TOOLKIT
for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards

March 2014

STUDENT ACHIEVEMENT PARTNERS

CCSSO Council of Chief State School Officers

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Introduction

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I. Introduction

The Common Core State Standards (CCSS) are a set of academic standards in mathematics and English language arts/literacy that are grounded in evidence and designed to ensure that all students have the academic knowledge and skills they need in these core subjects to succeed after high school. The CCSS were developed in a state-led process under the leadership of governors and chief state school officers with participation from 48 states. The process included the involvement of state departments of education, districts, teachers, community leaders, experts in a wide array of fields, and professional educator organizations.

A good place to begin to understand the CCSS is through a study of the standards themselves and the key instructional shifts required in each discipline. In English language arts/literacy, students will be exposed to a balance of literary and informational texts to build a growing base of knowledge and will be expected to cite evidence from within the texts in order to answer questions and develop written or verbal responses. Students will also be expected to develop facility with academic language and read texts that increase in complexity as they progress so that all students are ready for the demands of college- and career-level reading no later than the end of high school. The instructional shifts in English language arts/literacy are as follows:[1]

Building knowledge through **content-rich nonfiction**

Reading, writing, and speaking grounded in evidence from text, both literary and informational

Regular practice with **complex text** and **academic language**

Focus and coherence are the two major evidence-based design principles of the Common Core State Standards for Mathematics.[2] These principles are meant to fuel greater achievement in a deep and rigorous curriculum, one in which students acquire conceptual understanding, procedural skill and fluency, and the ability to apply mathematics to solve problems. Thus, the instructional shifts in mathematics are as follows:[3]

Focus: focus strongly where the standards focus

Coherence: think across grades/courses, and link to major topics in each course

Rigor: in major topics, pursue with equal intensity

- conceptual understanding,
- procedural skill and fluency, and
- applications

To ensure that all students are able to meet these high expectations, educators need access to high-quality and well-aligned instructional and assessment materials. In support of the work being done by both educators and developers to meet this need, Achieve, the Council of Chief State School Officers and Student Achievement Partners have developed this *Toolkit for Evaluating Alignment of Instructional and Assessment Materials.* The purpose of the Toolkit is to catalyze the impact that the CCSS can have on student achievement by increasing the prevalence of CCSS-aligned, high-quality instructional and assessment materials.

[1] For more information about the shifts in English language arts/literacy, see achievethecore.org/elalitshifts
[2] For some of the sources of evidence consulted during the standards development process, see pp. 91–93 of CCSSM.
[3] For more information about the shifts in mathematics, see achievethecore.org/mathshifts

What's in the Toolkit? An Overview

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II. What's in the Toolkit? An Overview

The Toolkit is a set of interrelated, freely available instruments for evaluating instructional and assessment materials for alignment to the CCSS. The tools themselves are included in section III; see Table A for a summary. Each tool in the Toolkit supports the expectations in the CCSS and derives from the Publishers' Criteria for the Common Core State Standards in English language arts/literacy and mathematics, which were developed by lead authors of the CCSS along with the National Governors Association, Council of Chief State School Officers, Achieve, Council of the Great City Schools and National Association of State Boards of Education. The Publishers' Criteria provide guidance for both developers and purchasers of curricular materials by defining quality materials aligned to the CCSS. The criteria were revised through conversations with educators, researchers, and other stakeholders to be purposeful and strategic in both what to include and what to exclude in instructional materials based on the CCSS.

The criteria were developed from the perspective that publishers and purchasers are equally responsible for ensuring high-quality instructional materials. *They do not define, endorse or prescribe curriculum; those decisions are, and should be, local within each state or district.* The instruments in this Toolkit do not express novel expectations, but rather articulations of the Publishers' Criteria for use in practice. It is therefore highly recommended that the Publishers' Criteria be read prior to using any of the included resources. The Publishers' Criteria for the Common Core State Standards can be found in the Appendix to the Toolkit or online at www.corestandards.org/resources or www.achievethecore.org/publisherscriteria.

Educators are encouraged to integrate the Publishers' Criteria and the tools in the Toolkit into CCSS implementation efforts and to use them to deepen shared understanding and support systematic application of the criteria for CCSS-aligned instructional and assessment materials. In doing this work, it is important to note that the included tools do not address all factors that may be important in determining whether instructional materials and assessments are appropriate in a given local or state context but instead aim to clearly articulate the criteria for alignment to the CCSS.

Successful implementation of the CCSS requires many actors across the educational system to work in concert. Hence, the audience for the Toolkit is intentionally broad, ranging from classroom teachers to state administrators.

Potential Toolkit users include:

- educators and administrators responsible for developing or evaluating curriculum, or for making purchasing decisions for comprehensive textbooks and textbook series in print and digital format;
- educators and administrators responsible for developing, evaluating or making purchasing decisions for grade or course-level assessment materials, including individual or sets of assessments, item banks or individual assessment items; and
- teachers and instructional coaches responsible for creating, or selecting and reviewing, lesson plans and units.

Table A. Types of Tools in the Toolkit

Tools of each type are content specific, and in some cases, grade band specific.

Type of Tool	Used for Evaluating
Instructional Materials Evaluation Tool (IMET)	Comprehensive mathematics and English language arts or reading curricula in print and digital format.
EQuIP Rubric for Lessons and Units	Lesson plans and units of instruction in mathematics and English language arts/literacy.
Assessment Evaluation Tool (AET)	Assessments or sets of assessments and item banks for mathematics and English language arts/literacy, including interim/benchmark assessments, and classroom assessments designed to address a grade or course.
Assessment Passage & Item Quality Criteria Checklist	Assessment passages and assessment items or tasks.
EQuIP Student Work Protocol	Student work to establish or articulate the relationship between student work and the quality and alignment of instructional materials.

Overview of the Tools in the Toolkit

Instructional Materials Evaluation Tool (IMET)

For each given subject area and grade band, the Instructional Materials Evaluation Tool (IMET) is used to evaluate a comprehensive textbook or textbook series for alignment to the CCSS in mathematics and English language arts/literacy. In addition, the IMET can be used to deepen a shared understanding of the criteria for CCSS-aligned classroom materials. There are four IMET tools, one each for K–8 Mathematics, High School Mathematics*, K–2 English Language Arts* and a combined tool for 3–5 English Language Arts/Literacy & 6–12 English Language Arts.

The IMET should be used for:

- Informing decisions about purchasing a comprehensive textbook or textbook series;
- Evaluating previously purchased materials to identify necessary modifications;
- Building the capacity of educators to better understand what CCSS-aligned textbooks look like; and,
- Informing publishers of the criteria that consumers will use to evaluate RFP responses for a comprehensive textbook or textbook series.

a) Where to find online:

To view and download the IMET, please visit:
www.achievethecore.org/materialsevaluationtoolkit

b) Who uses:

The IMET is designed for use by educators and administrators responsible for developing, purchasing and/or evaluating a comprehensive textbook and/or textbook series. This can include content specialists, adoption committees and administrators at the school, district or state level.

c) Target materials:

The IMET is designed to evaluate a comprehensive textbook and/or textbook series (e.g., basal reading series, mathematics series, anthologies, student workbooks, teacher editions and supports) in print and digital format.

d) How to use:

The IMET in both mathematics and English language arts/literacy is organized in two sections:

1. Section I — *Non-Negotiables*: Materials must fully meet all of the non-negotiables at each grade/course to be aligned to the CCSS and to continue to Section II.
2. Section II — *Additional Alignment* Criteria and Indicators of Quality: The criteria in this section are additional alignment requirements that should be met by materials fully aligned with the CCSS. A higher score in this section indicates that instructional materials are more closely aligned to the CCSS than instructional materials that have a lower score.

For each non-negotiable in Section I, reviewers should make a determination about whether the materials under review have fully met the criterion based on the metrics provided. For all determinations, reviewers should record a justification to ensure

that judgments and determinations are evidence based. Once all the non-negotiables have been met, then (and only then) should reviewers evaluate materials based upon Section II: Additional Alignment Criteria and Indicators of Quality.

*IMET for High School Mathematics and K–2 English Language Arts/Literacy to be completed in August 2013.

EQuIP Rubric

Educators Evaluating Quality Instructional Products (EQuIP) is a collaborative of states working with Achieve to increase the supply of quality instructional materials that are aligned to the CCSS and build the capacity of educators to evaluate and improve the quality of instructional materials for use in their classrooms and schools. The EQuIP Rubrics are a set of quality review tools to evaluate the alignment of lessons, units and modules to the CCSS. There are three EQuIP Rubrics, one each for Mathematics, K–2 English Language Arts/Literacy, and a combined rubric for 3–5 English Language Arts/Literacy and 6–12 English Language Arts. EQuIP builds on a collaborative effort of education leaders from Massachusetts, New York and Rhode Island that Achieve facilitated.

The EQuIP Rubrics should be used for:

- Guiding the development of lessons and units;
- Evaluating existing lessons and units to identify improvements needed to align with the CCSS;
- Building the capacity of teachers to gain a deeper understanding of the instructional demands of the CCSS; and,
- Informing publishers of the criteria that will be applied in the evaluation of proposals and final products.

a) Where to find online:

To view and download the rubrics and related training materials, please visit: www.achieve.org/equip

b) Who uses:

The EQuIP Rubrics are designed for use by educators and administrators responsible for developing, reviewing or making determinations about materials for use in classrooms. This includes classroom teachers, instructional coaches, instructional leaders and administrators at the school, district or state level.

c) Target materials:

The EQuIP Rubrics are designed to evaluate lessons that include instructional activities and assessments aligned to the CCSS that may extend over a few class periods or days as well as units that include integrated and focused lessons aligned to the CCSS that extend over a period of several weeks. The rubrics are not designed to evaluate a single task or activity or portion of a lesson. The rubrics intentionally do not require a specific template for lesson or unit design.

d) How to use:

The EQuIP Rubrics can guide the development of lessons and units as well as examine and evaluate existing lessons and units to identify improvements necessary to align with the CCSS. They can be used by individuals or groups, integrated into formal review panels/processes and professional learning communities, and/or used more informally to guide discussions and decision making.

The criteria in the EQuIP Rubrics are separated into four dimensions: Alignment to the Depth of the CCSS, Key Shifts in the CCSS, Instructional Supports, and Assessment. The EQuIP quality review process emphasizes inquiry rather than advocacy; it is intended to yield observations, judgments, discussions and recommendations that are criterion- and evidence-based and designed to provide

guidance on how to strengthen the lesson or unit. As such, using the EQuIP rubrics and quality review process leads to concrete suggestions for improvement. Dimension 1, Alignment to the Depth of the CCSS, is considered non-negotiable. If materials do not meet many or most of the criteria for Dimension 1 (a rating of 2 or 3) then no further review takes place. In order to be deemed exemplary, a lesson or unit must receive high ratings in all four dimensions.

Assessment Evaluation Tool (AET)

The Assessment Evaluation Tool (AET) is a review tool to evaluate the alignment of grade or course-level assessment materials for alignment with the CCSS, including interim or benchmark assessments and classroom assessments. In addition, the AET can also be used to deepen a shared understanding of the criteria for CCSS-aligned assessments. There are separate AET tools for K–High School Mathematics and 3–12 English Language Arts/Literacy.

The AET should be used for:

- Informing decisions about purchasing assessment materials or item banks designed to address a grade or course;
- Evaluating previously purchased or developed assessment materials and item banks;
- Guiding the development or refinement of individual or sets of assessments in a district or school;
- Building the capacity of educators and content and assessment specialists to better understand what CCSS-aligned assessments look like; and,
- Informing publishers of the criteria that will be applied in the evaluation of proposals and final products.

a) Where to find online:

To view and download the AET, please visit:
www.achievethecore.org/materialsevaluationtoolkit

b) Who uses:

The AET is designed for use by educators and administrators responsible for developing, purchasing and/or evaluating sets of assessments and item banks. This includes content specialists, assessment specialists, administrators and educators at the school, district or state level.

c) Target materials:

The AET is designed to evaluate grade or course-level assessment materials for alignment with the CCSS, including interim or benchmark assessments and classroom assessments.

d) How to use

The AET is organized as follows:

1. *Non-Negotiables:* Materials must fully meet all of the relevant non-negotiables at each grade/course to be aligned to the CCSS.

2. *Indicators of Quality:* The indicators of quality are additional dimensions of alignment. Although the assessments may be aligned without meeting the indicators of quality, assessments that do reflect these indicators are better aligned. In the AET for English language arts/literacy, the indicators are incorporated directly into each metric and in the AET for mathematics the indicators are found in Section II.

For each non-negotiable, reviewers should make a determination about whether the materials under review have fully met the criterion based on the metrics provided. For all determinations, reviewers should record a justification to ensure that judgments and determinations are evidence based. Once all the relevant non-negotiables have been met, then (and only then) should reviewers evaluate materials based upon the Indicators of Quality.

Assessment Passage and Item Quality Criteria Checklists

The Assessment Passage and Item Quality Criteria Checklists are review tools to evaluate the alignment of individual assessment passages, items and tasks and to deepen shared understanding of the criteria for CCSS-aligned assessment items. There are separate checklist tools for Mathematics Items, English Language Arts/Literacy Passages, and English Language Arts/Literacy Items.

The Assessment Passage and Item Quality Criteria Checklists should be used for:

- Evaluating assessment passages, items and tasks for alignment;
- Guiding the development or refinement of assessment passages, items and tasks;
- Building the capacity of educators and content and assessment specialists to better understand what CCSS-aligned passages, items and tasks look like; and
- Informing publishers and item writers of criteria that will be applied to their passages, items or tasks.

a) Where to find online:

To view and download the Assessment Passage and Item Quality Criteria Checklists, please visit: www.achievethecore.org/materialsevaluationtoolkit

b) Who uses:

The Assessment Passage and Item Quality Criteria Checklists are designed for use by educators and administrators responsible for developing, purchasing and/or evaluating assessment passages, items or tasks. This includes content specialists and assessment specialists and educators at the school, district or state level.

c) Target materials:

The Assessment Passage and Item Quality Criteria Checklists are designed to evaluate individual assessment passages, items and tasks.

d) How to use:

The criteria for the Assessment Passage and Item Quality Criteria Checklists are grouped into 'gates'. Passages, items and tasks must pass the first gate in order to be considered for an assessment. The subsequent gates include additional criteria that passages, items or tasks items should meet in order to be fully aligned.

EQuIP Student Work Protocol

The ultimate goal of the Common Core State Standards (CCSS) is to prepare all students with the knowledge and skills they need for postsecondary success. The EQuIP Student Work Protocol is designed to establish or articulate the relationship between student work and the quality and alignment of instructional materials that previously have been reviewed using the EQuIP quality review process. Focusing on this relationship enables educators to develop a common understanding of the challenging work required by the CCSS. Furthermore, analyzing this relationship will also assist in closing the gap between what students are learning and the expectations embodied in assignments, as well as verifying what students are being taught and what they have learned, remembered, and incorporated into their knowledge and skills. Common expectations will result in more equitable educational opportunities for students and deepen the existing foundation for collaboration among states and districts.

The specific objectives of this EQuIP Student Work Protocol are three-fold:

- To confirm that a lesson's or unit's assignment is aligned with the letter and spirit of the targeted Common Core State Standards.
- To determine how students performed on an assignment as evidence of how well designed the lesson/unit is.
- To provide criterion-based suggestions for improving the assignment and related instructional materials.

a) Where to find online:

To view and download the EQuIP Student Work Protocol and related training materials, please visit: www.achieve.org/equip

b) Who uses:

The EQuIP Student Work Protocol is designed for use by educators, instructional leaders and administrators.

c) Target materials:

The EQuIP Student Work Protocol is intended for use with instructional materials that have undergone an EQuIP review, received a rating of E or E/I, and then subsequently have been implemented in an instructional setting to produce samples of student work.

d) How to use:

This 5-step protocol begins with a team of reviewers (or a single reviewer) focusing on the assignment itself — the directions or prompt and any accompanying scoring guides. Reviewers identify the content and performances required by the assignment. Reviewers then analyze the standards actually targeted by the author of the lesson/unit and the content and performances they embody. Gaps in alignment are noted. The process then turns to describing how students performed on the assignment and whether and how students demonstrated the expectations of the targeted standards. At the end of the review process, reviewers provide criterion-based feedback regarding improvements that could be made to both the assignment and related instructional materials.

The Toolkit: Tools for Evaluating Alignment of Instructional and Assessment Materials

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Instructional Materials Evaluation Tool (IMET)

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Instructional Materials Evaluation Tool for CCSS Alignment in Mathematics Grades K–8 (IMET) – Student Achievement Partners

Each set of materials submitted for adoption will be evaluated first against four non-negotiable criteria based on the Common Core State Standards (CCSS). Materials cannot be CCSS-aligned without fully meeting all of the non-negotiable criteria. There are additional criteria as well of indicators of quality to help evaluators determine materials that are more closely aligned. Please note that this tool is designed for evaluation of comprehensive materials only (print and digital) and will not be appropriate for evaluating supplemental materials.

BEFORE YOU BEGIN

ALIGNMENT TO THE COMMON CORE STATE STANDARDS:

Evaluators of materials should understand that at the heart of the Common Core State Standards is a substantial shift in mathematics instruction that demands the following:

1) Focus strongly where the Standards focus
2) Coherence: Think across grades and link to major topics within grade
3) Rigor: In major topics, pursue conceptual understanding, procedural skill and fluency, and application with equal intensity.

Evaluators of materials must be well versed in the Standards for the grade level of the materials in question, including understanding the major work of the grade[1] vs. the supporting and additional work, how the content fits into the progressions in the Standards, and the expectations of the Standards with respect to conceptual understanding, fluency, and application. It is also recommended that evaluators refer to the Spring 2013 K–8 Publishers' Criteria for Mathematics while using this tool (achievethecore.org/publisherscriteria).

ORGANIZATION

SECTION I: NON-NEGOTIABLE ALIGNMENT CRITERIA
All submissions must meet all of the non-negotiable criteria at each grade level to be aligned to CCSS and before passing on to Section II.

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY
Section II includes additional criteria for alignment to the standards as well as indicators of quality. Indicators of quality are scored differently from the other criteria; a higher score in Section II indicates that materials are more closely aligned.

Together, the non-negotiable criteria and the additional alignment criteria reflect the 10 criteria from the K–8 Publishers' Criteria for Mathematics. The indicators of quality are taken from the K–8 Publishers' Criteria as well. For more information on these elements, see achievethecore.org/publisherscriteria.

REVIEW

Evaluator:_____ **Book:**_____ **Grade:**_____ **Publisher:**_____ **Year:**_____

[1] For more on the major work of the grade, see achievethecore.org/emphases.

