the curriculum vetters. Throughout a 6-8-week period, report writers were required to submit, for feedback from the MSDE, several drafts which underwent many iterations toward a final report ready for dissemination to local school systems.

To see the full list of curriculum vetters and report writers, please see [Appendix D](#).

Curriculum Vetting Results

The next pages present the findings for the Algebra 1 course for PGCPS. The information, evidence, and examples do not represent an exhaustive account of all findings, but act to highlight and reveal common patterns, strengths, and areas for growth. The grade band concludes with the recommendations and overall score. The grade level curriculum vetting rubrics and consensus documents are available for review.

Areas of Promise

I.   Organization and Grouping of Standards

Education scholars contend that students' improved performance over time is associated with access to a content-rich, standards-based curriculum and instructional materials (Steiner, 2017; Partelow & Shapiro, 2018). A curriculum and its supplemental instructional materials must be a well-ordered presentation of the standards, Standards of Mathematical Practice (SMP), and the student learning outcomes aligned with all student tasks and assessments. Curriculum documents and instructional materials allow for all stakeholders to understand, appreciate, and support the scope and sequence, as well as the breadth of understanding and depth of knowledge expected of students.

To this end, the organization and grouping of the standards throughout the vetted Prince George's County Algebra 1 curriculum and supplemental resources are considered a notable strength. For each unit, the major, additional, and supporting standards have been distinguished by color within the school system's *Unit # At a Glance Organization/Grouping of Standards* document. Each of the five units is organized in the same way. To demonstrate how the information is organized and color-coded, an abridged version ([Table 5](#)) of the color designations are shown from the *Unit 2 at a Glance Organization/Grouping of Standards* document.

Other curriculum resources, such as *The Instructional Mapping Guide*, *The Unpacking the Standards* document, and *The Connection to the Standards for Mathematical Practice* (SMP) document also provide valuable information regarding the standards. Each resource has been included in the curriculum and can be easily accessed. It is clear that the curriculum resources have been organized and grouped with intentionality. The same color classifications are included in many of these resources. These resources will be discussed in more detail in the next areas of promise.

	Table 5: Unit 2 At a Glance Organization/Grouping of Standards, Abridged version from the PGCPS Algebra 1 Course		
Unit 2 Concepts	**Standards**	**Student Learning Outcomes**	**PARCC Released Problems**
Calculating Average Rate of Change and Identifying Constant Rate of Change	**F.IF.6** ■ Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. **F.LE.1** □ Distinguish between situations that can be modeled with linear functions. 　**F.LE.1a** □ Prove that linear functions grow by equal differences over equal intervals. 　**F.LE.1b** □ Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	• Calculate and interpret the average rate of change of a linear function over a specified interval. • Estimate the rate of change of a function from a graph. • Compare the rates of change associated with different intervals. • Reason about linear growth.	• [2015 PBA #2, 16](#) • [2015 EOY #6, 12, 26](#) *PBA- Performance Based Assessment *EOY- End of Year **Required Instructional Tasks** None
Creating and Solving Systems of Linear Equations	**A.REI.5** ○ Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. **A.REI.6** ○ Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. **A.REI.11** ■ Explain why the *x*-coordinates of the points where the graphs of the equations *y = f(x) and y = g(x)* intersect are the solutions.	• Write and analyze systems of linear equations to solve multi-step contextual problems, exactly and approximately. • Find the solutions to two linear functions approximately e.g. using technology to graph the functions, make tables of values, or find successive approximations. • Reason about the number and nature of the solutions for a given system of linear equations.	• [2017 #5](#) • [2015 PBA #4, 14](#) • [2015 EOY #25](#) • [Online Practice Unit 1 #6](#) *PBA- Performance Based Assessment *EOY- End of Year **Required Instructional Tasks** [Text Messages](#)

Table 5. This table is an abridged version of *Unit 2 At a Glance Organization/Grouping of Standards*

■Major Content　□ Supporting Content　○ Additional Content

II.   Evidence of Key Shifts

A. Focus on Algebra 1 Content Enhanced by Standards of Mathematical Practices

Well documented in educational research is the notion that the development of a high-quality mathematics curriculum will, at minimum, include exhaustive consideration of standards, connections to the Standards of Mathematical Practices (or big ideas) and student learning activities (Son, 2013; Festus & Kurumeh, 2015; Steiner, 2017; Saphier, Haley-Speca & Gower, 2018). The shift to the Maryland College and Career Ready Standards meant making content for each grade or course much more focused on fewer standards, rather than covering too many standards, with a "mile-wide, inch-deep curriculum" (Core Standards, 2019). Within the vetted curriculum, there is a preponderance of evidence that demonstrates the explicit alignment between the Standards of Mathematical Practices (SMP) and mathematics content standards. This is important statement since the Standards of Mathematical Practice are viewed as a requirement in enhancing a standards-based mathematics curriculum; that is, they must be an embedded part of all content, lessons, assessments, and tasks to enrich student learning. The SMP "rely on processes and proficiencies with established significance in mathematics education, including such skills as complex problem-solving, reasoning and proof, modeling, precise communication, and making connections; all important as students transition from high school to college or work" (U.S. Department of Education, 2016). Thus, the curriculum vetters denoted this key feature of **focus** as an area of promise.

As noted, the inclusion of the *Connection to the Standards for Mathematical Practice* documents within each of the five units provides evidence that the curriculum makes explicit connections between the SMP and expected Algebra 1 content standards. The curriculum notes that the document:

> *provides examples of learning experiences for this unit that support the development of the proficiencies described in the Standards for Mathematical Practice. These proficiencies correspond to those developed through the Literacy Standards. The statements provided offer a few examples of connections between the Standards for Mathematical Practice and the Content Standards of this unit. The list is not exhaustive and will hopefully prompt further reflection and discussion (p. 12).*

Presented in an organized table format, the *Connection to the Standards for Mathematical Practice* document identifies four column headings: (1) mathematical practices, (2) examples of student learning experiences, (3) possible questions and prompts, and (4) student "look fors". As an example, in Unit 1, the mathematical practice 7 (SMP 7 – *Look for and Make Use of Structure)* is aligned to the following student task, along with two examples as possible student learning experiences:

Student Task- "Make observations about how equations are set up to decide what are the possible ways to solve the equation or graph the equation."

Possible Student Learning Experiences:

- Example 1: When solving $2x - 2 = 2x + 1$ In this example, a student would make note of the structure (variables, coefficients, solution/no solution) of this expression and realize that the equation had no solution.

- Example 2: When solving $2(x = 1) = 2(3x - 2)$ In this example, a student might recognize that the expressions on either side of the equal sign are multiples of 2 and that they could solve the simpler equation $x + 1 = 3x - 2$ and arrive at an answer (p.14).

As for examples of the information provided in *Possible Questions & Prompts*, from the same *Connections to the Standards of Mathematical Practice* document, in Unit 1, the following questions are offered:

- What relevant information in the problem shows you what relationship (i.e. change, group, compare, ratio, or proportion problem) exists between the elements or parts of the problem?

- How do you know that your rule or equation always works?

- Are you actively comparing, reflecting on, and discussing multiple solution methods?

Finally, the curriculum suggests the following as student "look fors," from the same *Connections to the Standards of Mathematical Practice* document:

- Look for a pattern or structure, recognizing that quantities can be represented in different ways.

- Use knowledge of properties to efficiently solve problems.

- View complicated quantities both as single objects or compositions of several objects.

Acting as another resource —*the Unpacking the Standards* document, was noted as also demonstrating evidence that the curriculum makes explicit connections between the SMP and mathematics content standards. For each unit, this document communicates an identified standard(s), student learning outcomes, misconceptions, explanations and instructional strategies (with examples) and textbook support. Again, aligning with SMP 7, *the Unpacking the Standards* document identifies the major standards:

- A.SSE.1 —Interpret expressions that represent a quantity in terms of its context.

- A.SSE.1a — Interprets parts of an expression such as terms, factors, and coefficients

- A.SSE.1b — Interpret complicated expressions by viewing one or more of their parts as a single entity.

B. Balanced Approach to Aspects of Rigor

When contemplating the concept of rigor, it is appropriate to clarify between *rigor* in the traditional sense and *aspects of rigor*. According to Common Core State Standards Initiative, rigor refers "to deep, authentic command of mathematical concepts, not making math harder or introducing topics at earlier grades" (Achieve the Core, 2014; Achieve, 2018). Instead, rigor through the lens of a key shift in mathematics curriculum, instruction, and assessment has more to do with how students engage with mathematical content. That is, there must be a balanced approach to the aspects of rigor— procedural skills, conceptual understandings, and ability to apply the targeted mathematics. Wherein, the conceptual understanding relates to the intent of the math standards, the procedural skills and fluency

emphasizes the "how", and the application component emphasizes the integration of real-life tasks (Achieve the Core, 2014; Achieve, 2018).

Throughout the vetted curriculum, there is evidence that attention is paid to the aspects of rigor. In general, there are activities that asks students to explain, justify, make sense of answers within the context of the problem, and for students to persevere in problem solving in lessons through real-word application scenarios. The *Unpacking the Standards* document for each unit offers an explanation on how to address conceptual understanding, procedural fluency, and application.

With regard to the key shifts in mathematics (focus, coherence, and rigor), emphasis on rigor is evidenced through the following examples. For Unit 1, *The Building and Solving Complex Equations* activity intends to build fluency through the conceptual understanding. *The Variables of Renting* activity uses technology —graphing calculator, to build fluency through a graphic approach. Finally, the *Kitchen Floor Tiles* activity uses a visual approach of sketches to model repeated reasoning. In Unit 5, the *Unpacking the Standards* document includes similar instances (Table 6) of student learning outcomes that have been organized into conceptual understanding, procedural fluency, and application.

Aspects of Rigor in Unit 5 Activities from *Unpacking the Standards* Document (p.59)	
Aspects of Rigor	**Activity**
Conceptual Understanding	● Determine the domain and relate it to a quantitative relationship it describes for square root and cubed root... ● Estimate rate of change from a graph ● Compare rates of change associated with different intervals
Procedural Fluency	● Calculate and interpret the average rate of change of square root and cubed root functions over a specified… ● Graph square root and cubed root functions showing key features
Application	● Evaluate, use, and interpret square root and cubed root functions, using notation, within a context ● Graph square root and cubed root functions showing key features

Table 6. The table represents examples of the aspects of rigor and activities presented in Unit 5.

These examples demonstrate clear evidence that major topics are receiving equal attention to conceptual understanding, procedural skills and fluency, and application in problem-solving contexts. (Take note that the problem-solving context for building application skills need to be framed in authentic real-world examples). A high-quality curriculum is a critical element for the academic success of all students. It is essential that the curriculum be rigorous (Steiner, 2017). Though the inclusion of rigor does not ensure a high-quality curriculum, a curriculum cannot be of high-quality without a balanced approach to rigor.

C. Evidence of Coherence

To attend to coherence, a provision of information on the vertical progression of targeted mathematics must illustrate how current learning connects to prior and future learning. The curriculum vetters considered these examples of **coherence** within the vetted curriculum to be reflective of an area of promise. Efforts to build coherence is important, as it is a component of a high quality curriculum, deemed by some, the most essential (Hughes, Daro, Holtzman & Middleton, 2013).

To start, the Unit Overview provides a standards-based synopsis of what students were asked to do in previous grades, what they will learn in the current unit, and how they will use the unit skills in the future. *The Instructional Mapping Guide* delivers evidence of the vertical progression, as it conveys previous grade standards, standards that can be taught before and standards that can be taught concurrently. Tables 7 and 8 include examples from Units 3 and 4, respectively of this vertical progression. There are also indications of the deliberate communication of connections between major, additional, and supporting standards within the curriculum (cf. the embedded distinction between major and additional sub claims in the *Unpacking the Standards* document for any unit). Again, it is noted by the vetters that the major, additional, and supporting standards have been distinguished by color within each *Unit # at a Glance Organization/Grouping of Standards* document.

Unit 3 Instructional Mapping Guide (excerpt from p. 21)

Standards	Previous Grade Standards	Standards That Can Be Taught Before	Standards That Can Be Taught Concurrently
A.CED.1 ■ Create equations and inequalities in one variable and use them to solve problems…	7.EE.B.4 8.EE.C.7	A.CED.A.2	A.REI.A.1 A.REI.B.3
A.CED.2 ■ Create equations in two or more variables to represent relationships…	8.EE.C.8 8.F.A.3 8.F.B.4	A.CED.A.1	A.REI.D.10

Table 7. Examples of vertical progression from Unit 3's *Instructional Mapping Guide.*

Unit 4 Instructional Mapping Guide (excerpt from p. 24)

Standards	Previous Grade Standards	Standards That Can Be Taught Before	Standards That Can Be Taught Concurrently
A.REI.4b ■ Solve quadratic equations by inspection (e.g., for $x^2 = 49$, taking…	7.EE.A.1 8.EE.A.2	A-REI.B.4a	A-SSE.B.3a
A.CED.2 ■ Create equations in two or more variables to…	8.EE.C.8 8.F.A.3 8.F.B.4	A-CED.A.1	A-REI.D.10

Table 8. Examples of vertical progression from Unit 4's *Instructional Mapping Guide.*

III.   Evidence of Adequate Instructional Supports

Within the Prince George's County Public Schools Algebra 1 curriculum exist several examples of guidance on available resources to be used to support teaching and learning, including, when appropriate, the use of technology and media. The curriculum includes scaffolds and other instructional supports to assist all learners and learners who receive special services. The presence of evidence in the curriculum for each criterion of the key feature **instructional supports** is considered promising. As argued by the National Council of Teachers of Mathematics (2019), the identification of "instructional materials with the potential to support learning for a broad range of students requires an analysis of the content (skills, concepts and practices), the nature of tasks, lessons, and assessments, and finally the sequencing of content within and across grades/courses" (p.2). Properly identified instructional materials are thought to be quite influential in a teacher's capacity to provide quality instruction and facilitate learning (Partelow & Shapiro, 2018).