SECTION I:	METRICS
Non-Negotiable 1. FOCUS ON MAJOR WORK: Students and teachers using the materials as designed devote the large majority[2] of time in each grade K–8 to the major work of the grade.[3, 4]	

Sample Worksheet 1 – Materials focus on the major clusters of each grade.[5]

Grade	Major Clusters	Days Spent on Cluster	% of Total Time Spent on Cluster	Additional or Supporting Clusters or Other[6]	Days Spent on Cluster	% of Total Time Spent on Cluster
1A. Kindergarten	K.CC: A, B, C			K.MD: A, B		
	K.OA: A			K.G: A, B		
	K.NBT: A			OTHER		
	Major Total:			**Non-Major Total:**		
1B. Grade 1	1.OA: A, B, C, D			1.MD: B, C		
	1.NBT: A, B, C			1.G: A		
	1.MD: A			OTHER		
	Major Total:			**Non-Major Total:**		
1C. Grade 2				2.OA: C		
	2.OA: A, B			2.MD: C, D		
	2.NBT: A, B			2.G: A		
	2.MD: A, B			OTHER		
	Major Total:			**Non-Major Total:**		
1D. Grade 3				3.NBT: A		
	3.OA: A, B, C, D			3.MD: B, D		
	3.NF: A			3.G: A		
	3.MD: A, C			OTHER		
	Major Total:			**Non-Major Total:**		
1E. Grade 4				4.OA: B, C		
	4.OA: A			4.MD: A, B, C		
	4.NBT: A, B			4.G: A		
	4.NF: A, B, C			OTHER		
	Major Total:			**Non-Major Total:**		
1F. Grade 5				5.OA: A, B		
	5.NBT: A, B			5.MD: A, B		
	5.NF: A, B			5.G: A, B		
	5.MD: C			OTHER		
	Major Total:			**Non-Major Total:**		

[2] The materials should devote at least 65% and up to approximately 85% of class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.
[3] Refer also to criterion #1 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[4] If materials show time in both block and standard 'days,' choose either but remain consistent.
[5] Interactive worksheets for the evaluation of this non-negotiable can be found at achievethecore.org/materialsevaluationtoolkit
[6] Other signifies content that is found in other grades of the CCSSM or that is not part of the CCSSM.

SECTION I (Cont):	METRICS
Non-Negotiable 1. FOCUS ON MAJOR WORK: Students and teachers using the materials as designed devote the large majority of time in each grade K–8 to the major work of the grade.	

Grade	Major Clusters	Days Spent on Cluster	% of Total Time Spent on Cluster	Additional or Supporting Clusters or Other	Days Spent on Cluster	% of Total Time Spent on Cluster
1G. Grade 6				6.NS: B		
	6.RP: A			6.G: A		
	6.NS: A, C			6.SP: A, B		
	6.EE: A, B, C			OTHER		
	Major Total:			**Non-Major**		
1H. Grade 7	7.RP: A			7.G: A, B		
	7.NS: A			7.SP: A, B, C		
	7.EE: A, B			OTHER		
	Major Total:			**Non-Major**		
1I. Grade 8				8.NS: A		
	8.EE: A, B, C			8.G: C		
	8.F: A, B			8.SP: A		
	8.G: A, B			OTHER		
	Major Total:			**Non-Major**		

To be aligned to the CCSSM, materials should devote at least 65% and up to approximately 85% of class time to the major work of each grade with Grades K–2 nearer the upper end of that range, i.e., 85%. Each grade must meet the criterion; do not average across two or more grades.	Meet? (Y/N)
Justification/Notes	

SECTION I (continued):	METRICS
Non-Negotiable 2. FOCUS IN K–8: Materials do not assess any of the following topics before the grade level indicated.[7]	**Sample Worksheet 2 – Materials focus in K–8**

Topic	Grade level introduced in the Standards	Materials assess these topics only at, or after, the indicated grade level	Evidence
2A. Probability, including chance, likely outcomes, probability models.	7	**T F**	
2B. Statistical distributions, including center, variation, clumping, outliers, mean, median, mode, range, quartiles; and **statistical association or trends**, including two-way tables, bivariate measurement data, scatter plots, trend line, line of best fit, correlation.	6	**T F**	
2C. Similarity, congruence, or geometric transformations.	8	**T F**	
2D. Symmetry of shapes, including line/reflection symmetry, rotational symmetry.	4	**T F**	

To be aligned to the CCSSM, materials cannot assess above-named topics before they are introduced in the CCCSSM. All four of the T/F items above must be marked 'true' (T).	**Meet? (Y/N)**
Justification/Notes	

[7] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I (continued):	METRICS
Non-Negotiable 3. RIGOR AND BALANCE: Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application.[8]	**Sample Worksheet 3 – Rigor and balance within each grade**

Aspects of Rigor	True/False	Evidence
3A. ***Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings.	**T F**	
3B. ***Attention to Procedural Skill and Fluency:*** Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency.	**T F**	
3C. ***Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications, without losing focus on the major work of each grade.	**T F**	
3D. ***Balance:*** The three aspects of rigor are not always treated together, and are not always treated separately	**T F**	

To be aligned to the CCSSM, materials for each grade must attend to each element of rigor and must represent the balance reflected in the Standards. All four of the T/F items above must be marked 'true' (T).'	**Meet? (Y/N)**
Justification/Notes	

[8] Refer also to criterion #4 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I (continued):	METRICS
Non-Negotiable 4. PRACTICE-CONTENT CONNECTIONS: Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice.[9, 10]	**Sample Worksheet 4 – Connections between the Standards for Mathematical Practice and Standards for Mathematical Content**

Practice-Content Connections	True / False	Evidence
4A. The materials connect the Standards for Mathematical Practice and the Standards for Mathematical Content.	**T F**	
4B. The developer provides a description or analysis, aimed at evaluators, which shows how materials meaningfully connect the Standards for Mathematical Practice to the Standards for Mathematical Content within each applicable grade.	**T F**	

To be aligned to the CCSSM, materials must connect the practice standards and content standards and the developer must provide a narrative that describes how the two sets of standards are meaningfully connected within the set of materials for each grade. Both of the T/F items above must be marked 'true' (T).	**Meet? (Y/N)**
Justification/Notes	

Materials must meet all four non-negotiable criteria listed above to be aligned to the CCSS and to continue to the evaluation in Section II.	**# Met:**

[9] Refer also to criterion #7 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

[10] All items do not need to align to a Mathematical Practice. In addition, there is no requirement to have an equal balance among the Mathematical Practices in any set of materials or grade.

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY
Materials must meet all four non-negotiable criteria listed above to be aligned to the CCSS and to continue to the evaluation in Section II.
Section II includes additional criteria for alignment to the Standards as well as indicators of quality. Indicators of quality are scored differently from the other criteria: a higher score in Section II indicates that materials are more closely aligned. Instructional materials evaluated against the criteria in Section II will be rated on the following scale: • 2 – (meets criteria): A score of 2 means that the materials meet the full intention of the criterion in all grades. • 1 – (partially meets criteria): A score of 1 means that the materials meet the full intention of the criterion for some grades or meets the criterion in many aspects but not the full intent of the criterion. • 0 – (does not meet criteria): A score of 0 means that the materials do not meet many aspects of the criterion. For Section II parts A, B, and C, districts should determine the minimum number of points required for approval. Before evaluation, please review sections A – C, decide the minimum score according to the needs of your district, and write in the number for each section.

II(A). ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT	SCORE	JUSTIFICATION/NOTES
1. Supporting content enhances focus and coherence simultaneously by engaging students in the major work of the grade.[11]	2 1 0	
2. Materials are consistent with the progressions in the Standards.[12]		
2A. Materials base content progressions on the grade-by-grade progressions in the Standards.	2 1 0	
2B. Materials give all students extensive work with grade-level problems.	2 1 0	
2C. Materials relate grade level concepts explicitly to prior knowledge from earlier grades.	2 1 0	
3. Materials foster coherence through connections at a single grade, where appropriate and where required by the Standards.[13]		
3A. Materials include learning objectives that are visibly shaped by CCSSM cluster headings.	2 1 0	
3B. Materials including problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important.	2 1 0	
3C. Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives.	2 1 0	
MUST HAVE _____ POINTS IN SECTION II(A) FOR APPROVAL[14]		**Score:**

[11] Refer also to criterion #3 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[12] Refer also to criterion #5 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[13] Refer also to criterion #6 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[14] For district determination

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY (Continued)			
II(B). ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE	**SCORE**		**JUSTIFICATION/NOTES**
4. Focus and Coherence via Practice Standards: Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards.[15]	2 1 0		
5. Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[16]	2 1 0		
6. Emphasis on Mathematical Reasoning: Materials support the Standards' emphasis on mathematical reasoning by[17]:			
6A. Materials prompt students to construct viable arguments and critique the arguments of other concerning key grade-level mathematics that is detailed in the content standards (cf. MP.3).	2 1 0		
6B. Materials engage students in problem solving as a form of argument.	2 1 0		
6C. Materials explicitly attend to the specialized language of mathematics.	2 1 0		
MUST HAVE _____ POINTS IN SECTION II(B) FOR APPROVAL[18]			**Score:**

[15] Refer also to criterion #8 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[16] Refer also to criterion #9 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[17] Refer also to criterion #10 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[18] For district determination

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY (Continued)		
II(C). INDICATORS OF QUALITY[19]	**SCORE**	**JUSTIFICATION/NOTES**
7. The underlying design of the materials distinguishes between problems and exercises. In essence the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	2 1 0	
8. Design of assignments is not haphazard: exercises are given in intentional sequences.	2 1 0	
9. There is variety in the pacing and grain size of content coverage.	2 1 0	
10. There is variety in what students produce. For example, students are asked to produce answers and solutions, but also, in a grade-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	2 1 0	
11. Lessons are thoughtfully structured and support the teacher in leading the class through the learning paths at hand, with active participation by all students in their own learning and in the learning of their classmates.	2 1 0	
12. There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	2 1 0	
13. Manipulatives are faithful representations of the mathematical objects they represent.	2 1 0	
14. Manipulatives are connected to written methods.	2 1 0	
15. Materials are carefully reviewed by qualified individuals, whose names are listed, in an effort to ensure freedom from mathematical errors and grade-level appropriateness.	2 1 0	
16. The visual design isn't distracting or chaotic, but supports students in engaging thoughtfully with the subject.	2 1 0	
17. Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	2 1 0	
MUST HAVE _____ POINTS IN SECTION II(C) FOR APPROVAL[20]		**SCORE:**

[19] For background information on the indicators of quality in this section, refer to pp.18-21 in the K–8 Publishers' Criteria for Mathematics.
[20] For district determination

FINAL EVALUATION		
In this section compile scores for Section I, Section II(A), Section II(B), Section II(C) to make a final decision for the material under review.		
SECTION	**PASS/FAIL (P/F)?**	**FINAL JUSTIFICATIONS/NOTES**
Section I		
Section II(A)		
Section II(B)		
Section II(C)		
FINAL DECISION FOR THIS MATERIAL		**PURCHASE (Y/N)?**

Instructional Materials Evaluation Tool for CCSS Alignment in Mathematics High School (IMET) – Student Achievement Partners

The Instructional Materials Evaluation Tool (IMET) is a resource to evaluate a comprehensive textbook or textbook series for alignment to the Common Core State Standards (CCSS). In addition, the IMET can also be used to deepen a shared understanding of the criteria for CCSS-aligned classroom materials.

The IMET should be used for:

- Informing decisions about purchasing a comprehensive textbook or textbook series;
- Evaluating previously purchased materials to identify necessary modifications;
- Building the capacity of educators to better understand what CCSS-aligned textbooks look like; and,
- Informing publishers of the criteria that consumers will use to evaluate RFP responses for a comprehensive textbook or textbook series.

Each set of materials submitted for adoption will be evaluated first against four non-negotiable criteria based on the Common Core State Standards (CCSS). Materials cannot be CCSS-aligned without fully meeting all of the non-negotiable criteria. There are additional criteria as well of indicators of quality to help evaluators determine materials that are more closely aligned. Please note that this tool is designed for evaluation of comprehensive materials only (print and digital) and will not be appropriate for evaluating supplemental materials.

BEFORE YOU BEGIN

ALIGNMENT TO THE COMMON CORE STATE STANDARDS

Evaluators of materials should understand that at the heart of the Common Core State Standards is a substantial shift in mathematics instruction that demands the following:

1) Focus strongly where the Standards focus
2) Coherence: Think across grades/courses and link to major topics within a course
3) Rigor: In major topics, pursue conceptual understanding, procedural skill and fluency, and application with equal intensity.

Evaluators of materials must be well versed in the Standards related to the particular course, including understanding the Widely Applicable Prerequisites[1], how the content fits into the progressions in the Standards, and the expectations of the Standards with respect to conceptual understanding, fluency, and application. It is also recommended that evaluators refer to the Spring 2013 High School Publishers' Criteria for Mathematics while using this tool (achievethecore.org/publisherscriteria).

ORGANIZATION

SECTION I: NON-NEGOTIABLE ALIGNMENT CRITERIA

All submissions must fully meet all of the non-negotiable criteria at each course level to be aligned to CCSS and before passing on to Section II.

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY

The criteria in this section are additional alignment requirements that should be met by materials fully aligned with CCSS. A higher score in this section indicates that instructional materials are higher quality and more closely aligned to the Standards than instructional materials that have a lower score.

Together, the non-negotiable criteria and the additional alignment criteria reflect the 8 criteria from the High School Publishers' Criteria for Mathematics. The indicators of quality are taken from the High School Publishers' Criteria as well. For more information on these elements, see achievethecore.org/publisherscriteria.

REVIEW

Evaluator:_____ **Book:**_____ **Course:**_____ **Publisher:**_____ **Year:**_____

[1] For more information on the Widely Applicable Prerequisites, see achievethecore.org/prerequisites.

SECTION I: NON-NEGOTIABLE ALIGNMENT CRITERIA

For each non-negotiable in Section I, reviewers should make a determination about whether the materials under review have fully met the criterion based on the metrics provided. For all determinations, reviewers should record a justification to ensure that judgments and decisions are evidence based. Once all the non-negotiables have been met, then (and only then) should reviewers continue to evaluate materials based upon Section II.

SECTION I:	SAMPLE EVALUATION INFORMATION

Non-Negotiable 1. FOCUS IN HIGH SCHOOL:

In any single course, students and teachers using the materials as designed spend the majority of their time developing knowledge and skills that are widely applicable as prerequisites for postsecondary education.[2, 3]

Sample Worksheet 1 – Materials focus on Widely Applicable Prerequisites

Focus in High School	True/False	Evidence
1A. In any single course, students spend at least 50% of their time on Widely Applicable Prerequisites.[4]	T F	
1B. Student work in Geometry significantly involves applications/modeling as well as geometry applications that use algebra skills.[5]	T F	
1C. There are problems at a level of sophistication appropriate to high school (beyond mere review of middle school topics) that involve the application of knowledge and skills from grades 6-8 including[6]: • Applying ratios and proportional relationships. • Applying percentages and unit conversions, e.g., in the context of complicated measurement problems involving quantities with derived or compound units (such as mg/mL, kg/m^3, acre-feet, etc.). • Applying basic function concepts, e.g., by interpreting the features of a graph in the context of an applied problem. • Applying concepts and skills of geometric measurement e.g., when analyzing a diagram or schematic. • Applying concepts and skills of basic statistics and probability (see 6–8.SP). • Performing rational number arithmetic fluently.	T F	

To be aligned to the CCSSM, materials should devote the majority of class time developing knowledge and skills that are widely applicable as prerequisites for postsecondary education. All three of the T/F items above must be marked 'true' (T).	**Meet? (Y/N)**

Justification/Notes

[2] Refer also to criterion #1 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[3] If materials show time in both block and standard 'days,' choose either but remain consistent.
[4] For more information on the Widely Applicable Prerequisites, see Table 1 on Page 8 of the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[5] Since the Geometry category itself contains relatively fewer Widely Applicable Prerequisites, this criterion is important to help foster students' college and career readiness.
[6] Information excerpted from Table 1 on Page 8 of the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I (continued):	SAMPLE EVALUATION INFORMATION
Non-Negotiable 2. CONSISTENT, COHERENT CONTENT **Each course's instructional materials are coherent and consistent with the content in the Standards.**[7]	**Sample Worksheet 2 – Consistent, coherent content within each course**

	True/False	Evidence
2A. ***Giving all students extensive work with course-level problems:*** Review of material from previous grades and courses is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.	**T F**	
2B. ***Relating course-level concepts explicitly to prior knowledge from earlier grades and courses:*** The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.	**T F**	

To be aligned to the CCSSM, materials for each course must be coherent and consistent with the content in the Standards. Both of the T/F items above must be marked 'true' (T).	**Meet? (Y/N)**
Justification/Notes	

[7] Refer also to criterion #3 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I (continued):	SAMPLE EVALUATION INFORMATION
Non-Negotiable 3. RIGOR AND BALANCE: **Each grade's instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by helping students develop conceptual understanding, procedural skill and fluency, and application.**[8]	**Sample Worksheet 3 – Rigor and balance within each course** **Balancing the Aspects of Rigor** / **True/False** / **Evidence** **3A.** ***Attention to Conceptual Understanding:*** Materials develop conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings. — **T F** **3B.** ***Attention to Procedural Skill and Fluency:*** Materials give attention throughout the year to individual standards that set an expectation of procedural skill and fluency. — **T F** **3C.** ***Attention to Applications:*** Materials are designed so that teachers and students spend sufficient time working with engaging applications/modeling. — **T F** **3D.** ***Balance:*** The three aspects of rigor are not always treated together, and are not always treated separately — **T F** **To be aligned to the CCSSM, materials for each course must attend to each element of rigor and must represent the balance reflected in the Standards. All four of the T/F items above must be marked 'true' (T).** — **Meet? (Y/N)** **Justification/Notes**

[8] Refer also to criterion #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I (continued):	SAMPLE EVALUATION INFORMATION
Non-Negotiable 4. PRACTICE-CONTENT CONNECTIONS: **Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice.**[9]	**Sample Worksheet 4 – Connections between the Standards for Mathematical Practice and the Standards for Mathematical Content**

Practice-Content Connections	True/False	Evidence
4A. The materials connect the Standards for Mathematical Practice and the Standards for Mathematical Content.	**T F**	
4B. The developer provides a description or analysis, aimed at evaluators, which shows how materials meaningfully connect the Standards for Mathematical Practice to the Standards for Mathematical Content within each applicable course.	**T F**	

To be aligned to the CCSSM, materials must connect the practice standards and content standards and the developer must provide a narrative that describes how the two sets of standards are meaningfully connected within the set of materials for each course. Both of the T/F items above must be marked 'true' (T).	**Meet? (Y/N)**
Justification/Notes	

Materials must meet all four non-negotiable criteria listed above to be aligned to the CCSS and to continue to the evaluation of Section II.	**# MET:**

[9] Refer also to criterion #5 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY
Materials must meet all four non-negotiable criteria listed above to be aligned to the CCSS and to continue the evaluation to Section II. Section II includes additional criteria for alignment to the Standards as well as indicators of quality. Indicators of quality are scored differently from the other criteria: a higher score in this section indicates that instructional materials are higher quality and more closely aligned to the Standards than instructional materials that have a lower score. Instructional materials evaluated against the criteria in Section II will be rated on the following scale: • 2 – (meets criteria): A score of 2 means that the materials meet the full intention of the criterion in all courses. • 1 – (partially meets criteria): A score of 1 means that the materials meet the full intention of the criterion for some courses or meets the criterion in many aspects but not the full intent of the criterion. • 0 – (does not meet criteria): A score of 0 means that the materials do not meet many aspects of the criterion. For Section II parts A, B, and C, districts should determine the minimum number of points required for approval. Before evaluation, please review sections A – C, decide the minimum score according to the needs of your district, and write in the number for each section.

II(A). ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL CONTENT	SCORE	JUSTIFICATION/NOTES
1. Materials are consistent with the content in the Standards.[10] Materials base courses on the content specified in the Standards.	2 1 0	
2. Materials foster coherence through connections in a single course, where appropriate and where required by the Standards.[11]		
2A. Materials include learning objectives that are visibly shaped by CCSSM cluster and domain headings.	2 1 0	
2B. Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a category, or two or more categories, in cases where these connections are natural and important.	2 1 0	
2C. Materials preserve the focus, coherence, and rigor of the Standards even when targeting specific objectives.	2 1 0	
MUST HAVE _____ POINTS IN SECTION II(A) FOR APPROVAL[12]		**Score:**

[10] Refer also to criterion #3 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[11] Refer also to criterion #4 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[12] For district determination

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY (Continued)			
II(B). ALIGNMENT CRITERIA FOR STANDARDS FOR MATHEMATICAL PRACTICE	**SCORE**		**JUSTIFICATION/NOTES**
3. Focus and Coherence via Practice Standards: Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards.[13]	2 1 0		
4. Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.[14]	2 1 0		
5. Emphasis on Mathematical Reasoning: Materials support the Standards' emphasis on mathematical reasoning.[15]			
5A. Materials prompt students to construct viable arguments and critique the arguments of other concerning key course-level mathematics that is detailed in the content standards (cf. MP.3).	2 1 0		
5B. Materials engage students in problem solving as a form of argument.	2 1 0		
5C. Materials explicitly attend to the specialized language of mathematics.	2 1 0		
MUST HAVE _____ POINTS IN SECTION II(B) FOR APPROVAL[16]			**Score:**

[13] Refer also to criterion #6 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[14] Refer also to criterion #7 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[15] Refer also to criterion #8 in the HS Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[16] For district determination

SECTION II: ADDITIONAL ALIGNMENT CRITERIA AND INDICATORS OF QUALITY (Continued)					
II(C). INDICATORS OF QUALITY[17]	**SCORE**			**JUSTIFICATION/NOTES**	
6. Materials support the uses of technology as called for in the Standards.	2	1	0		
7. The underlying design of the materials distinguishes between problems and exercises. In essence, the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose.	2	1	0		
8. Design of assignments is not haphazard: exercises are given in intentional sequences.	2	1	0		
9. There is variety in the pacing and grain size of content coverage.	2	1	0		
10. There is variety in what students produce. For example, students are assigned to produce answers and solutions, but also, in a course-appropriate way, arguments and explanations, diagrams, mathematical models, etc.	2	1	0		
11. Lessons are thoughtfully structured and support the teacher in leading the class through the learning paths at hand, with active participation by all students in their own learning and in the learning of their classmates.	2	1	0		
12. There are separate teacher materials that support and reward teacher study including, but not limited to: discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit, discussion on student ways of thinking and anticipating a variety of students responses, guidance on lesson flow, guidance on questions that prompt students thinking, and discussion of desired mathematical behaviors being elicited among students.	2	1	0		
13. Manipulatives are faithful representations of the mathematical objects they represent.	2	1	0		
14. Manipulatives are connected to written methods.	2	1	0		
15. Materials are carefully reviewed by qualified individuals, whose names are listed, in an effort to ensure freedom from mathematical errors, age-appropriateness, freedom from bias, and freedom from unnecessary language complexity.	2	1	0		
16. The visual design isn't distracting or chaotic, but supports students in engaging thoughtfully with the subject.	2	1	0		
17. Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.	2	1	0		
MUST HAVE _____ POINTS IN SECTION II(C) FOR APPROVAL[18]					**Score:**

[17] For background information on the indicators of quality in this section, refer to pp.16-18 in the High School Publishers' Criteria for Mathematics.
[18] For district determination

FINAL EVALUATION		
In this section compile scores for Section I, Section II(A), Section II(B), Section II(C) to make a final decision for the material under review.		
SECTION	**PASS/FAIL (P/F)?**	**FINAL JUSTIFICATIONS/NOTES**
Section I		
Section II(A)		
Section II(B)		
Section II(C)		
FINAL DECISION FOR THIS MATERIAL		**PURCHASE (Y/N)?**

Instructional Materials Evaluation Tool for CCSS Alignment in ELA/Literacy Grades K -2 (IMET) – Student Achievement Partners
To evaluate ELA course submissions for any grade from K-2 for alignment with the Common Core State Standards (CCSS), analyze the materials against the non-negotiable criteria in the table below. Instructional submissions must meet all of the relevant non-negotiable criteria and metrics to align with the CCSS. Criteria labeled as indicators of superior quality at the end of the tool (section II) are different from the non-negotiable criteria. Although instructional materials may be aligned without meeting these indicators of superior quality, submissions that do reflect these indicators are likely higher quality.
BEFORE YOU BEGIN Evaluators should be aware that at the heart of the Common Core State Standards there are substantial shifts in ELA/Literacy that require the following: 1. Regular practice with complex text and its academic language 2. Reading, writing and speaking grounded in evidence from text, both literary and informational 3. Building knowledge through content-rich non-fiction Evaluators of submissions must be well versed in the standards for the grade level of the materials in question. It is also recommended that evaluators refer to the Publishers' Criteria for the Common Core State Standards in ELA/literacy grades K-2 and the Supplement to Appendix A of the Common Core State Standards for ELA/Literacy: New Research on Text Complexity.

Section I: Non-Negotiable Criteria

NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	METRICS	MEETS METRICS (Y/N)	JUSTIFICATION/ COMMENTS
I. Foundational Skills (including criteria specific to student reading materials in grades K and 1)			
Non-Negotiable 1. FOUNDATIONAL SKILLS ARE SYSTEMATICALLY TAUGHT, ASSESSED AND REINFORCED: Submissions provide explicit and systematic instruction in concepts of print, phonological awareness, phonics, word study, and reading fluency. Submissions provide diagnostic materials at regular instructional points in order to assess student progress in concepts of print, phonological awareness, phonics, word awareness and reading fluency. Submissions include student reading material that allows for systematic, regular and frequent practice of	**1a)** Submissions address grade-level foundational skills by providing instruction in concepts of print, phonological awareness, letter recognition, phonics, word awareness and reading fluency in a logical and transparent progression. **1b)** Student reading materials faithfully follow the sequence of foundational skills instruction while providing abundant opportunities for every student to become proficient in each of the foundational skills. **1c)** Materials are designed so there are regular opportunities for students to practice reading fluency both orally and silently with appropriate texts of a wide variety of types. **1d**) Materials provide regular practice in encoding (spelling) the sound symbol relationships of English. **1e)** Materials provide instruction and practice in word study including pronunciation, roots, prefixes, suffixes and spelling/sound patterns, as well as decoding of grade-level words by using sound-symbol knowledge and knowledge of		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
foundational skills as they are introduced.	syllabication. **1f)** Materials guide students to read with purpose and understanding and to make frequent connections between acquisition of foundation skills and making meaning from reading. **1g)** Materials provide opportunities for educators to monitor student progress on every aspect of the foundational skills through diagnostic assessments offered at regular intervals. Monitoring must also allow for students to receive regular feedback on their oral reading fluency in the specific areas of appropriate rate, expressiveness and accuracy. **1h)** Submissions provide abundant and easily implemented materials so teachers can readily provide more time, attention and practice for those students who need it.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
II. Text Selection			
Non-Negotiable 2. COMPLEXITY OF TEXTS (note: for K and 1 this refers to material intended for reading aloud. Evaluations of text complexity are not applicable to student reading materials until 2nd grade). The submission exhibits concrete evidence of the selection criteria that have been used to demonstrate texts align to the quality expectations laid out in the standards. Beginning in **grade two**, submissions include proof that the texts are at the level of quantitative *and* qualitative complexity as proof of the suitability of the texts. **In all grades**, extensive read-aloud selections allow sufficient opportunity for engagement with text more complex than students could read themselves.	**2a)** Texts in all grades must be accompanied by specific evidence that they have been analyzed for their qualitative features and/or instructional value justifying and indicating a specific grade-level placement. **2b)** Beginning in **grade 2**, texts align with the complexity requirements outlined in the standards. This means that 100% of texts for second grade must be accompanied by specific evidence that they have been analyzed with at least one research-based quantitative measure for grade-band placement. **2c)** In addition to texts at the K-2 level of complexity, materials include read-aloud selections at levels of complexity well above what students can read on their own.		
Non-Negotiable 3. RANGE AND VOLUME OF TEXTS: Submissions must reflect the distribution of text types and genres required by the standards.	**3a)** In grades K-2, literacy programs shift the balance of texts and instructional time to 50% literature / 50% informational text. **3b)** A large majority of texts included in instructional materials reflect the genres and text characteristics that are specifically required by the standards at each grade level. **3c)** Submissions pay careful attention to providing a sequence or collection of texts that "systematically build the knowledge		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
	base of students" (CCSS, 33). Activities should include reading, writing, listening and speaking about topics under study. Read-aloud selections supplement what students can read themselves to ensure that all students can build knowledge about the world through engagement with text. **3d)** Within a sequence or collection of texts, specific, especially rich anchor texts of (keystone texts) are selected for especially careful reading. These texts should have more opportunities built in for students to interact with the text.		
Non-Negotiable 4. QUALITY OF TEXTS: The quality of texts is high—they are worth reading closely and exhibit exceptional craft and thought and/or provide useful information **(note: for K and 1 this refers to material intended for reading aloud. Evaluations of text for quality and complexity are not applicable to student reading materials until 2nd grade).**	**4a)** Texts must be worth reading and listening to; they must be content rich, representing the best available writing in their type, genre and subject matter. **3b)** History/social studies and science/technical selections, specifically, must enable students to develop rich content knowledge.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
III. Questions and Tasks			
Non-Negotiable 5. TEXT-DEPENDENT AND TEXT-SPECIFIC QUESTIONS (note: for K and 1 this refers to material intended for reading aloud).: At least 80% of all comprehension questions (for read-alouds or texts students can read independently) are text-dependent, and text-specific questions. The majority of these questions draw student attention to the particulars in the text.	**5a)** Text-dependent questions and tasks reflect the requirements of Reading Standard 1 by expecting students to use details from the text to demonstrate understanding and to support their ideas about the text. These ideas are expressed through both written and spoken responses. **5b)** Questions are sequenced to guide students in delving deeper into text and graphics. **5c)** Questions and tasks promote the thinking required by the standards at each grade level (Note: not every standard must be assessed with every text.) **5d)** Questions and tasks pay particular attention to the academic language (vocabulary and syntax) in the text and support students in and learning new vocabulary from every reading opportunity.		
Non-Negotiable 6. SCAFFOLDING AND SUPPORTS: The submission provides all students, including those who read below grade level, with extensive opportunities to encounter and comprehend grade-level complex text (either listened to or read) as required by the standards at each grade. Materials direct teachers to return to focused parts of the text to guide students through rereading, discussion and writing about the ideas, events, and information found there. These opportunities are offered	**6a)** Pre-reading activities should be no more than 10% of time devoted to any reading instruction. **6b)** Read aloud materials must be built with the goal of students gaining full comprehension of complex text rather than substituting mastery of strategies. This means reading strategies have to support comprehension of specific texts and focus on building knowledge and insight. Texts must not serve solely as platforms to practice discrete strategies. **6c)** Questions and tasks require careful comprehension of the text as a precursor to asking students for evaluation. **6d)** Questions and tasks that address academic language (vocabulary and syntax) support students in unpacking the meaning of complex texts students hear read. **6e)** Submissions offer monitoring opportunities that		

regularly and systematically.	genuinely measure progress and provide the teacher and student with timely feedback. **6f)** When diagnostics indicate students are not comprehending what they hear or read, materials must be present to provide both reteaching and additional student learning opportunities. These materials must be easily implemented. **6g)** Materials must include gradual release of supporting scaffolds for students at each grade level in order for teachers to measure their students' independent abilities accurately.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
IV. Writing to Sources			
Non-Negotiable 7. WRITING TO SOURCES Writing based on what has been read or heard is a key emphasis in the CCSS at every grade level. Writing assignments are prominent and varied and ask students to draw on their experience, imagination, current capacities, and most frequently, the texts they encounter through reading or read-alouds as source material. As a means to such expression, materials provide sufficient opportunities for all students to practice newly acquired foundational skills as well as other forms of self-expression.	**7a)** Students engage in a full range of writing as outlined by the standards at each grade level. This includes writing about what they are hearing or reading, writing narratives (both real and imagined), writing to inform or explain, and writing opinions. **7c)** Submissions address grade-level foundation standards that require students in the early grades to know their letters, phonetic conventions, sentence structures, and spelling. **7d)** Materials provide opportunities for educators to monitor student progress in the development of these foundational skills and respond to the needs of individual students. This monitoring should include attention to invented spelling as appropriate for its diagnostic value.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
V. Speaking and Listening			
Non-Negotiable 8: SPEAKING AND LISTENING: To be CCSS-aligned, submissions should promote frequent and regular discussions about texts students have heard or read. Materials assessing speaking and listening must reflect communication skills required for real world applications.	**8a**) As a regular part of comprehension instruction, materials must contain activities designed to promote frequent opportunities for speaking with and listening to peers about texts (listened to or read). **8b)** Submissions include a variety of authentic, real world speaking and listening activities for student practice. **8c)** Materials demonstrate connections and alignment between the speaking and listening standards, reading standard 4, and the related language standards.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
VI. Language			
Non-Negotiable 9: LANGUAGE: Submissions must adequately address the Language standards for the grade.	**9a)** Submissions address the grammar and language conventions specified by the Language standards at each grade level. **9b)** Submissions provide a mirror of real-world activities for student practice with natural language (e.g. mock interviews, presentations). **9c)** Materials create opportunities for students to discover accurate usage patterns, compare them with their own, and gain facility in usage and language conventions in a grade-by-grade pathway. **9d)** Submissions demonstrate connections and alignment between the language standards, reading standard 4, and the related speaking and listening standards.		

Section II: Indicators of Superior Quality		
Indicator of Superior Quality	**MEETS METRICS (Y/N)**	**JUSTIFICATION/COMMENTS**
VIII. Usefulness, Design, and Focus		
Do the student resources include ample review and easily implemented practice resources, clear directions, and explanations?		
Are the materials easy to use and cleanly laid out for students and teachers? Does every page of the submission add to student learning rather than distract from it? Are reading selections centrally located within the materials and obviously the point of focus?		
Are there suggestions and materials for adapting instruction for varying student needs? (e.g., alternative teaching approaches, pacing, instructional delivery options, suggestions for addressing common student difficulties, remediation strategies)		
Can the teacher and student reasonably complete the content presented within a regular school year and does the pacing of content allow for maximum student understanding? Do the submissions provide clear guidance to teachers about the amount of time the lesson might reasonably take?		
Do the materials offer clear explanations to teachers in principles of early reading and skills acquisition?		
Do the materials build a coherent sequence of meaning and make connections for students?		
For second grade, additional materials markedly increase the opportunity for regular independent reading of texts that connect to classroom topics and/or appeal to students' interests in order to develop both knowledge and love of reading.		
Do instructions allow for careful reading of content? Do they provide different purposes for multiple readings of the text to keep students engaged and reading for deep understanding?		
Do the submissions designed for teacher guidance contain clear statements and explanation of purpose, goals, and expected outcomes?		

Instructional Materials Evaluation Tool for CCSS Alignment in ELA Grades 3 -12 (IMET) – Student Achievement Partners
To evaluate each grade's or course's materials for alignment with the Common Core State Standards (CCSS), analyze the materials against the non-negotiable criteria in the table below. Instructional materials must meet all of the relevant non-negotiable criteria and metrics to align with the CCSS. Criteria labeled as indicators of superior quality at the end of the tool (section II) are different from the non-negotiable criteria. Although instructional materials may be aligned without meeting these indicators of superior quality, materials that do reflect these indicators are better aligned.
BEFORE YOU BEGIN Evaluators should be aware that at the heart of the Common Core State Standards there are substantial shifts in ELA/Literacy that require the following: 1. Regular practice with complex text and its academic language 2. Reading, writing and speaking grounded in evidence from text, both literary and informational 3. Building knowledge through content-rich non-fiction Evaluators of materials must be well versed in the standards for the grade level of the materials in question. It is also recommended that evaluators refer to the Publishers' Criteria for the Common Core State Standards in ELA/literacy grades 3-12 and the Supplement to Appendix A of the Common Core State Standards for ELA/Literacy: New Research on Text Complexity.