The K-12 curriculum vetting rubric for which the curriculum vetters used to assess mathematics curriculum includes three criteria (Appendix A) to evaluate the merit of the instructional supports. Those criteria are related to resources guidance, evidence of differentiation, and strategies for identifying student errors and misconceptions. The following details are several examples pulled from Unit 1, as the curriculum vetters felt this Unit serves as a model.

To begin, within the curriculum, the *Teacher Resources* document provides a list of hyperlinks to many external open education resources intended to support teachers in planning lessons with attention to scaffolding and differentiation. For example, the first hyperlink, the *Top 10 Resources*, states that "learners must develop a variety of fluencies (e.g., visual, audio, mathematical, reading, etc.). This seems to imply the resources could support or act as scaffolds as students develop mathematical fluency. "Lessons should offer alternatives in the degrees of freedom available, with highly scaffolded and supported opportunities and materials" (Unit 4, p.98). The curriculum vetters acknowledge that resources include:

- Free and purchased web-based resources for lesson planning and student engagement.

- Online practice and tutorial resources such as Khan Academy and Learn Zillion provide opportunities for bridging learning gaps.

- Technology rich resources such as Desmos, Geogebra, and Texas Instruments provide opportunities for exploration and enrichment for gifted and talented learners.

Other resources and guidance related to the use of technology and media is found in the *Unpacking the Standards* document. For Unit 1, the document includes hyperlinks to algebra tile videos and resources to support learning at the conceptual level. The curriculum vetters make note of one instructional resource, a video, which is aligned with standard A.SSE.1 – *interpret expressions that represent a quantity in terms of its context*. A second instructional resource, also a video, is aligned with the following standards A.CED.A.1 (*Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions*), A.REI.A.1 (*Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution, thus it allows for the construction of a viable argument to justify a solution*

method), and A.REI.B.3 (*Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters).*

Aside from Unit 1, vetters uncovered multiple examples of the instructional supports that exist for English learners. To begin, research has shown strong evidence in building students' English language and literacy in all disciplines, including mathematics. Of note, one strong recommendation is to teach a set of vocabulary words intensively across several days of instruction (Lesnick, 2014). Vocabulary words along with online resources to support the development of appropriate math language assists with mathematical discourse and are included in the curriculum in the "Academic Language" for each unit. Along with a list of vocabulary words such as approximate, linear, slope, and many more are suggestions for teaching vocabulary (PGCPS Algebra 1 curriculum, Unit 3, p. 25).

Additional supports include the use of sentence starters as a scaffold to guide students in how to organize and express their thinking. Hyperlinks to guidance for *Universal Design for Learning (UDL)*, to give all students equal opportunities to learn, is also offered as guidance (Al-Azawei, Serenelli & Lundqvist, 2016). According to the curriculum, UDL "is a set of principles for lesson development that give all individuals equal opportunities to learn" (Unit 4, p.98). Another hyperlink to the resource *Sample Layered Curriculum*, provides what appears to be a way for students to hold themselves accountable in demonstrating their understanding of math concepts, i.e., completed date, number of points earned for a writing assignment, performance task, or choice board activity.

The curriculum offers strategies for identifying common student errors and misconceptions as well as guidance on correcting them. Curricular guidance explains "students may believe that the use of algebraic expressions is merely the abstract manipulation of symbols. Use of real-world context examples to demonstrate the meaning of the parts of algebraic expressions is needed to counter this misconception. Students may also believe that an expression cannot be factored because it does not fit into a form they recognize. They need help with reorganizing the terms until structures become evident" (p. 52, Unit 3). Instructional supports to address common misconceptions for standards are provided in the *Unpacking the Standards* document. For instance, Unit 4 associates the following misconceptions in a learning activity associated with standards A.SSE.1a (*Interpret parts of an expression, such as terms, factors, and coefficients*), A.SSE.1b (*Interpret complicated expressions by viewing one or more of their parts as a single entity*), A.SSE.2 (*Use the structure of an expression to identify ways to rewrite it*), A.SSE.3a (*Factor a quadratic expression to reveal the zeros of the function it defines*), and A.SSE.3b (*Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines*):

- Students will often combine terms that are not like terms. For example, $2 + 3x = 5x$ or $3x + 2y = 5xy$.

- Students sometimes forget the coefficient of 1 when adding like terms. For example, $x + 2x + 3x = 5x$ rather than $6x$.

- Students will forget to distribute to all terms when multiplying. For example, $6(2x + 1) = 12x + 1$ rather than $12x + 6$.

- Students may not follow the Order of Operations when simplifying expressions. For example, $4x^2$ when $x = 3$ may be incorrectly evaluated as $4 \cdot 3^2 = 12^2 = 144$, rather than $4 \cdot 9 = 36$. Another common mistake occurs when the distributive property should be used

prior to adding/subtracting. For example, $2 + 3(x - 1)$ incorrectly becomes $5(x - 1) = 5x - 5$ instead of $2 + 3(x - 1) = 2 + 3x - 3 = 3x - 1$.

- Students fail to use the property of exponents correctly when using the distributive property. For example, $3x(2x - 1) = 6x - 3x = 3x$ instead of simplifying as $3x(2x - 1) = 6x^2 - 3x$.

- Students fail to understand the structure of expressions. For example, they will write 4x when $x = 3$ is 43 instead of $4x = 4 \cdot x$ so when $x = 3$, $4x = 4 \cdot 3 = 12$. In addition, students commonly misevaluate $-3^2 = 9$ rather than $-3^2 = -9$.

Overall, there is a reasonable amount of evidence of instructional supports and guidance to support both teacher and students.

IV. Use of Assessment and Performance Expectations

Recently, the Council of Chief State School Officers (CCSSO) has incorporated an important idea adopted from earlier guidance posited by the National Research Council and Mathematical Science Education Board Mathematics, around the notion that "assessment is the means by which we determine what students know and can do" (2018). While that appears on the surface to be a relatively easy endeavor, it is in that design when assessing for and of learning where curriculum can show weakness in terms of who it reaches, design, validity and reliability (Muskin, 2015). The goal would be for curriculum to cover objectives identified in the standards, and for assessments to focus on the attainment of standards (Santiago, P., Shrewbridge, C., 2012).

As a point of reference, the MSDE K-12 Mathematics Curriculum Vetting rubric include four criteria associated with the **assessment of and for learning** key feature (Appendix A). Within the curriculum, acceptable evidence of each criterion exists. Most evidence is presented in the *Algebra I Assessment System* document, included in the curriculum. The document states that "assessment is an important tool that guides and informs instruction. An effective design will mirror the curriculum and instruction expectations, employing a range of assessment strategies. Formative, interim, and summative assessments are incorporated so the resulting data can guide instruction and learning" (Algebra 1, p.30, Unit 1). Of note is the school system's approach to and use of student self-assessment.