Section I: Non-Negotiable Criteria

NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	METRICS	MEETS METRICS (Y/N)	JUSTIFICATION/ COMMENTS
I. Text Selection			
Non-Negotiable 1. COMPLEXITY OF TEXTS: The submission exhibits concrete evidence that research-based quantitative measures as well as qualitative analysis have been used in selection of complex texts that align to the standards. Further, submissions include a demonstrable staircase of text complexity as materials progress across grade bands.	**1a)** 100% of texts must be accompanied by specific evidence that they have been analyzed with at least one research-based quantitative measure for grade-band placement. **1b)** 100% of texts must be accompanied by specific evidence that they have been analyzed for their qualitative features indicating a specific grade-level placement. **1c)** Texts for each grade band align with the complexity requirements outlined in the standards. Rare exceptions (in which the qualitative measure has trumped the quantitative measure and placed the text outside the grade band) are usually reserved for literary texts in the upper grades, with clear explanation offered. **1d)** Shorter, challenging texts that elicit close reading and multiple readings for varied purposes are provided regularly at each grade. **1e)** All students have extensive opportunity to encounter and		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
	comprehend grade-level text.		
Non-Negotiable 2. RANGE OF TEXTS: Materials must reflect the distribution of text types and genres required by the standards.	**2a)** In grades 3-5, literacy programs shift the balance of texts and instructional time to 50% literature / 50% informational high-quality text. In grades 6-12, ELA programs shift the balance of texts and instructional time towards reading substantially more literary nonfiction. **2b)** A large majority of texts included in instructional materials reflect the genres and text characteristics that are specifically required by the standards at each grade level. **2c)** Materials pay careful attention to providing a sequence or collection of texts that build knowledge systematically through reading, writing, listening and speaking about topics under study. **2d)** Within a sequence or collection of texts, specific anchor texts of grade-level complexity (keystone texts) are selected for especially careful reading. **2e)** Additional materials markedly increase the opportunity for regular independent reading of texts that appeal to students' interests to develop both knowledge and love of reading.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
Non-Negotiable 3. QUALITY OF TEXTS: The quality of texts is high—they are worth reading closely and exhibit exceptional craft and thought and/or provide useful information.	**3a)** 100% of texts must be worth reading; they must be content rich and well crafted, representing the best available writing in their genre and subject matter. **3b)** 100% of history/social studies and science/technical selections, specifically, must enable students to develop rich content knowledge and reflect the quality of writing that is produced by authorities in the discipline, appropriately calibrated for students in that band level. **3c)** 50% or more of informational texts must use informational text structures rather than narrative structures, while still following the distribution of subject matter in non-negotiable 2.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
II. Questions and Tasks			
Non-Negotiable 4. TEXT-DEPENDENT AND TEXT-SPECIFIC QUESTIONS: At least 80% of all questions in the submission are high-quality text-dependent and text-specific questions. The overwhelming majority of these questions are text specific and draw student attention to the particulars in the text.	**4a)** Text-dependent questions and tasks reflect the requirements of Reading Standard 1 by requiring use of textual evidence, including supporting valid inferences from the text. **4b)** High-quality sequences of text-dependent questions elicit sustained attention to the specifics of the text and their impact. **4c)** Questions and tasks assess the depth and complexity of the analytical thinking required by the standards at each grade-level (Note: not every standard must be assessed with every text.) **4d)** Questions and tasks support students in unpacking the academic language (vocabulary and syntax) prevalent in complex texts.		
Non-Negotiable 5. SCAFFOLDING AND SUPPORTS: The submission provides all students, including those who read below grade level, with extensive opportunities to encounter and comprehend grade-level complex text as required by the standards. Materials direct teachers to return to focused parts of the text to guide students through rereading, discussion and writing about the ideas, events, and information found there. This opportunity is offered regularly and	**5a)** Significant pre-reading activities and suggested approaches to teacher scaffolding are highly focused and begin with the text itself. Pre-reading activities should be no more than 10% of time devoted to any reading instruction. **5b)** Materials cannot confuse or substitute mastery of strategies for full comprehension of complex text. Reading strategies have to support comprehension of specific texts and focus on building knowledge and insight. Texts must not serve as platforms to practice discrete strategies. **5c)** Questions and tasks require careful comprehension of the text as a precursor for asking students for evaluation or interpretation. **5d)** Questions and tasks that address academic language (vocabulary and syntax) support students in unpacking the		

systematically.	meaning of complex texts. **5e)** Materials offer assessment opportunities that genuinely measure progress. Progress must include gradual release of supporting scaffolds for students to measure their independent abilities.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
III. Foundational Skills (grades 3-5 only)			
Non-Negotiable 6. FOUNDATIONAL SKILLS (grades 3-5 only): Materials provide explicit and systematic instruction and diagnostic support in concepts of print, phonics, vocabulary, development, syntax, and fluency. These foundational skills are necessary and central components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines.	**6a)** Materials demand knowledge of grade-level phonic patterns and word analysis skills. **6b)** Materials encourage students to use context to confirm or self-correct word recognition and understanding, directing students to reread purposefully to acquire accurate meaning. **6c)** Materials provide instruction and practice in word study, including systematic examination of grade-level morphology, decoding of multisyllabic words by using syllabication, and automaticity with grade-level regular and irregular spelling patterns. **6d)** Opportunities are frequently built into the materials that allow for students to achieve reading fluency in oral and silent reading, that is, to read on-level prose and poetry with accuracy, rate appropriate to the text, and expression. **6e)** Materials guide students to read grade-level text with purpose and understanding.		

<table>
<tr><th colspan="5">Section I: Non-Negotiable Criteria</th></tr>
<tr><th>NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS</th><th>METRICS</th><th>MEETS METRICS (Y/N)</th><th colspan="2">JUSTIFICATION/ COMMENTS</th></tr>
<tr><td colspan="5">IV. Writing to Sources and Research</td></tr>
<tr><td>Non-Negotiable 7. WRITING TO SOURCES:
Written and oral tasks at all grade levels require students to confront the text directly, to draw on textual evidence, and to support valid inferences from the text.</td><td>7a) Writing to sources is a key task. Students are asked in their writing to analyze and synthesize sources, as well as to present careful analysis, well-defended claims and clear information.
7b) Materials place an increased focus on argument and informative writing in the following proportions. Alternately, they may reflect blended forms in similar proportions (e.g. exposition and persuasion).

<table><tr><td>Grades 3-5</td><td>exposition 35 %</td><td>persuasion 30%</td><td>narrative 35%</td></tr><tr><td>Grades 6-8</td><td>exposition 35%</td><td>argument 35%</td><td>narrative 30%</td></tr><tr><td>High School</td><td>exposition 40%</td><td>argument 40%</td><td>narrative 20%.</td></tr></table>
7c) Writing opportunities for students are prominent and varied.
7d) Extensive practice with short, focused research projects is provided. Materials require students to engage in many short research projects annually to enable students to develop the expertise needed to conduct research independently.</td><td></td><td colspan="2"></td></tr>
</table>

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
V. Speaking and Listening			
Non-Negotiable 8: SPEAKING AND LISTENING: To be CCSS-aligned, items assessing speaking and listening must reflect true communication skills required for college and career readiness.	**8a)** Texts used in speaking and listening questions and tasks must meet the criteria for complexity, range, and quality of texts (non-negotiables 1, 2, and 3). **8b)** Materials demand that students engage effectively in a range of conversations and collaborations by expressing well-supported ideas clearly and probing ideas under discussion by building on others' ideas. **8c)** Materials develop active listening skills, such as taking notes on main ideas, asking relevant questions, and elaborating on remarks of others. **8d)** Materials require students to marshal evidence to orally present findings from research. **8e)** Materials build in frequent opportunities for discussion and, through directions and modeling, encourage students to use academic language.		

Section I: Non-Negotiable Criteria			
NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO CCSS	**METRICS**	**MEETS METRICS (Y/N)**	**JUSTIFICATION/ COMMENTS**
VI. Language			
Non-Negotiable 9: LANGUAGE: Materials must adequately address the Language standards for the grade.	**9a)** Materials address the grammar and language conventions specified by the Language standards at each grade level. **9b)** Materials provide a mirror of real-world activities for student practice with natural language (e.g. mock interviews, presentations). **9c)** Materials expect students to confront their own error patterns in usage and conventions and correct them in a grade-by-grade pathway that results in college and career readiness by 12th grade.		

Section II: Indicators of Superior Quality		
Indicator of Superior Quality	**MEETS METRICS (Y/N)**	**JUSTIFICATION/COMMENTS**
VIII. Usefulness, Design, and Focus		
Do the student resources include ample review and practice resources, clear directions and explanations, and correct labeling of reference aids (e.g., visuals, maps, etc.)?		
Are the material easy to use, are they cleanly laid out for students and teachers? Does every page of the submission add to student learning rather than distract from it? Are reading selections centrally located within the materials and obviously the center of focus?		
Are there suggestions and materials for adapting instruction for varying student needs? (e.g., alternative teaching approaches, pacing, instructional delivery options, suggestions for addressing common student difficulties, remediation strategies)		
Can the teacher and student reasonably complete the content presented within a regular school year and does the pacing of content allow for maximum student understanding? Do the materials provide clear guidance to teachers about the amount of time the lesson might reasonably take?		
Do instructions allow for careful reading and rereading of content?		
Do the materials contain clear statements and explanation of purpose, goals, and expected outcomes?		

EQuIP Quality Review Rubric

TOOLKIT
for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards

Grade: **Mathematics Lesson/Unit Title:** ***EQuIP Rubric for Lessons & Units: Mathematics*** **Overall Rating:**

I. Alignment to the Depth of the CCSS	II. Key Shifts in the CCSS	III. Instructional Supports	IV. Assessment
The lesson/unit aligns with the letter and spirit of the CCSS: ○ Targets a set of grade-level CCSS mathematics standard(s) to the full depth of the standards for teaching and learning. ○ Standards for Mathematical Practice that are central to the lesson are identified, handled in a grade-appropriate way, and well connected to the content being addressed. ○ Presents a balance of mathematical procedures and deeper conceptual understanding inherent in the CCSS.	*The lesson/unit reflects evidence of key shifts that are reflected in the CCSS:* ○ **Focus:** Lessons and units targeting the major work of the grade provide an especially in-depth treatment, with especially high expectations. Lessons and units targeting supporting work of the grade have visible connection to the major work of the grade and are sufficiently brief. Lessons and units do not hold students responsible for material from later grades. ○ **Coherence:** The content develops through reasoning about the new concepts on the basis of previous understandings. Where appropriate, provides opportunities for students to connect knowledge and skills within or across clusters, domains and learning progressions. ○ **Rigor:** Requires students to engage with and demonstrate challenging mathematics with appropriate balance among the following: – **Application:** Provides opportunities for students to independently apply mathematical concepts in real-world situations and solve challenging problems with persistence, choosing and applying an appropriate model or strategy to new situations. – **Conceptual Understanding:** Develops students' conceptual understanding through tasks, brief problems, questions, multiple representations and opportunities for students to write and speak about their understanding. – **Procedural Skill and Fluency:** Expects, supports and provides guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately.	*The lesson/unit is responsive to varied student learning needs:* ○ Includes clear and sufficient guidance to support teaching and learning of the targeted standards, including, when appropriate, the use of technology and media. ○ Uses and encourages precise and accurate mathematics, academic language, terminology and concrete or abstract representations (e.g., pictures, symbols, expressions, equations, graphics, models) in the discipline. ○ Engages students in productive struggle through relevant, thought-provoking questions, problems and tasks that stimulate interest and elicit mathematical thinking. ○ Addresses instructional expectations and is easy to understand and use. ○ Provides appropriate level and type of scaffolding, differentiation, intervention and support for a broad range of learners. – Supports diverse cultural and linguistic backgrounds, interests and styles. – Provides extra supports for students working below grade level. – Provides extensions for students with high interest or working above grade level. *A unit or longer lesson should:* ○ Recommend and facilitate a mix of instructional approaches for a variety of learners such as using multiple representations (e.g., including models, using a range of questions, checking for understanding, flexible grouping, pair-share). ○ Gradually remove supports, requiring students to demonstrate their mathematical understanding independently. ○ Demonstrate an effective sequence and a progression of learning where the concepts or skills advance and deepen over time. ○ Expect, support and provide guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately.	*The lesson/unit regularly assesses whether students are mastering standards-based content and skills:* ○ Is designed to elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted CCSS. ○ Assesses student proficiency using methods that are accessible and unbiased, including the use of grade-level language in student prompts. ○ Includes aligned rubrics, answer keys and scoring guidelines that provide sufficient guidance for interpreting student performance. *A unit or longer lesson should:* ○ Use varied modes of curriculum-embedded assessments that may include pre-, formative, summative and self-assessment measures.
Rating: 3 2 1 0	**Rating: 3 2 1 0**	**Rating: 3 2 1 0**	**Rating: 3 2 1 0**

EQuIP Rubric for Lessons & Units: Mathematics

Directions: The Quality Review Rubric provides criteria to determine the quality and alignment of lessons and units to the Common Core State Standards (CCSS) in order to: (1) Identify exemplars/ models for teachers' use within and across states; (2) provide constructive criteria-based feedback to developers; and (3) review existing instructional materials to determine what revisions are needed.

Step 1 – Review Materials

- Record the grade and title of the lesson/unit on the recording form.
- Scan to see what the lesson/unit contains and how it is organized.
- Read key materials related to instruction, assessment and teacher guidance.
- Study and work the task that serves as the centerpiece for the lesson/unit, analyzing the content and mathematical practices the tasks require.

Step 2 – Apply Criteria in Dimension I: Alignment

- Identify the grade-level CCSS that the lesson/unit targets.
- Closely examine the materials through the "lens" of each criterion.
- Individually check each criterion for which clear and substantial evidence is found.
- Identify and record input on specific improvements that might be made to meet criteria or strengthen alignment.
- Enter your rating 0 – 3 for Dimension I: Alignment.

Note: Dimension I is non-negotiable. In order for the review to continue, a rating of 2 or 3 is required. If the review is discontinued, consider general feedback that might be given to developers/teachers regarding next steps.

Step 3 – Apply Criteria in Dimensions II – IV

- Closely examine the lesson/unit through the "lens" of each criterion.
- Record comments on criteria met, improvements needed and then rate 0 – 3.

When working in a group, individuals may choose to compare ratings after each dimension or delay conversation until each person has rated and recorded their input for the remaining Dimensions II – IV.

Step 4 – Apply an Overall Rating and Provide Summary Comments

- Review ratings for Dimensions I – IV adding/clarifying comments as needed.
- Write summary comments for your overall rating on your recording sheet.
- Total dimension ratings and record overall rating E, E/I, R, N – adjust as necessary.

If working in a group, individuals should record their overall rating prior to conversation.

Step 5 – Compare Overall Ratings and Determine Next Steps

- Note the evidence cited to arrive at final ratings, summary comments and similarities and differences among raters. Recommend next steps for the lesson/unit and provide recommendations for improvement and/or ratings to developers/teachers.

Additional Guidance on Dimension II: Shifts - When considering *Focus* it is important that lessons or units targeting additional and supporting clusters are sufficiently brief – this ensures that students will spend the strong majority of the year on major work of the grade. See the *K-8 Publishers Criteria for the Common Core State Standards in Mathematics*, particularly pages 8-9 for further information on the focus criterion with respect to major work of the grade at www.corestandards.org/assets/Math_Publishers_Criteria_K-8_Summer%202012_FINAL.pdf. With respect to *Coherence* it is important that the learning objectives are linked to CCSS cluster headings (see www.corestandards.org/Math).

Rating Scales

Rating for Dimension I: Alignment is non-negotiable and requires a rating of 2 or 3. If rating is 0 or 1 then the review does not continue.

Rating Scale for Dimensions I, II, III, IV:

3: Meets most to all of the criteria in the dimension
2: Meets many of the criteria in the dimension
1: Meets some of the criteria in the dimension
0: Does not meet the criteria in the dimension

Descriptors for Dimensions I, II, III, IV:

3: **Exemplifies CCSS Quality -** meets the standard described by criteria in the dimension, as explained in criterion-based observations.
2: **Approaching CCSS Quality -** meets many criteria but will benefit from revision in others, as suggested in criterion-based observations.
1: **Developing toward CCSS Quality -** needs significant revision, as suggested in criterion-based observations.
0: **Not representing CCSS Quality -** does not address the criteria in the dimension.

Overall Rating for the Lesson/Unit:

E: Exemplar – Aligned and meets most to all of the criteria in dimensions II, III, IV **(total 11 – 12)**
E/I: Exemplar *if* Improved – Aligned and needs some improvement in one or more dimensions **(total 8 – 10)**
R: Revision Needed – Aligned partially and needs significant revision in one or more dimensions **(total 3 – 7)**
N: Not Ready to Review – Not aligned and does not meet criteria **(total 0 – 2)**

Descriptor for Overall Ratings:

E: Exemplifies CCSS Quality – Aligned and exemplifies the quality standard and exemplifies most of the criteria across Dimensions II, III, IV of the rubric.
E/I: Approaching CCSS Quality – Aligned and exemplifies the quality standard in some dimensions but will benefit from some revision in others.
R: Developing toward CCSS Quality – Aligned partially and approaches the quality standard in some dimensions and needs significant revision in others.
N: Not representing CCSS Quality – Not aligned and does not address criteria.

EQuIP Rubric for Lessons & Units: ELA/Literacy Grades K-2

Grade: **Literacy Lesson/Unit Title:** **Overall Rating:**

I. Alignment to the Depth of the CCSS	II. Key Shifts in the CCSS	III. Instructional Supports	IV. Assessment
The lesson/unit aligns with the letter and spirit of the CCSS: ○ Targets a set of K-2 ELA/Literacy CCSS for teaching and learning. ○ Includes a clear and explicit purpose for instruction. ○ Selects quality text(s) that align with the requirements outlined in the standards, presents characteristics similar to CCSS K-2 exemplars (Appendix B), and are of sufficient scope for the stated purpose. ○ Provides opportunities for students to present ideas and information through writing and/or drawing and speaking experiences. *A unit or longer lesson should:* ○ Emphasize the explicit, systematic development of foundational literacy skills (concepts of print, phonological awareness, the alphabetic principal, high frequency sight words, and phonics). ○ Regularly include specific fluency-building techniques supported by research (e.g., monitored partner reading, choral reading, repeated readings with text, following along in the text when teacher or other fluent reader is reading aloud, short timed practice that is slightly challenging to the reader). ○ Integrate reading, writing, speaking and listening so that students apply and synthesize advancing literacy skills. ○ Build students' content knowledge in social studies, the arts, science or technical subjects through a coherent sequence of texts and series of questions that build knowledge within a topic.	*The lesson/unit addresses key shifts in the CCSS:* ○ **Reading Text Closely:** Makes reading text(s) closely (including read alouds) a central focus of instruction and includes regular opportunities for students to ask and answer text-dependent questions. ○ **Text-Based Evidence:** Facilitates rich text-based discussions and writing through specific, thought-provoking questions about common texts (including read alouds and, when applicable, illustrations, audio/video and other media). ○ **Academic Vocabulary:** Focuses on explicitly building students' academic vocabulary and concepts of syntax throughout instruction. *A unit or longer lesson should:* ○ **Grade-Level Reading:** Include a progression of texts as students learn to read (e.g., additional phonic patterns are introduced, increasing sentence length). Provides text-centered learning that is sequenced, scaffolded and supported to advance students toward independent grade-level reading. ○ **Balance of Texts:** Focus instruction equally on literary and informational texts as stipulated in the CCSS (p.5) and indicated by instructional time (*may be more applicable across a year or several units*). ○ **Balance of Writing:** Include prominent and varied writing opportunities for students that balance communicating thinking and answering questions with self-expression and exploration.	*The lesson/unit is responsive to varied student learning needs:* ○ Cultivates student interest and engagement in reading, writing and speaking about texts. ○ Addresses instructional expectations and is easy to understand and use for teachers (e.g., clear directions, sample proficient student responses, sections that build teacher understanding of the whys and how of the material). ○ Integrates targeted instruction in multiple areas such as grammar and syntax, writing strategies, discussion rules and aspects of foundational reading. ○ Provides substantial materials to support students who need more time and attention to achieve automaticity with decoding, phonemic awareness, fluency and/or vocabulary acquisition. ○ Provides *all* students (including emergent and beginning readers) with extensive opportunities to engage with grade-level texts and read alouds that are at high levels of complexity including appropriate scaffolding so that students directly experience the complexity of text. ○ Focuses on sections of rich text(s) (including read alouds) that present the greatest challenge; provides discussion questions and other supports to promote student engagement, understanding and progress toward independence. ○ Integrates appropriate, extensive and easily implemented supports for students who are ELL, have disabilities and/or read or write below grade level. ○ Provides extensions and/or more advanced text for students who read or write above grade level. *A unit or longer lesson should:* ○ Include a progression of learning where concepts, knowledge and skills advance and deepen over time (*may be more applicable across the year or several units*). ○ Gradually remove supports, allowing students to demonstrate their independent capacities (*may be more applicable across the year or several units*). ○ Provide for authentic learning, application of literacy skills and/or student-directed inquiry. ○ Indicate how students are accountable for independent engaged reading based on student choice and interest to build stamina, confidence and motivation (*may be more applicable across the year or several units*). ○ Use technology and media to deepen learning and draw attention to evidence and texts as appropriate.	*The lesson/unit regularly assesses whether students are developing standards-based skills:* ○ Elicits direct, observable evidence of the degree to which a student can independently demonstrate foundational skills and targeted grade level literacy CCSS (e.g., reading, writing, speaking and listening and/or language). ○ Assesses student proficiency using methods that are unbiased and accessible to all students. ○ Includes aligned rubrics or assessment guidelines that provide sufficient guidance for interpreting student performance and responding to areas where students are not yet meeting standards. *A unit or longer lesson should:* ○ Use varied modes of assessment, including a range of pre-, formative, summative and self-assessment measures.
Rating: 3 2 1 0	**Rating: 3 2 1 0**	**Rating: 3 2 1 0**	**Rating: 3 2 1 0**

EQuIP Rubric for Lessons & Units: ELA/Literacy Grades K-2

Directions: The Quality Review Rubric provides criteria to determine the quality and alignment of lessons and units to the Common Core State Standards (CCSS) in order to: (1) Identify exemplars/ models for teachers' use within and across states; (2) provide constructive criteria-based feedback to developers; and (3) review existing instructional materials to determine what revisions are needed.

Step 1 – Review Materials

- Record the grade and title of the lesson/unit on the recording form.
- Scan to see what the lesson/unit contains and how it is organized.
- Read key materials related to instruction, assessment and teacher guidance.
- Study and measure the text(s) that serves as the centerpiece for the lesson/unit, analyzing text complexity, quality, scope, and relationship to instruction.

Step 2 – Apply Criteria in Dimension I: Alignment

- Identify the grade-level CCSS that the lesson/unit targets.
- Closely examine the materials through the "lens" of each criterion.
- Individually check each criterion for which clear and substantial evidence is found.
- Identify and record input on specific improvements that might be made to meet criteria or strengthen alignment.
- Enter your rating 0 – 3 for Dimension I: Alignment

Note: Dimension I is non-negotiable. In order for the review to continue, a rating of 2 or 3 is required. If the review is discontinued, consider general feedback that might be given to developers/teachers regarding next steps.

Step 3 – Apply Criteria in Dimensions II – IV

- Closely examine the lesson/unit through the "lens" of each criterion.
- Record comments on criteria met, improvements needed and then rate 0 – 3.

When working in a group, individuals may choose to compare ratings after each dimension or delay conversation until each person has rated and recorded their input for the remaining Dimensions II – IV.

Step 4 – Apply an Overall Rating and Provide Summary Comments

- Review ratings for Dimensions I – IV adding/clarifying comments as needed.
- Write summary comments for your overall rating on your recording sheet.
- Total dimension ratings and record overall rating E, E/I, R, N – adjust as necessary.

If working in a group, individuals should record their overall rating prior to conversation.

Step 5 – Compare Overall Ratings and Determine Next Steps

- Note the evidence cited to arrive at final ratings, summary comments and similarities and differences among raters. Recommend next steps for the lesson/unit and provide recommendations for improvement and/or ratings to developers/teachers.

Additional Guidance for ELA/Literacy – When selecting text(s) that measure within the grade-level or text complexity band and are of sufficient quality and scope for the stated purpose, see *The Common Core State Standards in English Language Arts/Literacy* at www.corestandards.org/ELA-Literacy; and the *Supplement for Appendix A: New Research on Text Complexity as well as Quantitative and Qualitative Measures* at www.achievethecore.org/steal-these-tools/text-complexity. See *The Publishers' Criteria* for Grades K-2 and the same for Grades 3-12 at www.achievethecore.org/steal-these-tools.

Rating Scales

Note: Rating for Dimension I: Alignment is non-negotiable and requires a rating of 2 or 3. If rating is 0 or 1 then the review does not continue.

Rating Scale for Dimensions I, II, III, IV:	Overall Rating for the Lesson/Unit:
3: Meets most to all of the criteria in the dimension	**E: Exemplar –** Aligned and meets most to all of the criteria in dimensions II, III, IV **(total 11 – 12)**
2: Meets many of the criteria in the dimension	**E/I: Exemplar *if* Improved –** Aligned and needs some improvement in one or more dimensions **(total 8 – 10)**
1: Meets some of the criteria in the dimension	**R: Revision Needed** – Aligned partially and needs significant revision in one or more dimensions **(total 3 – 7)**
0: Does not meet the criteria in the dimension	**N: Not Ready to Review –** Not aligned and does not meet criteria **(total 0 – 2)**
Descriptors for Dimensions I, II, III, IV:	**Descriptors for Overall Rating:**
3: Exemplifies CCSS Quality – meets the standard described by criteria in the dimension, as explained in criterion-based observations.	**E: Exemplifies CCSS Quality –** Aligned and exemplifies the quality standard and exemplifies most of the criteria across Dimensions II, III, IV of the rubric.
2: Approaching CCSS Quality – meets many criteria but will benefit from revision in others, as suggested in criterion-based observations.	**E/I: Approaching CCSS Quality –** Aligned and exemplifies the quality standard in some dimensions but will benefit from some revision in others.
1: Developing toward CCSS Quality – needs significant revision, as suggested in criterion-based observations.	**R: Developing toward CCSS Quality –** Aligned partially and approaches the quality standard in some dimensions and needs significant revision in others.
0: Not representing CCSS Quality – does not address the criteria in the dimension.	**N: Not representing CCSS Quality –** Not aligned and does not address criteria.

EQuIP Rubric for Lessons & Units: ELA/Literacy (Grades 3-5) and ELA (Grades 6-12)

Grade: **Literacy Lesson/Unit Title:** **Overall Rating:**

I. Alignment to the Depth of the CCSS	II. Key Shifts in the CCSS	III. Instructional Supports	IV. Assessment
The lesson/unit aligns with the letter and spirit of the CCSS: ○ Targets a set of grade-level CCSS ELA/Literacy standards. ○ Includes a clear and explicit purpose for instruction. ○ Selects text(s) that measure within the grade-level text complexity band and are of sufficient quality and scope for the stated purpose (e.g., presents vocabulary, syntax, text structures, levels of meaning/purpose, and other qualitative characteristics similar to CCSS grade-level exemplars in Appendices A & B). <u>*A unit or longer lesson should:*</u> ○ Integrate reading, writing, speaking and listening so that students apply and synthesize advancing literacy skills. ○ (Grades 3-5) Build students' content knowledge and their understanding of reading and writing in social studies, the arts, science or technical subjects through the coherent selection of texts.	*The lesson/unit addresses key shifts in the CCSS:* ○ **Reading Text Closely:** Makes reading text(s) closely, examining textual evidence, and discerning deep meaning a central focus of instruction. ○ **Text-Based Evidence:** Facilitates rich and rigorous evidence-based discussions and writing about common texts through a sequence of specific, thought-provoking, and text-dependent questions (including, when applicable, questions about illustrations, charts, diagrams, audio/video, and media). ○ **Writing from Sources:** Routinely expects that students draw evidence from texts to produce clear and coherent writing that informs, explains, or makes an argument in various written forms (e.g., notes, summaries, short responses, or formal essays). ○ **Academic Vocabulary:** Focuses on building students' academic vocabulary in context throughout instruction. <u>*A unit or longer lesson should:*</u> ○ **Increasing Text Complexity:** Focus students on reading a progression of complex texts drawn from the grade-level band. Provide text-centered learning that is sequenced, scaffolded and supported to advance students toward independent reading of complex texts at the CCR level. ○ **Building Disciplinary Knowledge:** Provide opportunities for students to build knowledge about a topic or subject through analysis of a coherent selection of strategically sequenced, discipline-specific texts. ○ **Balance of Texts:** Within a collection of grade-level units a balance of informational and literary texts is included according to guidelines in the CCSS (p. 5). ○ **Balance of Writing:** Include a balance of on-demand and process writing (e.g., multiple drafts and revisions over time) and short, focused research projects, incorporating digital texts where appropriate.	*The lesson/unit is responsive to varied student learning needs:* ○ Cultivates student interest and engagement in reading, writing and speaking about texts. ○ Addresses instructional expectations and is easy to understand and use. ○ Provides *all* students with multiple opportunities to engage with text of appropriate complexity for the grade level; includes appropriate scaffolding so that students directly experience the complexity of the text. ○ Focuses on challenging sections of text(s) and engages students in a productive struggle through discussion questions and other supports that build toward independence. ○ Integrates appropriate supports in reading, writing, listening and speaking for students who are ELL, have disabilities, or read well below the grade level text band. ○ Provides extensions and/or more advanced text for students who read well above the grade level text band. <u>*A unit or longer lesson should:*</u> ○ Include a progression of learning where concepts and skills advance and deepen over time (*may be more applicable across the year or several units*). ○ Gradually remove supports, requiring students to demonstrate their independent capacities (*may be more applicable across the year or several units*). ○ Provide for authentic learning, application of literacy skills, student-directed inquiry, analysis, evaluation and/or reflection. ○ Integrate targeted instruction in such areas as grammar and conventions, writing strategies, discussion rules and all aspects of foundational reading for grades 3-5. ○ Indicate how students are accountable for independent reading based on student choice and interest to build stamina, confidence and motivation (*may be more applicable across the year or several units*). ○ Use technology and media to deepen learning and draw attention to evidence and texts as appropriate.	*The lesson/unit regularly assesses whether students are mastering standards-based content and skills:* ○ Elicits direct, observable evidence of the degree to which a student can independently demonstrate the major targeted grade-level CCSS standards with appropriately complex text(s). ○ Assesses student proficiency using methods that are unbiased and accessible to all students. ○ Includes aligned rubrics or assessment guidelines that provide sufficient guidance for interpreting student performance. <u>*A unit or longer lesson should:*</u> ○ Use varied modes of assessment, including a range of pre-, formative, summative and self-assessment measures.
Rating: 3 2 1 0	**Rating: 3 2 1 0**	**Rating: 3 2 1 0**	**Rating: 3 2 1 0**

EQuIP Rubric for Lessons & Units: ELA/Literacy (Grades 3-5) and ELA (Grades 6-12)

Directions: The Quality Review Rubric provides criteria to determine the quality and alignment of lessons and units to the Common Core State Standards (CCSS) in order to: (1) Identify exemplars/ models for teachers' use within and across states; (2) provide constructive criteria-based feedback to developers; and (3) review existing instructional materials to determine what revisions are needed.

Step 1 – Review Materials

- Record the grade and title of the lesson/unit on the recording form.
- Scan to see what the lesson/unit contains and how it is organized.
- Read key materials related to instruction, assessment and teacher guidance.
- Study and measure the text(s) that serves as the centerpiece for the lesson/unit, analyzing text complexity, quality, scope, and relationship to instruction.

Step 2 – Apply Criteria in Dimension I: Alignment

- Identify the grade-level CCSS that the lesson/unit targets.
- Closely examine the materials through the "lens" of each criterion.
- Individually check each criterion for which clear and substantial evidence is found.
- Identify and record input on specific improvements that might be made to meet criteria or strengthen alignment.
- Enter your rating 0 – 3 for Dimension I: Alignment

Note: Dimension I is non-negotiable. In order for the review to continue, a rating of 2 or 3 is required. If the review is discontinued, consider general feedback that might be given to developers/teachers regarding next steps.

Step 3 – Apply Criteria in Dimensions II – IV

- Closely examine the lesson/unit through the "lens" of each criterion.
- Record comments on criteria met, improvements needed and then rate 0 – 3.

When working in a group, individuals may choose to compare ratings after each dimension or delay conversation until each person has rated and recorded their input for the remaining Dimensions II – IV.

Step 4 – Apply an Overall Rating and Provide Summary Comments

- Review ratings for Dimensions I – IV adding/clarifying comments as needed.
- Write summary comments for your overall rating on your recording sheet.
- Total dimension ratings and record overall rating E, E/I, R, N – adjust as necessary.

If working in a group, individuals should record their overall rating prior to conversation.

Step 5 – Compare Overall Ratings and Determine Next Steps

- Note the evidence cited to arrive at final ratings, summary comments and similarities and differences among raters. Recommend next steps for the lesson/unit and provide recommendations for improvement and/or ratings to developers/teachers.

Additional Guidance for ELA/Literacy – When selecting text(s) that measure within the grade-level text complexity band and are of sufficient quality and scope for the stated purpose, see *The Common Core State Standards in English Language Arts/Literacy* at www.corestandards.org/ELA-Literacy; and the *Supplement for Appendix A: New Research on Text Complexity as well as Quantitative and Qualitative Measures* at www.achievethecore.org/steal-these-tools/text-complexity. See *The Publishers' Criteria* for Grades K-2 and the same for Grades 3-12 at www.achievethecore.org/steal-these-tools.

Rating Scales

Note: Rating for Dimension I: Alignment is non-negotiable and requires a rating of 2 or 3. If rating is 0 or 1 then the review does not continue.

Rating Scale for Dimensions I, II, III, IV: **3:** Meets most to all of the criteria in the dimension **2:** Meets many of the criteria in the dimension	**Overall Rating for the Lesson/Unit:** **E: Exemplar –** Aligned and meets most to all of the criteria in dimensions II, III, IV **(total 11 – 12)** **E/I: Exemplar *if* Improved –** Aligned and needs some improvement in one or more dimensions **(total 8 – 10)**
1: Meets some of the criteria in the dimension **0:** Does not meet the criteria in the dimension	**R: Revision Needed** – Aligned partially and needs significant revision in one or more dimensions **(total 3 – 7)** **N: Not Ready to Review –** Not aligned and does not meet criteria **(total 0 – 2)**
Descriptors for Dimensions I, II, III, IV: **3: Exemplifies CCSS Quality –** meets the standard described by criteria in the dimension, as explained in criterion-based observations. **2: Approaching CCSS Quality –** meets many criteria but will benefit from revision in others, as suggested in criterion-based observations.	**Descriptors for Overall Rating:** **E: Exemplifies CCSS Quality –** Aligned and exemplifies the quality standard and exemplifies most of the criteria across Dimensions II, III, IV of the rubric. **E/I: Approaching CCSS Quality –** Aligned and exemplifies the quality standard in some dimensions but will benefit from some revision in others.
1: Developing toward CCSS Quality – needs significant revision, as suggested in criterion-based observations. **0: Not representing CCSS Quality –** does not address the criteria in the dimension.	**R: Developing toward CCSS Quality –** Aligned partially and approaches the quality standard in some dimensions and needs significant revision in others. **N: Not representing CCSS Quality –** Not aligned and does not address criteria.

EQuIP Student Work Protocol

TOOLKIT
for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards

Achieve
American Diploma Project Network

Educators Evaluating Quality Instructional Products

EQuIP Student Work Protocol – Mathematics

Reviewer Name or ID:	**Lesson/Unit Title:**
Grade:	**Assignment Title:**

Introduction

The ultimate goal of the Common Core State Standards (CCSS) is to prepare all students with the knowledge and skills they need for postsecondary success. The EQuIP Student Work Protocol is designed to establish or articulate the relationship between student work and the quality and alignment of instructional materials that *previously* have been reviewed using the EQuIP quality review process.[1] Focusing on this relationship enables educators to develop a common understanding of the challenging work required by the CCSS. Furthermore, analyzing this relationship will also assist in closing the gap between what students are learning and the expectations embodied in assignments, as well as verifying what students are being taught and what they have learned, remembered, and incorporated into their knowledge and skills. Common expectations will result in more equitable educational opportunities for students and deepen the existing foundation for collaboration among states and districts.

The specific objectives of this EQuIP Student Work Protocol are three-fold:

1. *To confirm that a lesson's or unit's assignment is aligned with the letter and spirit of the targeted Common Core State Standards*.
2. *To determine how students performed on an assignment as evidence of how well designed the lesson/unit is*.
3. *To provide criterion-based suggestions for improving the assignment and related instructional materials.*

This 5-step protocol begins with a team of reviewers (or a single reviewer) focusing on the assignment itself – the directions or prompt and any accompanying scoring guides. Reviewers identify the content and performances required by the assignment. Reviewers then analyze the standards actually targeted by the author of the lesson/unit and the content and performances they embody. Gaps in alignment are noted. The process then turns to describing how students performed on the assignment and whether and how students demonstrated the expectations of the targeted standards. At the end of the review process, reviewers provide criterion-based feedback regarding improvements that could be made to both the assignment and related instructional materials.

[1] The protocol is intended for use with instructional materials that have undergone an EQuIP review, received a rating of E or E/I, and then subsequently have been implemented in an instructional setting to produce samples of student work.

This final step includes noting what should be kept, deleted and/or added to the content and performance demands of the assignment for tighter alignment with the targeted standards in the lesson/unit.

If reviewers are part of a team, each step of this protocol is to be completed individually before sharing results with others. Reviewers new to this process are encouraged to pause for discussion after each step. More experienced reviewers may choose to complete all steps before discussion.

Steps for the EQuIP Student Work Protocol – Mathematics

STEP 1: Review the Instructional Materials.

- Record the grade and title of the lesson/unit.
- Locate the assignment to be evaluated and record the assignment title or description on the recording form.
- Locate the student work that corresponds to the assignment.
- Scan the lesson/unit to see what it contains and how it is organized.

STEP 2: Without consulting the standards or the lesson/unit, analyze the purpose and demands of the assignment as evidenced by the directions and the rubrics/scoring guides.

Note: Reviewers should limit observations to what the assignment and rubrics communicate about the purpose and demands of the assignment. Reviewers will consult the standards in Step 3.

Guiding Questions:

- Based on the directions and/or the scoring guides for the assignment, what is its likely purpose?
- Based on the directions and/or the scoring guides for the assignment, what demands does it make of students?

Notes & Observations

Performances Required (skills):

Content Required (knowledge):

STEP 3: Compare the alignment of the content and performance(s) of the assignment to the targeted standards for the assignment or lesson/unit.

Guiding Questions:

- Do the directions, prompt(s), and/or scoring guide for the assignment give students the opportunity to demonstrate all or part of the targeted standards for the assignment and lesson/unit?[2]
- How well aligned are the content and performance(s) of the assignment with the targeted standards in the assignment and the lesson/unit?

[2] While it is important to rate the assignment against every standard that the assignment targets, an assignment need not address every targeted standard in the lesson/unit as long as the assignment is central to the learning goals. In making suggestions for improvement, consider whether the assignment was intended to incorporate all of the targeted standards or if the assignment is one of a series of assignments in the lesson/unit used to assess student competency.

- If the assignment is given a score of 1 or 0 for any one of the targeted standards, is there another assignment in the lesson/unit that addresses that standard?

Note: For any score of 1 or 0, note the gaps in the demands. Record important points concerning alignment (such as partial or cursory alignment as well as examples of strong alignment).

ALIGNMENT SCALE: Rate the alignment to each targeted standard using the 0-3 scale provided. Record the alignment on the Task-to-CCSS Alignment Recording Chart provided below.

Alignment of Task with the Targeted Standard(s)[3]		
3	**Excellent**	The assignment demands are clearly consistent with all aspects of the identified standard(s).
2	**Strong**	This rating is used for a partial match when the assignment is consistent with the *most critical* aspects of the identified standard(s). However, some of the *less critical* aspects of the standard(s) may not be addressed (likely by design).
1	**Weak**	This rating is used for a partial match when the *most critical* aspects addressed in the identified standard(s) are NOT addressed in the assignment. However, some of the *less critical* aspects of the standard(s) are addressed.
0	**No Alignment**	The assignment demands do not match the identified standard(s).

Task-to-CCSS Alignment Recording Chart

Task Description:		
Targeted CCSS Standards	**Alignment Rating (0-3)**	**Alignment Rationale**

[3] Rate alignment for every standard identified as a target for the assignment. If targets have not been identified for the assignment, rate alignment for standards identified as a target for the lesson/unit.