Student Self-Assessment Rubric Using Algebra I Performance Level Descriptors (p. 31)				
Unit 1: Equations and Introduction to Functions	Name: _____ (1) Date: _____ Level: _____		(2) Date: _____ Level: _____ (3) Date: _____ Level: _____	
	DIRECT SUPPORT Level 2: Partial Expectations	**SURFACE** Level 3: Approaches Expectations	**DEEP** Level 4: Meets expectations	**TRANSFER** Level 5: Exceeds expectations
Interpreting the Structure of Expressions A-SSE.2-1 A-SSE.2-4 A.APR.1-1	❏ I can **write** equivalent numerical and polynomial expressions in one variable, using addition, subtraction and multiplication.	❏ I can **write** equivalent numerical and polynomial expressions in one variable, using addition, subtraction and multiplication.	❏ I can **write** equivalent numerical and polynomial expressions in one variable, using addition, subtraction, and multiplication.	❏ I can **write and analyze** equivalent numerical and polynomial expressions in one variable, using addition, subtraction, and multiplication.

Table 9. Examples Taken from Prince George's County *Algebra I Assessment System* for Algebra I.

As shown in Table 9, the *Student Self-Assessment Performance Level Descriptors Rubric* communicates the performance expectations related to targeted standards for the unit. The first part of *The Student Self-Assessment Rubric* (Table 10), which is found in each of the vetted units, includes self-assessment ranges, extending from with *Level 2—Direct Support* through *Level 5 —Transfer*. The rubric incorporates student-level language *I can* statements allowing students to identify to what extent they have obtained proficiency. With this instrument using similar language to the state assessment, in terms of performance levels, the tool makes clear the proximity to learning targets for students and teachers.

Finally, as shown in Table 10, the self-assessment rubric includes *I can* statements with which students can describe their proficiency against the performance expectations for reasoning and modeling. The performance expectations are presented in a checklist format that assists with helping students celebrate their strengths and identify their areas for growth. Vetters also observed the purposefulness of including reason and modeling headings to assist students with using SMP 3 (construct viable arguments) and SMP 4 (modeling with mathematics) as it relates to the specific unit standards of focus.

Student Self-Assessment Rubric	
[Performance Expectations of Unit 1]	
Reasoning with One Variable Linear Equations In connection with the content knowledge of Unit 1	**Modeling with One Variable Linear Equations** In connection with the content knowledge of Unit 1
❏ I can provide a logical progression of steps to create, solve, and use linear equations and inequalities. ❏ I can construct viable arguments to justify a method for creating, solving, and using linear equations and inequalities. ❏ I can communicate my reasoning using the academic language of equations and inequalities.	Given a problem in real-life context... ❏ I can select appropriate tools to create models. ❏ I can analyze equivalent numerical and algebraic expressions in one variable using algebraic properties. ❏ I can interpret the solution and solution set of a linear equation and inequality in the context of the real-world situation.

Table 10. Example Taken from Prince George's County *Algebra I Assessment System* for Algebra I.

Throughout the curriculum, there is also evidence that student learning activities are addressed in multiple sources and are aligned with instructional tasks and standards. These examples were evident in each of the vetted units. The curriculum declares "the following tasks represent the level of depth, rigor, and complexity expected of all math students. These tasks can be used to demonstrate evidence of learning. It is important that all elements of the modeling cycle be addressed throughout the learning process so that students understand the expectation of problem solving in high school mathematics" (Unit 2, p.53). Table 11, Formative Assessments: Unit 2 Required Instructional Tasks, provides some insight into the school system's approach to their vision.

Formative Assessments: Unit 2 Required Instructional Task (excerpt from p. 53)			
Task Name	**Task Type** *Group Strategy*	**Content Addressed**	**Standards**
Representing Inequalities Graphically	Formative Assessment Lesson *Partner/Small Group*	Create systems of linear inequalities to establish constraints to determine the value of a particular point.	A.REI.12, A.CED.3, MP.1, MP.2, MP.5, MP.6, MP.7, MP.8
Dinner Party	TI Graphing Calculator *Partner/Small Group*	Create linear equations and/or functions in two variables in different forms to model and describe a real life context.	A.CED.2, A.CED.3, F.IF.4, F.IF.7a, F.BF.1a, F.BF.3, MP.2, **MP.4**, MP.5

Table 11. Examples of Required Instructional Tasks from Unit 2.

Lastly, the curriculum provides guidance for common expectations for formative assessments, in addition to that which is presented in Table 10. The curriculum includes a *Formative Assessments for Maryland Educators (FAME) Curriculum Connection* resource, which directs teachers to use performance tasks to gather information on students' understanding so that instruction can be adjusted accordingly. The document shares guidance on the purpose and intent of formative assessment and formative tasks. The curriculum also shares information about the Mathematics Assessment Project. This resource, which can be downloaded, offers information and guidance on the specific tasks and supporting documents regarding formative and summative assessments.

Opportunities for Growth

I.   Opportunities for a Robust Curriculum

To be fully aligned, a curriculum requires explicit evidence that major standards receive equal attention to conceptual understanding, procedural skills and fluency, and application in problem-solving contexts (Williams, Driver, Feldman, Carranza & Casserly, 2017). Although the connection between SMP and standards were cited as an area of promise, there are opportunities to strengthen alignment between components to produce a robust curriculum. In portions of the vetted Algebra I curriculum (i.e., student learning outcomes and required instructional task), major standards could be connected to supporting or additional standards and thus inspire a more robust encounter with the standards for students. Consider, for example, Unit 1 —*Interpreting the Structure of Expressions*. The standards identified in Unit 1 could be further enhanced with an integration of standards A.SSE.A.2.1 and A.APR.1.1.

- A.SSE.A.2-1 – *Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.*

- A.APR.1-1 – *Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.*

Moreover, standard A.APR.1 can have more prominence in the *At a Glance Organization/Grouping of Standards* and/or *Instructional Mapping Guide* document (as examples) in addition to it being used as a fluency standard.

Reflecting on Unit 3— Exponentials Expressions, Equations and Functions, the curriculum vetters noted there was a missed opportunity to develop a more robust curriculum by not including standards F.LE.3 and F.BF.3.

- F.LE.3 – *Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.*

- F.BF.3 – *Identify the effect on the graph of replacing f(x) by f(x) + k, k f(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.*

Indeed, a high-quality curriculum is one that is comprehensive, content-rich, and standards-based; a commonality shared among academically high-performing countries (Steiner, 2017). Further, reports from *Programme for International Student Assessment* (PISA), indicate that nine of highest-achieving school systems across the world all underscored a content-rich curriculum, in conjunction with corresponding standards and assessments (Chiefs for Change, 2017).

A few minor concerns were noted with respect to potential changes to ensure a robust curriculum which include an instance in which a standard was not aligned to the Algebra I MCCRS framework. In Unit 4, Linear and Quadratic System under *Required Instructional Tasks* is aligned to an Algebra II standard; namely, A.REI.C.7 – *Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically*. For example, find the points of intersection between the line *y* = 3*x* and the circle $x^2 + y^2 = 3$ is an Algebra II standards.