Notes & Observations

Gaps in Alignment:

STEP 4: Diagnose student work.

Guiding Questions:

- What does the collection of student work communicate about the kind and level of skills and knowledge students have learned and still need to learn?
- What are the most frequent and fundamental successes students appear to be having with the assignment?
- What are the most frequent and fundamental problems students appear to be having with the assignment?

Notes & Observations

STEP 5: Provide suggestions for improving the assignment and related lesson/unit.

Guiding Questions:

- How does the assignment fit into the overall lesson or unit plan?
- What does the review of student work suggest are the strengths and weaknesses of the assignment and related instructional materials? Use the criteria in the EQuIP quality review rubric to guide this feedback.
- What should be kept, deleted, and/or added to the assignment or lesson/unit for tighter alignment with the depth of the targeted standards?
- Do the rubrics/scoring guides accurately communicate CCSS expectations for proficiency? If not, how might they be improved?
- How could the assignment be strengthened to promote active problem solving, reasoning, and critical thinking (the Standards for Mathematical Practice)?

Notes & Observations

Suggestions to strengthen the lesson/unit:

Suggestions to strengthen the assignment:

Suggestions to strengthen the scoring rubric:

Achieve
American Diploma Project Network

Educators Evaluating Quality Instructional Products

EQuIP Student Work Protocol – ELA/Literacy

Reviewer Name or ID:	**Lesson/Unit Title:**
Grade:	**Assignment Title:**

Introduction

The ultimate goal of the Common Core State Standards (CCSS) is to prepare all students with the knowledge and skills they need for postsecondary success. The EQuIP Student Work Protocol is designed to establish or articulate the relationship between student work and the quality and alignment of instructional materials that *previously* have been reviewed using the EQuIP quality review process.[1] Focusing on this relationship enables educators to develop a common understanding of the challenging work required by the CCSS. Furthermore, analyzing this relationship will also assist in closing the gap between what students are learning and the expectations embodied in assignments, as well as verifying what students are being taught and what they have learned, remembered, and incorporated into their knowledge and skills. Common expectations will result in more equitable educational opportunities for students and deepen the existing foundation for collaboration among states and districts.

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This final step includes noting what should be kept, deleted and/or added to the content and performance demands of the assignment for tighter alignment with the targeted standards in the lesson/unit.

If reviewers are part of a team, each step of this protocol is to be completed individually before sharing results with others. Reviewers new to this process are encouraged to pause for discussion after each step. More experienced reviewers may choose to complete all steps before discussion.

Steps for the EQuIP Student Work Protocol – ELA/Literacy

STEP 1: Review the Instructional Materials.

- Record the grade and title of the lesson/unit.
- Locate the assignment to be evaluated and record the assignment title or description on the recording form.
- Locate the student work that corresponds to the assignment.
- Scan the lesson/unit to see what it contains and how it is organized.

STEP 2: Without consulting the standards or the lesson/unit, analyze the purpose and demands of the assignment as evidenced by the directions and the rubrics/scoring guides.

Note: Reviewers should limit observations to what the assignment and rubrics communicate about the purpose and demands of the assignment. Reviewers will consult the standards in Step 3.

Guiding Questions:

- Based on the directions and/or the scoring guides for the assignment, what is its likely purpose?
- Based on the directions and/or the scoring guides for the assignment, what demands does it make of students?

Notes & Observations

Performances Required (skills):

Content Required (knowledge):

STEP 3: Compare the alignment of the content and performance(s) of the assignment to the targeted standards for the assignment or lesson/unit.

Guiding Questions:

- Do the directions, prompt(s), and/or scoring guide for the assignment give students the opportunity to demonstrate all or part of the targeted standards for the assignment and lesson/unit?[2]
- How well aligned are the content and performance(s) of the assignment with the targeted standards in the assignment and the lesson/unit?

[2] While it is important to rate the assignment against every standard that the assignment targets, an assignment need not address every targeted standard in the lesson/unit as long as the assignment is central to the learning goals. In making suggestions for improvement, consider whether the assignment was intended to incorporate all of the targeted standards or if the assignment is one of a series of assignments in the lesson/unit used to assess student competency.

- If the assignment is given a score of 1 or 0 for any one of the targeted standards, is there another assignment in the lesson/unit that addresses that standard?

Note: For any score of 1 or 0, note the gaps in the demands. Record important points concerning alignment (such as partial or cursory alignment as well as examples of strong alignment).

ALIGNMENT SCALE: Rate the alignment to each targeted standard using the 0-3 scale provided. Record the alignment on the Task-to-CCSS Alignment Recording Chart provided below.

Alignment of Task with the Targeted Standard(s)[3]		
3	**Excellent**	The assignment demands are clearly consistent with all aspects of the identified standard(s).
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1	**Weak**	This rating is used for a partial match when the *most critical* aspects addressed in the identified standard(s) are NOT addressed in the assignment. However, some of the *less critical* aspects of the standard(s) are addressed.
0	**No Alignment**	The assignment demands do not match the identified standard(s).

Task-to-CCSS Alignment Recording Chart

Task Description:		
Targeted CCSS Standards	**Alignment Rating (0-3)**	**Alignment Rationale**

[3] Rate alignment for every standard identified as a target for the assignment. If targets have not been identified for the assignment, rate alignment for standards identified as a target for the lesson/unit.

Notes & Observations

Gaps in Alignment:

STEP 4: Diagnose student work.

Guiding Questions:

- What does the collection of student work communicate about the kind and level of skills and knowledge students have learned and still need to learn?
- What are the most frequent and fundamental successes students appear to be having with the assignment?
- What are the most frequent and fundamental problems students appear to be having with the assignment?

Notes & Observations

STEP 5: Provide suggestions for improving the assignment and related lesson/unit.

Guiding Questions:

- How does the assignment fit into the overall lesson or unit plan?
- What does the review of student work suggest are the strengths and weaknesses of the assignment and related instructional materials? Use the criteria in the EQuIP quality review rubric to guide this feedback.
- What should be kept, deleted, and/or added to the assignment or lesson/unit for tighter alignment with the depth of the targeted standards?
- Do the rubrics/scoring guides accurately communicate CCSS expectations for proficiency? If not, how might they be improved?
- How could the assignment be strengthened to promote active problem solving, reasoning, and critical thinking (the Standards for Mathematical Practice)?

Notes & Observations

Suggestions to strengthen the lesson/unit:

Suggestions to strengthen the assignment:

Suggestions to strengthen the scoring rubric:

Assessment Evaluation Tool (AET)

TOOLKIT
for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards

CCSS Assessment Evaluation Tool (AET) – MATHEMATICS GRADES K–High School

To evaluate each grade/course's assessments for alignment with the Common Core State Standards (CCSS), analyze the assessments against the non-negotiable criteria on the following pages. Each grade/course's assessments and item banks must meet all of the non-negotiable criteria and associated metrics to align with the CCSSM.

BEFORE YOU BEGIN

ALIGNMENT TO THE COMMON CORE STATE STANDARDS

Evaluators of assessments should understand that at the heart of the Common Core State Standards there are substantial shifts in mathematics that require the following:

1) Focus strongly where the Standards focus
2) Coherence: Think across grades and link to major topics within grade
3) Rigor: In major topics, pursue conceptual understanding, procedural skill and fluency, and application with equal intensity.

Evaluators of assessments must be well versed in the CCSS for the grade level of the materials in question, including understanding the major work of the grade[1] vs. the supporting and additional work, how the content fits into the progressions in the Standards, and the expectations of the Standards with respect to conceptual understanding, procedural skill and fluency, and application. It is also recommended that evaluators refer to the Spring 2013 K–8 Publishers' Criteria for Mathematics and the Spring 2013 High School Publishers' Criteria for the Common Core State Standards for Mathematics while using this tool (achievethecore.org/publisherscriteria).

ORGANIZATION

SECTION I: NON-NEGOTIABLE ALIGNMENT CRITERIA

All grade or course assessments must meet all of the non-negotiable criteria at each grade/course level to be aligned to CCSS.

SECTION 2: INDICATORS OF QUALITY.

Indicators of quality are scored differently from the non-negotiable criteria; a higher score in Section 2 indicates that assessments are more closely aligned.

REVIEW

Evaluator:_____ **Assessments:**_____ **Grade:**_____ **Date:**_____

[1] For more on the major work of each grade, see achievetheocre.org/emphases.

SECTION I	METRICS	
Non-Negotiable 1. FOCUS ON MAJOR WORK: The large majority of points in each grade K–8 are devoted to the major work of the grade, and the majority of points in each High School course are devoted to widely applicable prerequisites.[2] *This criterion applies to fixed form or CAT assessments, whether summative assessments or a set of interim/benchmark assessments. Item banks also should reflect the proportions in the metrics.*	**For grades K–8**, each grade/course's assessments meet **or exceed** the following percentages for the major work of the grade. • 85% or more of the total points in each grade Kindergarten, 1, and 2 align exclusively to the major work of the grade.[3] • 75% or more of the total points in each grade 3, 4, and 5 align exclusively to the major work of the grade. • 65% or more of the total points in each grade 6, 7, and 8 align exclusively to the major work of the grade. **For high school**, aligned assessments or sets of assessments meet **or exceed** the following percentages: • 50% or more of the total points in each high school course align to widely applicable prerequisites for postsecondary work.[4]	
Non-Negotiable 1. FOCUS ON MAJOR WORK *To be aligned to the CCSSM, each grade/course's assessments should meet or exceed the percentages in the metrics.*	**Meet (Y/N)**	**Evidence**

[2] Refer also to criterion #1 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013) and criterion #1 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[3] The major work of each grade is listed at http://achievethecore.org/focus.
[4] The widely applicable prerequisites for postsecondary work is listed at http://achievethecore.org/prerequisites.

SECTION I	METRICS	
Non-Negotiable 2. FOCUS IN K–8: No item assesses topics directly or indirectly before they are introduced in the CCSSM.[5] *This criterion applies to fixed form or CAT assessments, whether a summative assessment or a set of interim/benchmark assessments. All Items also should reflect the metric.*	100% of items on the assessment(s) do not assess knowledge of topics before the grade level they are introduced in the CCSSM. Commonly misaligned topics include, but are not limited to: • **Probability,** including chance, likely outcomes, probability models**.** (Introduced in the CCSSM in grade 7) • **Statistical distributions**, including center, variation, clumping, outliers, mean, median, mode, range, quartiles; and **statistical association or trends**, including two-way tables, bivariate measurement data, scatter plots, trend line, line of best fit, correlation. (Introduced in the CCSSM in grades 6–8; see CCSSM for specific expectations by grade level.) • **Similarity, congruence, or geometric transformations.** (Introduced in the CCSSM in grade 8) • **Symmetry** of shapes, including line/reflection symmetry, rotational symmetry. (Introduced in the CCSSM in grade 4)	
Non-Negotiable 2. FOCUS IN K-8: *To be aligned to the CCSSM, each grade/course's assessments do not assess topics directly or indirectly before they are introduced in the CCSSM.*	**Meet (Y/N)**	**Evidence**

[5] Refer also to criterion #2 in the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I	METRICS	
Non-Negotiable 3. RIGOR AND BALANCE: Each grade/course's assessments reflect the balances in the Standards and help students meet the Standards' rigorous expectations by helping students develop conceptual understanding, procedural skill and fluency, and application.[6] *This criterion applies to fixed form or CAT assessments, whether summative assessments or a set of interim/benchmark assessments. Item banks also should reflect the proportions in the metrics.*	***For Conceptual Understanding:*** Standards requiring student "understanding" (e.g., 3.NF.A.1, 6.RP.A.2, 7.NS.A.1, A-REI.D.10) are explicitly listed in the blueprint(s) and assessed to ensure students have met these expectations. • ***K –High School***: At least 20% of the total score-points on the assessment(s) for each grade or course explicitly require students to demonstrate conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings. ***For Procedural Skill and Fluency:*** Standards requiring students to "fluently" compute (e.g., 3.OA.C.7, 4.NBT.B.4, 5.NBT.B.5, 6.NS.B.2) are explicitly listed in the blueprint(s) and assessed to ensure students have met these expectations. • ***K–6:*** At least 20% of the score-points on the assessment(s) for each grade explicitly assess procedural skill and fluency requirements in the Standards. • ***7–8 and High School:*** At least 20% of the score-points on the assessment(s) for each grade or course explicitly assess procedural skill and fluency. ***For Applications:*** Standards requiring students to "solve" "real-life and mathematical problems" (e.g., 1.OA.A.2, 4.OA.A.3, 7.EE.B.3, A-REI.B.4) are explicitly listed in the blueprint(s) and assessed to ensure students have met these expectations. • ***K–5:*** At least 20% of the total score-points on the assessment(s) for each grade explicitly assess solving single- or multi-step word problems. • ***6–8:*** At least 25% of the total score-points on the assessment(s) for each grade explicitly assess solving single- and multi-step word problems and simple models. • ***High School:*** At least 30% of the total score-points on the assessment(s) for each high school course explicitly assess single- and multi-step word problems, simple models, and substantial modeling/application problems.	
Non-Negotiable 3. RIGOR AND BALANCE *To be aligned to the CCSSM, each grade/course's assessments meet or exceed the percentages in the metrics.*	**Meet (Y/N)**	**Evidence**

[6] Refer also to criterion #4 in the K-8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013) and criterion #2 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I	METRICS	
Non-Negotiable 4. PRACTICE-CONTENT CONNECTIONS: Each grade/course's assessments include items that meaningfully connect the Standards for Mathematical Content and Standards for Mathematical Practice. However, not all items need to align to a Standard for Mathematical Practice. And there is no requirement to have an equal balance among the Standards for Mathematical Practice in any set of items or test forms.[7] *This criterion applies to fixed form or CAT assessments, whether summative assessments or a set of interim/benchmark assessments. Item banks also should reflect the metrics.*	All assessments or sets of assessments include accompanying analysis, aimed at evaluators, which describes: • how the Standards for Mathematical Practice meaningfully connect to the Standards for Mathematical Content assessed. • how each item that assesses one or more Standards for Mathematical Practice also aligns to one or more Standards for Mathematical Content. • how the Standards for Mathematical Practice enhance the focus on major content, rather than detracting from focus. • how the demands of the Standards for Mathematical Practice are grade-appropriate, • how items assess the Standards for Mathematical Practice with an arc of growing sophistication, beginning in an elementary way in grades K–5.	
Non-Negotiable 4. PRACTICE-CONTENT CONNECTIONS *To be aligned to the CCSSM, a grade/course's assessments must meaningfully connect the Standards for Mathematical Practice and the Standards for Mathematical Content and include a narrative that describes how they are meaningfully connected.*	**Meet (Y/N)**	**Evidence**

[7] Refer also to criterion #7 in the K-8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013) and criteria #5 High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

SECTION I	METRICS	

Non-Negotiable 5. ALIGNMENT OF TEST ITEMS: Test items elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted standard(s), adhering to the full intent of the CCSSM.
 	
This criterion applies to fixed form or CAT assessments, whether summative assessments or a set of interim/benchmark assessments. All items and/or sets of items should reflect the metric.
	100% of items and/or sets of items exhibit alignment to the full intent of the CCSSM for that grade or course[89]:
	• Directly reflecting the language of individual standards.
	  o For example, 6.EE.3 puts the emphasis on applying properties of operations and generating equivalent expressions, not just mechanically simplifying.
	  o Most items aligned to a single standard should assess the central concern of the standard in question.
	• Reflecting the progressions in the Standards.
	  o For example, multiplication and division items in grade 3 emphasize equal groups, with no rate problems (grade 6 in CCSS).
	• Assessing all levels of the content hierarchy.
	  o For example, by including some items that assess clusters.
	• Using the number system appropriate to the grade level.
	  o For example, in grade 3 there are some items involving fractions greater than 1; in the middle grades, arithmetic and algebra use the rational number system, not just the integers.	

Non-Negotiable 5. ALIGNMENT OF TEST ITEMS *To be aligned with the CCSSM, each grade/course's assessments only include items that align with the CCSSM.*	**Meet (Y/N)**	**Evidence**
Each grade/course's assessments must meet all five of the non-negotiable criteria to be aligned to the CCSS and to continue to the evaluation in Section II.		**# Criteria Met:**

[8] Refer also to the K–8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013) and the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

[9] See the Quality Criteria Checklist for Mathematics Items created by Student Achievement Partners: http://www.ccssitemdevelopment.org/downloads/Quality%20Criteria%20Checklists%20for%20Items.pdf

SECTION II: INDICATORS OF QUALITY
Each grade/course's assessments must meet all five of the non-negotiable criteria to be aligned to the CCSS and to continue to the evaluation in Section II. Section 2 includes indicators of quality. *Indicators of quality are scored differently from the non-negotiable criteria; a higher score in Section 2 indicates that assessments are more closely aligned.* Consider this guidance when evaluating: • 2 – (meets criteria): A score of 2 means that the assessments meet the full intention of the criterion in a grade/course. • 1 – (partially meets criteria): A score of 1 means that the assessments meet the criterion in many aspects but not the full intent of the criterion. • 0 – (does not meet criteria): A score of 0 means that the materials do not meet many aspects of the criterion.

SECTION II INDICATORS OF QUALITY	SCORE	JUSTIFICATION/NOTES
1. Assessing Supporting Content. Assessment of supporting content enhances focus and coherence simultaneously by engaging students in the major work of the grade or course.[10]	**2 1 0**	
2. Addressing Every Standard for Mathematical Practice. Every Standard for Mathematical Practice is represented on the assessment(s) for each grade or course.	**2 1 0**	
3. Expressing Mathematical Reasoning. There are sufficiently many points on the assessment(s) for each grade or course that explicitly assess expressing and/or communicating mathematical reasoning.	**2 1 0**	
4. Constructing Forms Without Cueing Solution Processes. Item sequences do not cue the student to use a certain solution process during problem solving and assessment(s) include problems requiring different types of solution processes within the same section.	**2 1 0**	
5. Calling for Variety in Student Work. Items require a variety in what students produce. For example, items require students to produce answers and solutions, but also, in a grade-appropriate way, arguments and explanations, diagrams, mathematical models, etc.[11]	**2 1 0**	
6. Utilizing a Variety in Presentation of the Content. Items present mathematical content in a variety of ways so that students must thoughtfully engage with various application contexts, mathematical representations, and structures of equations.	**2 1 0**	
7. Using Grade-Appropriate Presentation. The graphics, diagrams, vocabulary, and sentence structure in each item are appropriate for students at that grade level.	**2 1 0**	

[10] Refer also to criterion #3 in the K-8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).
[11] Refer also to criterion #9 in the K-8 Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013) and criteria #7 High School Publishers' Criteria for the CCSSM (Spring 2013).