The other instance was a misplacement of information within the *Unpacking the Standards* document for Unit 1. Within the misconception section, the following is provided: "students may also believe that an expression cannot be factored because it does not fit into a form they recognize. They need help with reorganizing the terms until structures become evident" (p.48). This reference is misplaced, as the concept of factoring and the factoring standards were not identified for instruction in Unit 1.

II.   Navigation of Resources

While the curriculum vetters uncovered helpful guidance documents in terms of technology, differentiation, and misconceptions, they expressed concern over what could be a lack of direction as to which of the available resources to use and what in sequence and combination. Essentially the curriculum is a large array of document resources with each having a specific focus as described through the inclusion of document and resource titles throughout this report. It is essential that teachers be guided through the resources and the curriculum, as a whole, and explicitly so that implementation can be seamlessly actionable and, by extension, refined with the support of school and school system leaders.

Instructional materials can influence student achievement (Partelow & Shapiro, 2018) thus it is worth revisiting to ensure that their use, access, and quality is intact. It should also be noted that the *Teacher Resources* document contains six hyperlinks for media resources. However, upon attempting to access, it appears that they are no longer live or are available. The same is true for the hyperlinks embedded in the *At A Glance* document. While each document has valuable information, vetters had difficulty navigating when to use (as in a scope and sequence) the documents or accessing the resources. This is especially important since there are few choices in the "PARCC Released Problems" and "Required Instructional Tasks" within each concept or topic, as shown in the Table 6 on page 13 of this report.

III.   Alignment of Performance Expectations to Standards

In places within the vetted curriculum, the performance expectations related to targeted standards for the unit were not consistently communicated. For example, in Unit I, the objective—Interpreting the Structure of Expressions — does not align with the following standards that have been presented in Unit 1 (cf. Unit 1 Student Self-Assessment). Nor does it appear that these standards were addressed in the *Instructional Tasks* section of Unit 1.

- A.SSE.A.2. — Use the structure of an expression to identify ways to rewrite it. *For example, see $x^4 - y^4$, thus recognizing it as a difference of squares that can be factored as* (x^2-y^2) (x^2+y^2).

- A.APR.1.1 — Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

In some instances, the vetted curriculum appears to lack the intentional processes and examples of the types of tasks that should be assigned to elicit evidence of student learning and thinking. Generally, Maryland educators reference the following tasks types:

- Type I: tasks assessing concepts, skills and procedures;

- Type II: tasks assessing expressing mathematical reasoning; and

- Type III: tasks assessing modeling and applications. (cf. Maryland State Department of Education, *MCAP Algebra I Evidence Statements*, August 2019)

The curriculum includes the *Overview of PARCC Mathematics Task Types*. There is little evidence, however, of Task Types being aligned to particular student learning outcomes, standards, or associated Required Instructional Task, which could serve to ensure students have practice with the level of complexity consistent with each of the types. As mentioned earlier, the document serves as more an ancillary resource than as part of a sequenced, inter-related curriculum.

Although examples and some guidance the nature of structured and unstructured formative assessment was provided, little direction was provided regarding how to record and utilize assessment results as a data-informed means of adjusting instructional delivery, mode, or other modifications for diverse learners. Adding the steps in the formative process or tips on how to develop formative assessment aligned to standards, could prove helpful.

Lastly, some items provided on the *PARCC-Like Unit Assessment High Level Blueprint* were not correctly aligned with the proper standards.

Overall Rating

The Maryland College and Career Ready Standards (MCCRS) Curriculum Framework for Algebra I provides an overview of the standards, which have been assembled to form the units of study for Algebra I (Maryland State Department of Education, 2018). The framework identifies five critical content units: Unit 1 - Relationships between Quantities and Reasoning with Equations; Unit 2 - Linear and Exponential Relationships; Unit 3 - Descriptive Statistics; Unit 4 - Expressions and Equations; and Unit 5 - Quadratic Functions and Modeling (Maryland State Department of Education, 2018). The standards in each unit are grouped conceptually by clusters. Ideally, a curriculum is aligned with the Maryland College and Career Ready Standards so that by the end of the year, students have had rich and multiple exposures to and experiences with each of the content standards.

Using the MSDE-developed evaluation rubric for grade K-12, curriculum vetters assessed lessons within the curriculum as shown in Table 12. During the review, the curriculum vetters reached a consensus (See Appendix B) regarding the findings, arranged by areas of promise, opportunities for growth, and recommendations for improvement. The curriculum vetters used the following rating scale to rate the curriculum on a scale ranging from 1 to 4, for each of the four key features. A rating of *4* indicates that the vetted curriculum was considered *Exemplary*, thus exceeding expectations for addressing the criteria of each key feature. In contrast, a rating of *1* indicates that the vetted curriculum was deemed *Unsatisfactory*, thus, failing to address more than half the criteria and/or inaccurately addressing the key features.

Overall, the curriculum vetters rated the Algebra I curriculum as a ***3 Satisfactory- addresses all criteria for each key feature****.* The curriculum was found to have several areas of promise drawing from two of the key features with some areas for improvement in two other key features.

Rating Scale:

☐ 4-Exemplary - Exceeds expectations for addressing the criteria for each key feature.
☐ **3- Satisfactory - Satisfactorily addresses all criteria for each key feature.**
☐ 2- Needs Improvement - Addresses only some and/or only inadequately addresses some of the criteria for each key feature.
☐ 1- Unsatisfactory - Fails to address more than half the criteria and/or inaccurately addresses the indicators.

Criteria on the Mathematics K-12 Curriculum Vetting Rubric

Key Features	Focus and Rigor	Coherence	Instructional Supports	Assessment for and of Learning
A high-quality curriculum is evaluated for all of these indicators	• Alignment to MCCRS • Connections between SMPs and Content Standards • Instructional Time Frame • Balance Aspects of Rigor	• Communication of Connecting Standards (Major and Additional/ Supporting) • Vertical Progressions	• Resource Guidance on Available Resources • Evidence of Differentiation • Strategies for Identifying Student Errors and Misconceptions	• Clear Performance Expectations • Task Types to Elicit Student Learning/ Thinking • Formative Assessments • Summative assessments
Overall Rating Algebra 1	3	2	2	3

Table 12. Key Features of a High-Quality Curriculum from the Evaluation Rubric

Recommendations for improvement to the Prince George's County Public Schools Algebra 1 curriculum are presented next in this report.

Recommendations for Improvement

I.   Improve coherence by including missed standards within appropriate units of instruction.

In meeting this recommendation, it is suggested to amend the *Unit Overview* for each unit with a focus on coherence. Particularly, the focus should be on the content specific to each unit rather than a broad overview of what is taught before and after each unit of instruction. Include what students have learned in previous grades as it relates to the concepts and standards for the current unit. In this light, the first recommendation is to consider including N.Q.1, N.Q.2, & N.Q.3 as supporting standards in multiple units including Unit 1.

- N.Q.A.1 – Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

- N.Q.A.2 – Define appropriate quantities for the purpose of descriptive modeling. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

- N.Q.A.3 – Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

These standards are important as a foundation in Algebra I. By the end of eighth grade, students have learned to solve linear equations in one variable and have applied graphical and algebraic methods to analyze and solve systems of linear equations in two variables. Unit 1: Relationships between Quantities and Reasoning with Equations builds on these earlier experiences by asking students to analyze and explain the process of solving an equation. Students develop fluency writing, interpreting, and translating between various forms of linear equations and inequalities and using them to solve problems. As such, it would be advantageous to incorporate these standards in an Algebra I curriculum (Maryland Common Core State Curriculum Framework for Algebra I High School Mathematics, 2018).

The inclusion of these standards will support the building of coherence. Overall, efforts to improve coherence would be valuable to a high-quality curriculum. In order to ensure coherence, it is recommended that the curriculum consistently incorporates missing standards to ensure a vertical progression of targeted mathematics. In this way, the curriculum can demonstrate how current learning connects to prior and future learning. Coherence is considered a key shift in the development and implementation of a high-quality curriculum (Hughes, et al, 2013).

II.   Ensure various resources are provided for each unit.

To enhance the instructional supports within the curriculum, school system leaders might consider resources for teachers that are aligned with the content as a matter of addressing all learners. Though there is a resource for UDL on the *Teacher Resources* document, it is not specifically aligned to a unit or standard. As such, it is recommended that district leaders considers including guidance on which of the available resources best support the teaching and learning of targeted standards, including those that entail the use of technology. Of the resources to be accessed via hyperlinks, such as the Top 10 Resources, it is recommended that district leaders ensure that all hyperlinks provided are accessible. As warranted, new hyperlinks and resources would need to be identified and distributed educators. For

English learners, the primary resources appear to be associated with ConnectEd from McGraw Hill; otherwise, there are minimal supports for English learners. With the adoption of any new resources, including a new text, can include a search for ways to engage and provide access for all learners.

Finally, it is recommended that school system leaders include a rationale for activities that support strategies or guidance on correcting common student errors and misconceptions. Identifying possible common student error and misconceptions are promising, the inclusion of strategies and guidance to address the common student error and misconceptions would be valuable.

In large part, instructional materials are truly significant to the development of a high-quality curriculum. Yet, if the materials are not aligned to the standards, are not easy to use, or if they are not coupled with appropriate guidance, they can derail curricula efforts (Williams et al., 2017). Research suggests that when a district incorporates high-quality instructional supports, teachers are less likely to search for or develop their own supplementary materials (Williams et al., 2017; Partelow & Shapiro, 2018). When curricululm, including the instructional supports, are effective, there is an increased likelihood of being used with fidelity. Given the distinct correlation between students' academic success and a high-quality curriculum, adherence to the implementation of the curriculum is as important as the curriculum itself (Partelow & Shapiro, 2018).

III.   Review assessment for alignment and appropriate guidance.

Satisfactory evidence of the use of assessments exist within the curriculum, yet the curriculum vetters have offered recommendations to improve the quality of the **assessment of and for learning** elements of the vetted curriculum. It is recommended that school system leaders and curriculum developers consider reviewing the *Student Self-Assessment* rubric for alignment with standards identified in each unit. A review of the Student Self-Assessment rubric in Unit 1 reveals that standards and tasks are misaligned. It is recommended that district leaders select and organize course content and determine appropriate assessments and instructional strategies for all major content standards. The curriculum vetters submit that it would be useful if the curriculum included suggestions related to remediating based on feedback from formative assessments.

Through formative assessments, both students and teachers gain insight on the content students have been able to demonstrate proficiency and the extent to which they are prepared to move forward in their learning (Boaler, 2015). Therefore, emphasis on formative assessment is important to ensure that students direct their learning efforts appropriately and monitor their own progress (Boaler, 2015; CCSSO, 2016). In which case, there must be clear alignment between the standards and the assessments. Furthermore, teachers must present students with clear criteria for success and models of good performance (Saphier, Haley-Speca & Gower, 2018). Both students and teachers should be clear on what students are expected to learn or be able to do, as well as how they are to demonstrate such learning (Saphier, Haley-Speca & Gower, 2018).

Discussion and Conclusion

Curriculum grounded in standards is the foundation for improved student outcomes. It is a priority of the MSDE that all students engage in curriculum, instruction, and assessments that prepares them for postsecondary success. As a result, the Maryland State Board of Education adopted Maryland College and Career Ready Standards. These standards identify what knowledge is measured through state assessments.

It is essential that students in the Prince George's County Public School system have access to high-quality curriculum that will prepare them for future success. Prince George's County Public Schools has done a great job of organizing and formatting their curriculum, thus making these documents useable for first-year teachers, actionable for teacher-mentors and/or department chairs, and reliable for school leadership. With that in mind, a greater impact on student achievement is promised with greater alignment to the Maryland College and Career Ready Standards, strategic use of the supporting standards and clarity in guidance over embedded resources. MSDE is committed to supporting Prince George's County Public Schools in identifying and implementing curriculum and professional learning experiences that is in alignment with state standards and effective practices for curriculum and instruction.

Next Steps

Recent studies have shown that a high-quality curriculum can have a more noticeable impact than other commonly used interventions such as decreasing class size or merit pay for teachers. Beginning with meeting the **Recommendations for Improvement**, such as tighter alignment between all facets of the curriculum (standards, content, objective, assessment, and all ancillary documents and hyperlinks) or ensuring a clear and balanced approach to all aspects of rigor, can make a difference. However, making the necessary revisions toward stronger curricula is only part of the shift necessary to make the greatest impact on student achievement.

What follows must be a coordinated and collaborative partnership between the MSDE and Prince George's County Public School leaders throughout the process of making improvement to the algebra 1 curriculum. MSDE is committed to supporting Prince George's Public Schools in finding and implementing solutions in a reasonable timeframe. The MSDE will provide resources, tools, and training that supports the improvement and implementation of a high-quality algebra 1 curriculum.

References

Achieve, (2018). *A Framework to Evaluate Cognitive Complexity in Mathematics Assessments*.

Al-Azawei, A., Serenelli, F., & Lundqvist, K. (2016). Universal design for learning (UDL): A content analysis of peer reviewed journals from 2012 to 2015. *Journal of the Scholarship of Teaching and Learning*, *16*(3), 39-56.

Boaler, J. (2015). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages and innovative teaching.* John Wiley & Sons.

Casserly, M., (2017). *Supporting Excellence: A Framework for developing, implementing, and sustaining a high-quality district curriculum*. Council of the Great City Schools.

Chiefs for Change (2017). *Hiding in plain sight: Leveraging curriculum to improve student learning.*

Festus, A. B., & Kurumeh, M. S. (2015). Curriculum planning and development in mathematics from the formative stages. *Journal of Education and Practice*, 6(2), 62-66.