8. Providing Quality Materials. The assessment items, answer keys, and documentation are free from mathematical errors.	**2 1 0**	
9. Offering Coherent Representations. Where specific features of the standards do not vary strongly across the grades, consistent, coherent representations are used (e.g., area models are used for multiplication of whole numbers and fractions in grades 3–5, number line models are used for representing order and magnitude of numbers in grades 2–8, and similar situation types are used for word problems in grades K–6).	**2 1 0**	
10. Generating Focused Score Reports. All score report information, including subscores, supporting texts, and performance level descriptors, highlight the focus of the assessment(s). They give instructionally valuable information and provide information about progress toward college and career readiness.	**2 1 0**	
ADD UP TOTAL POINTS EARNED	**Total_____**	**Notes/Justification:**

Assessment Evaluation Tool for CCSS Alignment in ELA/Literacy Grades 3 -12 (AET) – Student Achievement Partners
To evaluate a set of assessments for alignment with the Common Core State Standards (CCSS), analyze the assessments against the non-negotiable criteria in the table below. Assessments and item banks must meet all of the relevant non-negotiable criteria and the corresponding metrics to align with the CCSS. Criteria labeled as Indicators of Superior Quality are different from the non-negotiables: Although the assessments may be aligned without meeting the Indicators of Superior Quality, assessments that do reflect these indicators are better aligned.
BEFORE YOU BEGIN . . . Evaluators of assessments should be aware that at the heart of the Common Core State Standards there are substantial shifts in ELA/Literacy that require: 1. **Complexity**: Regular practice with complex text and its academic language 2. **Evidence**: Reading, writing, and speaking grounded in evidence from text, both literary and informational 3. **Knowledge**: Building knowledge through content-rich non-fiction Evaluators should be well versed in the standards for the grade level(s) of the assessments being reviewed. It is also recommended that evaluators refer to the Publishers' Criteria for the Common Core State Standards in ELA/literacy grades 3-12 and the Supplement to Appendix A of the Common Core State Standards for ELA/Literacy: New Research on Text Complexity.

NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO THE COMMON CORE	METRICS	MEETS METRICS (Y/N)	JUSTIFICATION / COMMENTS
I. Texts and Other Stimuli			
Non-Negotiable 1. COMPLEXITY OF TEXTS: **ELA/literacy texts have the appropriate level of complexity for the grade, according to both quantitative measures and qualitative analysis of text complexity.**	**1A)** 100% of texts on ELA/literacy assessments or in an item bank are accompanied by specific evidence that they have been analyzed with at least one research-based quantitative measure for grade-band placement. (See the Supplement to Appendix A of the Common Core State Standards for ELA/Literacy.) *Indicator of Superior Quality: Reading texts have been analyzed by **two** or more research-based quantitative measures, rather than just one.* **1B)** 100% of texts on ELA/literacy assessments or in an item bank are accompanied by specific evidence that they have been analyzed with a qualitative measure indicating a specific grade-level placement. (For a sample qualitative measure, see the Supplement to Appendix A.) **1C)** All, or nearly all, of the reading texts are placed within or above the grade band indicated by the quantitative analysis. Rare exceptions (in which the qualitative measure has trumped the quantitative measures and placed the text below the grade band) are usually reserved for literary texts in the upper grades. **1D)** In a set of ELA/literacy assessments, the complexity of reading texts increases during each year and year by year. Because the standards have raised the bar for text complexity, assessments must thoughtfully balance total word count per test form with the time allotted, so that students have sufficient time to study each text carefully and deeply. *Indicator of Superior Quality: In assessments and item banks, texts vary in length; students are challenged by complex texts across a range of word counts.*		

NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO THE COMMON CORE	METRICS	MEETS METRICS (Y/N)	JUSTIFICATION / COMMENTS
Non-Negotiable 2. RANGE OF TEXTS: **ELA/literacy assessment texts reflect the distribution of text types and genres required by the standards.**	**2A)** Texts on ELA/literacy assessments or in an item bank approximate the following distributions of text types: • Grades 3-5: 50% literature / 50% informational text • Grades 6-8: 45% literature / 55% informational text • High School: 30% literature / 70% informational text **2B)** In grades 6-12, informational texts on ELA/literacy assessments or in an item bank approximate an equal balance of literary nonfiction, history/social studies, and science/technical subjects. **2C)** 100% of the texts used on ELA/literacy assessments or in an item bank represent the genres and text characteristics that are specifically required by the standards at each grade. **2D)** The vast majority of score points on ELA/literacy assessments relate to single texts, with the selection of paired or multiple texts meeting the requirements of the standards at each grade. *Indicator of Superior Quality: When research simulation tasks are included on an assessment, the set of texts includes at least two texts, one of which is an anchor text, providing foundational knowledge and leading naturally to additional exploration.*		
Non-Negotiable 3. QUALITY OF TEXTS: **The quality of texts and other stimuli is high-- they are worth reading closely and exhibit exceptional craft and thought and/or provide useful information.**	**3A)** 100% of passages are texts worth reading; they are content rich and well crafted, representing quality writing in their genre and subject matter. Nearly all texts and other stimuli thus are previously published rather than "commissioned." *Indicator of Superior Quality: If any commissioned texts are used, evidence is provided that these texts have been reviewed and edited by professional publication editors in addition to assessment editors.* **3B)** 100% of history/social studies and science/technical texts, specifically, reflect the quality of writing that is produced by authorities in the particular academic discipline and enable students to develop rich content knowledge. **3C)** 50% or more of informational texts use informational text structures rather than a narrative structure, while still following the distribution of subject matter in Non-Negotiable 2. Most informational texts with narrative structures are found in history and literary nonfiction. **3D)** Illustrations in previously published texts are included in the assessment—or new illustrations are added—when illustrations aid student understanding of the text and/or provide important additional information. **3E)** When reading texts are presented with introductory material (e.g., information about the author or the context in which the text is written), the introduction is brief and avoids explaining the meaning of the text or giving students answers to questions.		

NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO THE COMMON CORE	METRICS	MEETS METRICS (Y/N)	JUSTIFICATION / COMMENTS
II. Reading Test Questions			
Non Negotiable 4. TEXT-DEPENDENT AND TEXT-SPECIFIC QUESTIONS: **Test questions are always text-dependent and usually text-specific: They require students to read closely, find the answers within the text(s), and use textual evidence to support their responses.**	**4A)** 100% of the questions on reading assessments are text-dependent: The questions arise from and require close reading and analysis of the text; they can be answered correctly without prior knowledge; and they are linked to a text (i.e., not "stand alone"). **4B)** A large majority of questions are text specific (i.e., not "generic" questions that could be asked about any text). **4C)** A majority of score points on ELA/literacy assessments is based on items that reflect the requirements of Reading Standard 1 by requiring students to **directly** select or provide evidence from the text to support their answers. **4D)** ELA/literacy assessments rely on a variety of types of test questions, including when possible technology-enhanced and constructed-response formats, to approach the texts in ways uniquely appropriate to each text.		
Non-Negotiable 5. ALIGNMENT OF TEST QUESTIONS: **Test questions reflect the rigor and cognitive complexity demanded by the standards; they assess the depth and breadth of the standards at each grade level.**	**5A)** 100% of the questions on ELA/literacy assessments and in an item bank are rigorous and challenging; they assess the range of complexity and the depth of analytical thinking required by the standards. **5B)** 100% of the questions on ELA/literacy assessments and in an item bank focus on the central ideas and important particulars of the text, rather than superficial or peripheral aspects. **5C)** 100% of the questions on ELA/literacy assessments and in an item bank assess the specific requirements delineated in the standards at each grade level, i.e., the concepts, topics, and texts named in the grade-level standards. (However, not every standard must be assessed with every text.) **5D)** A vast majority of vocabulary items on assessments and in an item bank assess academic vocabulary (tier 2 words). **5E)** 100% of vocabulary items on assessments and in an item bank assess words that are important to the central ideas of the text.		

NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO THE COMMON CORE	METRICS	MEETS METRICS (Y/N)	JUSTIFICATION / COMMENTS
III. Writing to Sources and Research			
Non-Negotiable 6. WRITING TO SOURCES: **Most writing prompts, at all grade levels, are text-dependent, and all reflect the writing types named in the standards.**	**6A)** A vast majority of written tasks at all grade levels, including narrative tasks whenever possible, require students to write to sources, i.e., to confront text or other stimuli directly, to draw on textual evidence, and to support valid inferences from text or stimuli. **6B)** All writing tasks on ELA/literacy assessments or in an item bank approximate the following proportions. Alternately, they may reflect blended forms (e.g., exposition and persuasion) in similar proportions. Grades 3-5: exposition 35 % opinion 30% narrative 35% Grades 6-8: exposition 35% argument 35% narrative 30% High School: exposition 40% argument 40% narrative 20% **6C**) 100% of research tasks include writing to sources. *Indicator of Superior Quality: Narrative prompts are increasingly text-based as students progress through the grades, with narrative description (text-based, chronological writing) rather than imaginative narratives dominant in the 20% of high school writing that is the narrative type.* *Indicator of Superior Quality: Tests whose purpose is to assess reading abilities include brief or extended writing tasks or other constructed-response questions as part of the variety of test questions for each test form (see **4D**).*		
IV. Speaking and Listening Test Questions			
Non-Negotiable 7. SPEAKING AND LISTENING: **Items assessing speaking and listening reflect true communication skills required for college and career readiness.**	**7A)** 100% of the texts and other stimuli used in speaking and listening assessments meet the criteria for complexity, range, and quality of texts (Non-Negotiables 1, 2, and 3). **7B)** In a set of listening assessments, the complexity of texts increases during each year and year by year. Because, however, listening skills in elementary school generally outpace reading skills, listening texts may exhibit greater variability in complexity during a year. **7C)** 100% of assessments focused on speaking assess students' ability to engage effectively in a range of conversations and collaborations by expressing well-supported ideas clearly and probing ideas under discussion by building on others' ideas. **7D)** 100% of items assessing listening permit the evaluation of active listening skills, such as taking notes on main ideas, asking relevant questions, and elaborating on remarks of others. **7E)** 100% of assessments focused on speaking include some items that measure students' ability to marshal evidence to orally present findings from a research performance task.		

NON-NEGOTIABLE CRITERIA FOR ALIGNMENT TO THE COMMON CORE	METRICS	MEETS METRICS (Y/N)	JUSTIFICATION / COMMENTS
V. Language Test Questions			
Non-Negotiable 8. LANGUAGE: **Items assessing conventions and writing strategies reflect actual practice to the extent possible.**	**8A)** A majority of items assessing language mirror real-world activity (e.g., actual editing or revision, actual writing). **8B)** Questions focused on English conventions represent common student errors and focus on the conventions most important for college and career readiness (see "Language Progressive Skills, by Grade" http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf). **8C)** Questions focused on writing strategies represent flaws common to student writing and focus on strategies most important for college and career readiness (see "Language Progressive Skills, by Grade" http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf).		
VI. Test Blueprints and Score Reports			
Non-Negotiable 9. TEST BLUEPRINTS AND SCORE REPORTS: **Test blueprints and the corresponding score reports reflect the focus of the standards.**	**9A)** Score reports provide actionable data regarding a student's progress on the continuum toward college and career readiness. Reports are based on test blueprints consisting of domains that are research based and instructionally actionable (e.g., reading literature, reading informational texts, vocabulary, writing, language skills). Because they do not provide research-based instructionally actionable guidance, the ELA/literacy cluster headings (e.g., "Key Ideas and Details," "Craft and Structure," "Production and Distribution of Writing") are not used either as domains in test blueprints or as reporting categories. **9B)** The blueprints (or other design documents) for ELA/literacy assessments reflect the distributions of text types described in **2A** above, and there is a sufficient number of score points so that reading literature and reading informational texts could be reporting categories (separate reporting categories for literature and informational texts are not required). **9C)** A reading assessment or a system of ELA/literacy assessments includes a sufficient number of points for the domain of vocabulary acquisition and use so that vocabulary could be a reporting category (a reporting category for vocabulary is not required). **9D)** A writing assessment or a system of ELA/literacy assessments includes a sufficient number of points for the domain of language so that language could be a reporting category (however, a reporting category for language is not required). The language points may be obtained from test questions assessing language, or the points may be obtained from student writing. If the purpose of an assessment is solely to measure reading abilities, language items are not required. *Indicator of Superior Quality: Simulated research tasks comprise a significant percentage of the total number of score points on reading assessments.*		

Assessment Passage and Item Quality Criteria Checklist

TOOLKIT
for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards

Assessment Item Quality Criteria Checklist – Mathematics Grades 3-High School

Process for Reviewing Items for Common Core State Standards-aligned Assessments

Step 1: Solve the item.

Step 2: Evaluate the item according to the criteria on the following page. The criteria are set-up in a gated manner so that reviewers can quickly and systematically determine whether an item aligns to, or strays from, the expectations of the CCSSM. Reviewers use the "Y/N/R" column by placing a:

- "Y" if the item meets the expectations of the criterion;
- "N" if the item does not meet the expectation of the criterion;
- "R" if the item, as it currently exists, does not meet the criterion, but could be revised to do so; and
- in the second gate, place "NA" in the middle column if the criterion is not applicable to the item.

Use the rightmost column to explain your determination using evidence.

Have the Common Core State Standards for Mathematics open for continual reference.

Criteria for Evaluating Items for Common Core State Standards-aligned Assessments		
☐ **Reviewer has solved the problem**		
FIRST GATE: The item must meet all of the following to be considered further.	**Y/N/R**	**Explain**
1.A Alignment: Is the item directly and accurately aligned to the assessment target and standard(s) indicated, including the Standards for Mathematical Practice(s) listed?		
1.B Correctness: Is the item mathematically correct, including at least one appropriate solution and accurate use of mathematical vocabulary and symbols?		
1.C Rationales and/or Top-Score Response: For a selected-response item (SR), are high-quality rationales (aligned to the assessment targets and standard(s)) provided for the correct answer and each distractor? For a constructed-response item (CR), is a top-score response provided?		
1.D Grade Appropriateness: Does the item reflect the coherence of the standards by using appropriate mathematical vocabulary, numbers, and symbols for the grade or course?		
If the item does not meet all of the criteria above and cannot be revised to do so, remove the item from consideration. Otherwise, proceed to the second gate.		
SECOND GATE: Items that pass the first gate must next meet the following criteria, possibly after revision.	**Y/N/R NA**	**Explain**
2.A Linguistic Clarity: Is the text of an item written clear, unambiguous, and appropriate for the grade level with no construct-irrelevant linguistic complexity (e.g., negative phrasings, complex sentence structures)?		
2.B Technical Quality: Does the item clearly communicate the expectation, preclude guessing, and refrain from clueing a student's response strategy?		
2.C Accessibility: Is the item accessible**,** reflecting Universal Design for Learning (UDL) principles to maximize accessibility for ELL students and students with disabilities?		
2.D Technology: If technology is used, is it clear, easily used by the students, improves measurement of the construct, and represents real-life use of technology, where applicable?		
2.E Complexity: Does the item align to the intended complexity required by the assessment claim and standard(s) being assessed, without any needless complexity or difficulty?		
2.F Context Quality: When a situational or real-world context is present for the item, is the context logical, grade appropriate, and necessary to assess the standard?		
2.G Stimuli: Are diagrams, pictures, or illustrations, clear, purposeful, and consistent with UDL principles?		
2.H Rubric: For open-ended items, are rubrics clear, aligned to the assessment target, and valid for all solution paths?		

Assessment Passage Quality Criteria Checklist – ELA/literacy Grades 3-12

The following criteria are designed to help reviewers determine if a passage aligns to the Common Core State Standards (CCSS). The criteria to evaluate the passages are set up in a gated manner so that reviewers can quickly and systematically determine if and where the passage strays from the expectations of the CCSS.

Review the text against the criteria in order, and place a "Y" or an "N" in the middle column, labeled "Y/N". Please use the "Explanation" column to clarify when a passage receives an "N." If a criterion does not apply to a particular passage, leave the columns blank.

If a text does not meet all of the criteria in the first gate, it should be removed from consideration. If it does meet the criteria in the first gate, review it according to the criteria in the second gate. Then make a recommendation whether to accept, accept with conditions, or reject the passage.

The third and fourth gates apply to pairs or groups of texts. Each text should pass through the first and second gates before being reviewed against the criteria in the third and fourth gates. Again, reviewers will be asked to make a judgment whether to accept, accept with conditions, or reject the passage pairs or multi-stimulus texts.

Criteria for Evaluating Texts for CCSS-Aligned Assessments		
1. FIRST GATE: SINGLE TEXT – The text must meet all of the criteria in the first gate to be considered further.	**Y/N**	**Explanation**
1.A Text Quality: Is the text worthy of close analytic reading? A text worthy of close reading exemplifies all of the following traits: 1. Illustrates superior, professional-quality literary or informational writing, e.g., demonstrates coherence, thorough development of ideas, clear use of evidence and details, and effective structure. 2. Reflects a professional editing process, e.g., demonstrates mature use of syntax and diction and is polished and error-free. 3. If an excerpt from a larger work, carries a sense of completeness and maintains the author's original intent. 4. If informational text, is content rich, factually accurate, and a strong example of the text genre required by the Standards.		
1.B Text Type: Does the text meet the specific requirements of the task model, blueprint, or specifications?		
1.C Text Complexity: Are at least two quantitative measures and a qualitative analysis included with the text, justifying its inclusion in the grade band [see Supplemental Information for Appendix A of the Common Core State Standards for ELA and Literacy: New Research on Text Complexity for more information on Common Core grade-bands: http://corestandards.org/resources]		
1.D Potential for Questions Worth Asking: Does the text contain testable points that will assess the Standards, evidence statements, and/or targets to be assessed?		
If the text does not have a "Y" in all of the criteria above, remove it from consideration. If the text does meet the criteria in the first gate, proceed to the second gate.		
2. SECOND GATE: SINGLE TEXT – A text that passes the first gate must meet the following criteria, as applicable:	**Y/N**	**Explanation**
2.A Exceptional quality: Is the text an exceptional example of the quality of the passages that should be used in assessments? (Of the texts that made it through the first gates, "exceptional" is defined as being in the top 25 percent of the selections.) • If yes, place a "Y" in the column to the right to request top priority for seeking and paying for copyright permission and for special consideration if there are potential bias and sensitivity. • If the text is not in the top 25 percent, place an "N" in the column to the right and justify retaining the text for use on a CCSS		

	assessment in the "Explanation" column.		
2.B	**Grade Placement:** Do the two quantitative measures and qualitative analysis support the text placement in the proposed grade? • If yes, place a "Y" in the column to the right. • If a different grade would be appropriate, place an "N" in the column to the right and indicate the preferred grade and reasons for the change in the Explanation column.		
2.C	**Bias and Sensitivity:** Is the passage expected to pass a bias and sensitivity review? • If yes, place a "Y" in the column to the right. • If there are potential concerns, place an "N" in the column to the right and note the concerns in the Explanation column. If the text is in the top 25%, add comments to justify keeping the text despite concerns.		
2.D	**Visual Elements:** If there are visual elements, do they add value by aiding student understanding of the text or by providing important additional information? (Merely decorative elements should not be used.) • If the visual elements add value, place a "Y" in the column to the right. • If the visual elements do not add value, place an "N" in the column to the right and recommend replacing or omitting the element(s) in the Explanation column.		
2.E	**Text structure:** If an informational text is structured chronologically, is there sufficient justification for its use (e.g., rich enough historical account, exceptional text quality, numerous testable points)? (Most of the informational texts on CCSS assessments should use informational rather than narrative structures.) • If the text has a narrative structure but has sufficient justification for inclusion on a test, place a "Y" in the column to the right. Give the reasons for retaining the text in the Explanation column. • If the text has a narrative structure but should not be used, place an "N" in the column to the right.		
2.F	**Word Count:** Does the text fall within the acceptable range for word count? • If yes, place a "Y" in the column to the right. • If the text does not fall within the word count limits, place an "N" in the column to the right. In the Explanation column, indicate whether or not edits could be made for length. (Edits for length usually should occur at the beginning or end of the text, not in patchwork fashion, and they must be done without distortion of the author's intent.		
2.G	**Introductory text:** If the text is presented with introductory material (e.g., information about the author or the context in which the text is written), does the introduction avoid explaining the meaning of the text or giving students answers to questions? • If yes, place a "Y" in the column to the right. • If the introductory text provides too much information, suggest edits in the Explanation column.		
Accepted (all "Y's") Accepted conditionally, with comments to be addressed Rejected	☐ ☐ ☐		