Hughes, G. B., Daro, P., Holtzman, D., & Middleton, K. (2013). A Study of the Alignment between the NAEP Mathematics Framework and the Common Core State Standards for Mathematics (CCSS-M). *American Institutes for Research*.

Maryland State Department of Education (2018). Mathematics Algebra I. Maryland college-and career-ready curriculum framework.

National Council Teachers of Mathematics (2019). *Concerns Regarding the Use of EdReports Mathematics Materials Reviews.*

Partelow, L., & Shapiro, S. (2018). *Curriculum reform in the nation's largest school districts. Center for American Progress*. Retrieved from https://www.americanprogress.org/issues/education-k-12/reports/2018/08/29/454705/curriculum-reform-nations-largest-school-districts/

Saphier, J., Haley-Speca, M. A., & Gower, R. R. (2018). The Skillful Teacher: The Comprehensive Resource for Improving Teaching and Learning. *Research for Better Teaching*.

State Collaborative on Assessment and Student Standards of the Council of Chief State School Officers (CCSSO) (2016). Formative Assessment for Students and Teachers.

Santiago, P., Shrewbridge, C., (2012). *Evaluation and Assessment Frameworks for Improving School Outcomes: Common Policy challenges*. The Office of Education and Training Policy.

Steiner, D. (2017). Curriculum research: What we know and where we need to go. *Standards Work*, p.1-13.

Student Achievement Partners, (2016). *Deep Dive in the Math Shifts*. Achieve the Core.

U.S. Department of Education (2016). *College and career readiness: The Instructional advance. Connecting standards for mathematical practice to content*. PowerPoint produced under U.S. Department of Education Contract No. ED-VAE-13-C-0066 with StandardsWork, Inc.

Appendix A: Algebra 1 Curriculum Vetting Rubric

Key Feature #1: Focus and Rigor
Curricular documents explicitly articulate the content and performance expectations for a grade level or course.

Criteria *The mathematics curriculum:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
demonstrates full alignment to the Maryland College and Career Ready Mathematics Standards.		
makes explicit connections between the Standards for Mathematical Practice and the grade-level/course-level mathematics content standards.		
provides instructional time frames that are appropriate for addressing the expectations for addressing major, supporting, and additional content.		
includes clear evidence that attention is paid to the aspects of rigor (procedural skills, conceptual understandings and ability to apply the targeted mathematics).		

Rating Scale for Key Feature #1 – **Focus and Rigor** (Select a <u>single</u> rating that is reflective of the degree to which the criteria are met.)		
4	Exceeds expectations for addressing the criteria for Key Feature #1 (**Exemplary**)
3	Satisfactorily addresses all of the criteria for Key Feature #1 (**Satisfactory**)
2	Addresses only some and/or only inadequately addresses some of the criteria for Key Feature #1. (**Needs Improvement**)
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #1. (**Unsatisfactory**)
Qualitative Summary of Evidence

Key Feature #2: Coherence
The curriculum builds coherence within and across grade levels/courses.

Criteria *The mathematics curriculum:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
deliberately communicates connections between major standards and additional and supporting standards within a course/grade.		
provides information on the vertical progression of targeted mathematics to illustrate how current learning connects to prior and future learning. See: http://mdk12.msde.maryland.gov/instruction/curriculum/mathematics/index.html		

Rating Scale for Key Feature #2 – **Coherence** (Select a <u>single</u> rating that is reflective of degree to which the criteria are met.)	
4	Exceeds expectations for addressing the criteria for Key Feature #2. (**Exemplary**)
3	Satisfactorily addresses all of the criteria for Key Feature #2. (**Satisfactory**)
2	Addresses only some and/or inadequately addresses some of the criteria for Key Feature #2. (**Needs Improvement**)
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #2. (**Unsatisfactory**)
Qualitative Summary of Evidence	

Key Feature #3: Instructional Supports		
Curricular documents include instructional support for teachers of mathematics.		
Criteria *The mathematics curricular documents provide:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
guidance on which of the available resources best support the teaching and learning of targeted standards, including, when appropriate, the use of technology and media.		
scaffolds and/or other supports (differentiation) that address the needs of special populations (struggling learners, Gifted and Talented, English learner, students with gaps in learning, and students with disabilities).		
strategies for identifying and guidance on correcting common student errors and misconceptions.		

Rating Scale for Key Feature #3 – **Instructional Supports** (Select a **single** rating that is reflective of the degree to which the criteria are met.)

4	Exceeds expectations for addressing the criteria for Key Feature #3 (**Exemplary**)
3	Satisfactorily addresses all of the criteria for Key Feature #3 (**Satisfactory**)
2	Addresses only some and/or inadequately addresses some of the criteria for Key Feature #3. (**Needs Improvement**)
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #3. (**Unsatisfactory**)

Qualitative Summary of Evidence

Key Feature #4 Assessment for and of learning		
Curricular documents provide guidance on how to measure whether students have met specific learning expectations.		
Criteria *The mathematics curriculum:*	Strengths *Provide specific evidence/examples of commendations*	Challenges or Concerns *Provide specific evidence/examples of areas for improvement*
communicates the performance expectations at the grade/course level related to targeted standards for the unit.		
includes examples of the types of tasks that should be assigned to elicit evidence of student learning/thinking.		
provides guidance for common expectations for formative assessments.		
provides guidance for common expectations for summative assessments.		
Rating Scale for Key Feature #4 – **Assessment for learning and of learning.** (Select a <u>single</u> rating that is reflective of the degree to which the criteria are met.)		
4	Exceeds expectations for addressing the criteria for Key Feature #4 (**Exemplary**)	
3	Satisfactorily addresses all of the criteria for Key Feature #4 (**Satisfactory**)	
2	Addresses only some and/or inadequately addresses some of the criteria for Key Feature #4. (**Needs Improvement**)	
1	Fails to address more than half of the criteria and or/ inaccurately addresses the criteria for Key Feature #4. (**Unsatisfactory**)	
Qualitative Summary of Evidence		

Appendix B: Algebra 1 Consensus Report

Directions: Using the Evaluation Rubric, indicate the criteria evidenced across the grade band curriculum.

Key Feature 1- Focus and Rigor for a grade level or course (Check ☑ all that apply.)	Key Feature 2- Coherence within and across grade levels/courses (Check ☑ all that apply.)	Key Feature 3- Instructional Supports (Check ☑ all that apply.)	Key Feature 4- Assessment/Measurability (Check ☑ all that apply.)
☐ Measurable Alignment: Curriculum demonstrates full alignment to the Maryland College- and Career-Ready Mathematics Standards.	☐ Communication of Connecting Standards: Curriculum deliberately communicates connections between major standards and additional and supporting standards within a course/grade. http://mdk12.msde.maryland.gov/instruction/curriculum/mathematics/index.html	☐ Resource Guidance: Curriculum offers guidance on which of the available resources best support the teaching and learning of targeted standards, including, when appropriate, the use of technology and media.	☐ Clear Performance Expectations: Curriculum communicates the performance expectations at the grade/course level related to targeted standards for the unit.
☐ Focus and Connections with standards and practices: Curriculum makes explicit connections between the Standards of Mathematical Practice and grade level/course mathematics content standards.	☐ Vertical Progressions: Curriculum provides information on the vertical progression of targeted mathematics to illustrate how current learning connects to prior and future learning. http://mdk12.msde.maryland.gov/instruction/curriculum/mathematics/index.html	☐ Evidence of Differentiation: Curriculum includes guidance for scaffolds and/or other supports that address the needs of special populations (struggling learners, Gifted and Talented, English learner, students with gaps in learning, and students with disabilities).	☐ Task Types: Curriculum includes examples of the types of tasks that should be assigned to elicit evidence of student learning and thinking.
☐ Instructional Time Frame: Curriculum provides time frames that are appropriate for addressing major, supporting, and additional content.		☐ Student Errors and Misconceptions: Curriculum includes strategies for identifying for and guidance on correcting common student errors and misconceptions.	☐ Formative Assessments: Curriculum provides guidance for common expectations for formative assessments.
☐ Aspects of Rigor: Curriculum includes clear evidence that major topics receive equal attention to conceptual understanding, procedural skills and fluency, and application in problem-solving contexts.			☐ Summative Assessments: Curriculum provides guidance for common expectations for summative assessments.

Directions: Using the criteria evidenced above and the Evaluation Rubric notes, provide a synthesis of the strengths and challenges across the curriculum. Be sure to cite specific objective examples for each of the criteria.

Key Feature 1: Focus and Rigor for a grade level or course	Key Feature 2- Coherence within and across grade levels/courses	Key Feature 3- Instructional Supports	Key Feature 4- Assessment/Measurability
Synthesis of Strengths Synthesis of Challenges/Concerns	Synthesis of Strengths Synthesis of Challenges/Concerns	Synthesis of Strengths Synthesis of Challenges/Concerns	Synthesis of Strengths Synthesis of Challenges/Concerns
Select an overall rating for all lessons evaluated for the grade level. ☐ 4-**Exemplary** Exceeds expectations for addressing the criteria for each indicator ☐3- **Satisfactory** Satisfactorily addresses all criteria for each indicator ☐2- **Needs Improvement** Addresses only some or all the indicators ☐1- **Unsatisfactory** Fails to address more than half the criteria and/or inaccurately address the indicators	*Select an overall rating for all lessons evaluated for the grade level.* ☐ 4-**Exemplary** Exceeds expectations for addressing the criteria for each indicator ☐3- **Satisfactory** Satisfactorily addresses all criteria for each indicator ☐2- **Needs Improvement** Addresses only some or all the indicators ☐1- **Unsatisfactory** Fails to address more than half the criteria and/or inaccurately address the indicators	*Select an overall rating for all lessons evaluated for the grade level.* ☐ 4-**Exemplary** Exceeds expectations for addressing the criteria for each indicator ☐3- **Satisfactory** Satisfactorily addresses all criteria for each indicator ☐2- **Needs Improvement** Addresses only some or all the indicators ☐1- **Unsatisfactory** Fails to address more than half the criteria and/or inaccurately address the indicators	*Select an overall rating for all lessons evaluated for the grade level.* ☐ 4-**Exemplary** Exceeds expectations for addressing the criteria for each indicator ☐3- **Satisfactory** Satisfactorily addresses all criteria for each indicator ☐2- **Needs Improvement** Addresses only some or all the indicators ☐1- **Unsatisfactory** Fails to address more than half the criteria and/or inaccurately address the indicators

Directions: Synthesizing all of the information collected throughout the evaluation process, list key recommendations for the grade band impacting teaching and learning to be shared with the school system.

Key Feature 1: Focus and Rigor for a grade level or course	Key Feature 2- Coherence within and across grade levels/courses	Key Feature 3- Instructional Supports	Key Feature 4- Assessment/Measurability
Recommendations	Recommendations	Recommendations	Recommendations

This tool has been adapted by the MSDE from the Quality Rubric created by the Tri-State Collaborative (Massachusetts, New York, Rhode Island) – facilitated by Achieve.

Appendix C: Mathematics K-10 Evidence Organizer

Curriculum Vetted:

Grade Level/Grade Band:

Check-in Due Date: MSDE Approved: ☐Yes ☐ Needs revision, resubmit by:

Check-in Due Date: MSDE Approved: ☐Yes ☐ Needs revision, resubmit by:

Key Feature #1: Focus and Rigor
Curricular documents explicitly articulate the content (the MCCRS) and performance expectations (what students should know and be able to do) for a grade level or course.
Overall Rating Assigned by Vetter(s): ☐4 ☐3 ☐2 ☐1

Summary of Recommendation(s) = Opportunities for Growth
from Consensus Report

Grade Band Claim from Consensus Report (Challenges/Concerns)	**Evidence and/or Examples** from Consensus and Grade-level Findings as a Challenge/Concern

Research-Based Rationale for
Opportunities for Growth aligned to each Recommendation

Summary of Strengths = Areas of Promise
from Consensus Report

Research-Based Rationale for
Areas of Promise

Key Feature #2: Coherence
The curriculum builds coherence within and across grade levels or courses.
Overall Rating Assigned by Vetter(s): ☐4 ☐3 ☐2 ☐1

Summary of Recommendation(s) = Opportunities for Growth
from Consensus Report

Grade Band Claim from Consensus Report (Challenges/Concerns)	Evidence and/or Examples from Consensus and Grade-level Findings as a Challenge/Concern

Research-Based Rationale for
Opportunities for Growth aligned to each Recommendation

Summary of Strengths = Areas of Promise
from Consensus Report

Research-Based Rationale for
Areas of Promise

Key Feature #3: Instructional Supports

Curricular documents include instructional supports for teachers and students of mathematics.

Overall Rating Assigned by Vetter(s): ☐4 ☐3 ☐2 ☐1

Summary of Recommendation(s) = Opportunities for Growth from Consensus Report	

Grade Band Claim from Consensus Report (Challenges/Concerns)	Evidence and/or Examples from Consensus and Grade-level Findings as a Challenge/Concern

Research-Based Rationale for Opportunities for Growth aligned to each Recommendation	

Summary of Strengths = Areas of Promise from Consensus Report	

Research-Based Rationale for Areas of Promise	

Key Feature #4: Assessment for and of Learning

Curricular documents provide guidance on how to measure whether students have met specific performance expectations.

Overall Rating Assigned by Vetter(s): ☐4 ☐3 ☐2 ☐1

Summary of Recommendation(s) = Opportunities for Growth
from Consensus Report

Grade Band Claim from Consensus Report (Challenges/Concerns)	Evidence and/or Examples from Consensus and Grade-level Findings as a Challenge/Concern

Research-Based Rationale for
Opportunities for Growth aligned to each Recommendation

Summary of Strengths = Areas of Promise
from Consensus Report

Research-Based Rationale for
Areas of Promise

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