3. THIRD GATE: PAIRS OR MULTI-TEXT STIMULI – To be evaluated by the criteria in the third gate, texts must have been accepted after the first two gates. Texts must meet all of the criteria in this gate to be considered further.	**Y/N**	**Explanation**

3.A **Text Genres/Characteristics:** Do the texts or other stimuli in the set clearly reflect the specific requirements of the relevant paired or multi-text standards or targets, the item or task model, and/or the test blueprint? For an explanation of CCSS requirements for paired or multi-text stimuli, see the website www.ccssitemdevelopment.org and download the Paired Passages Essay: http://www.ccssitemdevelopment.org/downloads/Essay%20on%20Paired%20Passages_September%202012.pdf		
3.B **Relationships Among Texts:** Do the texts/stimuli have a clear and meaningful relationship, with testable points arising from significant points of comparison or integration of ideas?		
3.C **Video or Audio:** If the text is a video or audio stimulus, does is meet the same quality criteria as for other texts? In addition, is the quality of sound and/or video appropriate for use on assessments?		
If, as a set, the texts do not have a "Y" in all of the criteria above, remove them from consideration. If the texts do meet the criteria in the third gate, proceed to the fourth gate		
4. FOURTH GATE: PAIRS OR MULTI -TEXT STIMULI – A set of texts that passes the third gate must meet the following criteria, as applicable.	**Y/N**	**Explanation**
4.A **Anchor Text:** For tasks that simulate research, is one text clearly appropriate to be the anchor text, providing foundational knowledge and leading naturally to additional reading and exploration? • If yes, place a "Y" in the column to the right. • If the first text does not meet the requirements for an anchor text, place an "N" in the column to the right and suggest a reassignment for an existing text in the Explanation column or remove the set from consideration until an appropriate anchor passage is located.		
4.B **Audio or Visual Elements:** Do the multimedia elements add value to the set? (Audio or visual elements should provide testable points of comparison or integration, rather than simply entertainment.) • If yes, please a "Y" in the column to the right. • If the audio or visual material does not add value, make recommendations for changes in the Explanation column.		
Accepted (all "Y's") Accepted conditionally, with comments to be addressed Rejected	☐ ☐ ☐	

Assessment Item Quality Criteria Checklist – ELA/literacy Grades 3-12

The following criteria are designed to help item reviewers determine if an item or set of items align(s) to the Common Core State Standards (CCSS). The criteria are set up in a gated manner so that reviewers can quickly and systematically determine where the item or set of items strays from the expectations of the CCSS.

Review the item or set of items against the criteria in order, and place a "Y" or an "N" in the middle column, labeled "Y/N". Please use the "Explanation" column to clarify the response or recommend a revision when an item or an item set receives an "N." If a criterion does not apply to a particular item, leave the column blank.

There are four gates in the checklist. The first two gates pertain to all items individually. The third and fourth gates apply to sets of items. If an item does not meet the criteria in the first gate, it should be removed from consideration. If it does meet the criteria in the first gate, review it according to the criteria in the second gate. The item must meet or must be able to be revised to meet the criteria in the second gate. At the end of the second gate, recommend whether to accept, accept conditionally, or reject the item.

Sets of items must meet the criteria in the third gate, and they should be revised to meet relevant criteria in the fourth gate. Again, reviewers will be asked to make a recommendation whether to accept, accept conditionally, or reject the item sets.

Criteria for Evaluating Items for CCSS-Aligned Assessments			
1.	**FIRST GATE: SINGLE ITEMS –** The item must meet all of the criteria in the first gate to be considered further.	**Y/N**	**Explanation**
1.A	**Value:** Is the item worthy of student attention, and does it allow students to deliver insights about the text?		
1.B	**Text Dependency:** 1. Does the item require close analytic reading of the text (either close reading of part of a text or the entire text)? Providing the correct answer should not require prior knowledge, nor should it be possible for students to answer the question without reading the text. 2. Does the item require students to use evidence from the text either by directly asking students cite evidence or by requiring students to use evidence to provide the answer? An item should require students to follow the details of what is explicitly stated and/or make valid inferences.		
1.C	**Alignment:** Does the item clearly align with the intent and language of one or more Common Core State Standard(s) or evidence statement(s)/target(s), including Reading standard 1? • If the item has a different alignment from the one(s) indicated, write a "Y" in the middle column and give details about a proposed change in alignment in the Explanation column.		
1.D	**Rationales and/or Top-Score Responses:** For an SR item, are effective rationales, which describe the answer choices rather than predict student behavior, provided for the correct answer and each distractor? For a CR item, are sample responses provided for each score point?		
If the item does not have a "Y" in all of the criteria above, remove the item from consideration. If the item does meet the criteria in the first gate, proceed to the second gate for single items.			
2.	**SECOND GATE: SINGLE ITEMS -** Items that pass the first gate must meet or be revised to meet the following, as applicable:.	**Y/N**	**Explanation**

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Published v.1 September 2012. Send feedback to info@studentsachieve.net

2.A	**Text Specificity:** Is the item not only text-dependent but also text-specific—not a generic question, but one that arises organically from the text and applies the language of the standards as appropriate to the text? • If yes, place a "Y" in the column on the right. • If the item is not text-specific, place an "N" in the column on the right and either suggest a revision or give reasons for keeping the item as is.		
2.B	**Clarity of Language:** Is the language used in the item clear and concise, and does it avoid negative phrasings and complex sentence structures (unless such structures are being tested)? • If yes, place a "Y" in the column to the right. • If the item should be revised for clarity of language, place an "N" in the column at the right and specify problems and/or suggest revisions in the Explanation column.		
2.C	**Technical Quality:** Does the item exemplify high standards of technical quality? For an SR item, for example, the question precludes guessing (plausible distractors or gridded response), the correct response is defensible based on textual evidence, no option is conspicuous and therefore possibly inviting, etc. For a CR item, for example, there is a clear description of the task and the criteria for scoring. *The above descriptions of technical quality are not exhaustive; reviewers should call on their knowledge of all best practices to evaluate technical quality.* • If there are no concerns about technical quality, place a "Y" in the column to the right. • If there are concerns, place an "N" in the column at the right and specify problems and/or suggest revisions in the Explanation column.		
2.D	**Technology:** If technology is used: Does it provide value beyond that of a non-technology-enhanced item (i.e., no use of technology for technology's sake, no confusing instructions or complicated actions)? And does the technology avoid introducing a new construct other than close reading and use of evidence—a construct that is not required by the CCSS? • If yes, place a "Y" in the column to the right. • If the use of technology should be improved or eliminated, place an "N" in the column at the right and detail the concerns in the Explanation column.		
2.E	**Hand Scoring:** If the item is to be hand-scored, does it provide information beyond what would be gained from a selected-response or machine-scored item? • If yes, place a "Y" in the column to the right. • If no, place an "N" in the column at the right and specify problems and/or suggest revisions in the Explanation column.		
2.F	**Comparison Items:** If the item calls for comparison or synthesis of ideas, is the comparison or synthesis meaningful and related to central ideas in the text? • If yes, place a "Y" in the column to the right. • If no, place an "N" in the column at the right and specify		

	problems and/or suggest revisions in the Explanation column.		
2.G	**Graphic Organizers:** If the item contains a graphic organizer or similar format, does the organizer or format add significant value to the item by allowing students to demonstrate knowledge in a way that a traditional selected-response item would not? (Use of graphic organizers or other narrow formats in test items may tend to change the construct being tested or to privilege these devices over others and thus influence teachers to include them in instruction.) • If the organizer or format adds value, assesses the construct of reading, and is text-specific so that it is not likely to solidify in instruction, place a "Y" in the column to the right. • If the organizer does not add value or risks changing the construct or solidifying in instruction, place an "N" in the column at the right and specify problems and/or suggest revisions in the Explanation column.		
2.H	**Vocabulary Items:** If the item assesses vocabulary, does it focus on crucial academic (tier 2) vocabulary in context and do the distractors reflect the same part of speech as the word being tested? • If yes, place a "Y" in the column to the right. • If the item tests a non-tier 2 word or tests other vocabulary skills besides use of context, place an "N" in the column at the right. Specify problems, suggest revisions, or give reasons that justify retaining the item.		
	Accepted (all "Y's") Accepted conditionally, with comments to be addressed Rejected	☐ ☐ ☐	

3.	**THIRD GATE: ITEM SETS (ITEMS ASSOCIATED WITH A TEXT OR TEXTS) –** Items in a set must pass the first two gates individually. Item sets must then meet the criterion in this gate to be considered further.	**Y/N**	**Comments**
3.A	**Comprehensiveness:** Does the set require students to read the full text carefully and show their understanding of the central ideas in the text (the set allows and requires students to provide read for deep insights rather than skim the surface)?		
If the item set does not have a "Y" for the criterion above, remove the set from consideration. If the set does meet the above criterion, proceed to the fourth gate below.			
4.	**FOURTH GATE: ITEM SETS (ITEMS ASSOCIATED WITH A TEXT OR TEXTS) –** Item sets that pass the third gate must meet or be revised to meet the following criteria in this gate, as applicable.	**Y/N**	**Comments**

4.A	**Standard Coverage:** Does the set address as many different Standards (and evidence statements/targets) as possible, with items based on the individual characteristics of the text and focused on key aspects of the text? The set of items should be extensive and robust enough that a good selection of items will remain after field testing. • If yes, place a "Y" in the column to the right. • If no, place an "N" in the column at the right and give reasons in the Explanation column.		
4.B	**Item Cluing:** Do the items avoid cluing the answer to other items in the set? • If yes, place a "Y" in the column to the right. • If no, place an "N" in the column at the right and indicate in the Explanation column which items clue each other so that they can be marked in the bank appropriately (not to be used on the same form).		
Accepted (all "Y's") Accepted conditionally, with comments to be addressed Rejected		☐ ☐ ☐	

Additional Resources for Evaluating Alignment of Instructional Materials

TOOLKIT
for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards

IV. Additional Resources for Evaluating Alignment of Instructional and Assessment Materials

Achieve Open Educational Resource (OER) Rubrics

Open Educational Resources (OER) are instructional materials, often in a digital and online format, that contain an open copyright license that allows educators to share, reuse and edit these materials. The OER Rubrics can be used in developing or evaluating OER to help determine the degree of alignment of OER to the CCSS, and to determine aspects of quality of OER. OER range from a single lesson or instructional support material (such as a problem set or game) to a complete unit or set of support materials.

To view and download, please visit:
http://www.achieve.org/oer-rubrics

Qualitative Measures Rubric for Informational Text and Qualitative Measures Rubric for Literature

Developed by the Council of Chief State School Officer's English Language Arts state collaborative to support qualitative analysis of what makes a given text complex, these qualitative rubrics guide educators in measuring features of text complexity, such as: text structure, language clarity and conventions, knowledge demands, and levels of meaning and purpose.

To view and download, please visit:

http://achievethecore.org/ela-literacy-common-core/text-complexity/qualitative-measures or
www.ccsso.org/textcomplexity (Launching August 2013)

CCSS Grade Bands and Quantitative Measures

A step-by-step guide to accessing free, online tools that identify the appropriate grade band for a text.

To view and download, please visit:

http://achievethecore.org/ela-literacy-common-core/text-complexity/quantitative-measures

Illustrative Mathematics Task Review Tool

The Illustrative Mathematics task review criteria are used to evaluate K–12 mathematics tasks designed specifically to illustrate the CCSSM and intended for inclusion on the Illustrative Mathematics website (http://www.illustrativemathematics.org/). Each task is intended to be part of a highly crafted set that illustrates the breadth, depth and nuances of each standard, cluster, domain, grade level, or conceptual category in the standards. In order to be published at Illustrative Mathematics, a task must meet all eight criteria described in the review form.

To view and download, please visit:

https://docs.google.com/file/d/0B7UDDaSOTTwkcWRJZjRGNWFWTWs/edit?usp=sharing.

Appendix: Publishers' Criteria for the Common Core State Standards

TOOLKIT
for Evaluating Alignment of Instructional and Assessment Materials to the Common Core State Standards

K–8 Publishers' Criteria for the Common Core State Standards for Mathematics

> These Standards are not intended to be new names for old ways of doing business. They are a call to take the next step. … It is time to recognize that standards are not just promises to our children, but promises we intend to keep.
>
> –CCSSM, p. 5

The Common Core State Standards were developed through a bipartisan, state-led initiative spearheaded by state superintendents and state governors. The Standards reflect the collective expertise of hundreds of teachers, education researchers, mathematicians, and state content experts from across the country. The Standards build on the best of previous state standards plus a large body of evidence from international comparisons and domestic reports and recommendations to define a sturdy staircase to college and career readiness. Most states have now adopted the Standards to replace previous expectations in English language arts/literacy and mathematics.

Standards by themselves cannot raise achievement. Standards don't stay up late at night working on lesson plans, or stay after school making sure every student learns—it's teachers who do that. And standards don't implement themselves. Education leaders from the state board to the building principal must make the Standards a reality in schools. Publishers too have a crucial role to play in providing the tools that teachers and students need to meet higher standards. This document, developed by the CCSSM writing team with review and collaboration from partner organizations, individual experts, and districts using the criteria, aims to support faithful CCSSM implementation by providing criteria for materials aligned to the Common Core State Standards for Mathematics. States, districts, and publishers can use these criteria to develop, evaluate, or purchase aligned materials, or to supplement or modify existing materials to remedy weaknesses.

How should alignment be judged? Traditionally, judging alignment has been approached as a crosswalking exercise. But crosswalking can result in large percentages of "aligned content" while obscuring the fact that the materials in question align not at all to the letter or the spirit of the standards being implemented. These criteria are an attempt to sharpen the alignment question and make alignment and misalignment more clearly visible.

These criteria were developed from the perspective that publishers and purchasers are equally responsible for fixing the materials market. Publishers cannot deliver focus to buyers who only ever complain about what has been left out, yet never complain about what has crept in. More generally, publishers cannot invest in quality if the market doesn't demand it of them nor reward them for producing it.

The K–8 Publishers' Criteria are structured as follows:

I. Focus, Coherence, and Rigor in the Common Core State Standards for Mathematics
II. Criteria for Materials and Tools Aligned to the K–8 Standards
III. Appendix: "The Structure is the Standards"

I. Focus, Coherence, and Rigor in the Common Core State Standards for Mathematics

> Less topic coverage can be associated with higher scores on those topics covered because students have more time to master the content that is taught.
>
> –Ginsburg et al., 2005, *Reassessing U.S. International Mathematics Performance: New Findings from the 2003 TIMSS and PISA*

> This finding that postsecondary instructors target fewer skills as being of high importance is consistent with recent policy statements and findings raising concerns that some states require too many standards to be taught and measured, rather than focusing on the most important state standards for students to attain. …
>
> Because the postsecondary survey results indicate that a more rigorous treatment of fundamental content knowledge and skills needed for credit-bearing college courses would better prepare students for postsecondary school and work, states would likely benefit from examining their state standards and, where necessary, reducing them to focus only on the knowledge and skills that research shows are essential to college and career readiness and postsecondary success. …
>
> —*ACT National Curriculum Survey 2009*

> Because the mathematics concepts in [U.S.] textbooks are often weak, the presentation becomes more mechanical than is ideal. We looked at both traditional and non-traditional textbooks used in the US and found conceptual weakness in both.
>
> —Ginsburg et al., 2005, cited in CCSSM, p. 3

> …[B]ecause conventional textbook coverage is so fractured, unfocused, superficial, and unprioritized, there is no guarantee that most students will come out knowing the essential concepts of algebra.
>
> –Wiggins, 2012[1]

For years national reports have called for greater focus in U.S. mathematics education. TIMSS and other international studies have concluded that mathematics education in the United States is a mile wide and an inch deep. A mile-wide inch-deep curriculum translates to less time per topic. Less time means less depth and moving on without many students. In high-performing countries, strong foundations are laid and then further knowledge is built on them; the design principle in those countries is focus with coherent progressions. The U.S. has lacked such discipline and patience.

There is evidence that state standards have become somewhat more focused over the past decade. But in the absence of standards shared across states, instructional materials have not followed suit. Moreover, prior to the Common Core, state standards were making little progress in terms of coherence: states were not fueling achievement by organizing math so that the subject makes sense.

With the advent of the Common Core, a decade's worth of recommendations for greater focus and coherence finally have a chance to bear fruit. Focus and coherence are the two major evidence-based design principles of the Common Core State Standards for Mathematics.[2] These principles are meant to fuel greater achievement in a deep and rigorous curriculum, one in which students acquire

[1] From http://grantwiggins.wordpress.com/2012/02/01/a-postscript-to-my-comment-about-kids-having-trouble-with-the-distributive-property.

[2] For some of the sources of evidence consulted during the standards development process, see pp. 91–93 of CCSSM.

conceptual understanding, procedural skill and fluency, and the ability to apply mathematics to solve problems. Thus, the implications of the standards for mathematics education could be summarized briefly as follows:

Focus: focus strongly where the standards focus

Coherence: think across grades, and link to major topics in each grade

Rigor: in major topics, pursue with equal intensity

- conceptual understanding,
- procedural skill and fluency, and
- applications

Focus

Focus means significantly narrowing the scope of content in each grade so that students achieve at higher levels and experience more deeply that which remains.

We have come to see "narrowing" as a bad word—and it is a bad word, if it means cutting arts programs and language programs. But math has swelled in this country. The standards are telling us that math actually needs to lose a few pounds.

The strong focus of the Standards in early grades is arithmetic along with the components of measurement that support it. That includes the concepts underlying arithmetic, the skills of arithmetic computation, and the ability to apply arithmetic to solve problems and put arithmetic to engaging uses. Arithmetic in the K–5 standards is an important life skill, as well as a thinking subject and a rehearsal for algebra in the middle grades.

Focus remains important through the middle and high school grades in order to prepare students for college and careers. National surveys have repeatedly concluded that postsecondary instructors value greater mastery of a smaller set of prerequisites over shallow exposure to a wide array of topics, so that students can build on what they know and apply what they know to solve substantial problems.

During the writing of the Standards, the writing team often received feedback along these lines: "I love the focus of these standards! Now, if we could just add one or two more things…." But focus compromised is no longer focus at all. Faithfully implementing the standards requires moving some topics traditionally taught in earlier grades up to higher grades entirely, sometimes to much higher grades. "Teaching less, learning more" can seem like hard medicine for an educational system addicted to coverage. But remember that the goal of focus is to make good on the ambitious promise the states have made to their students by adopting the Standards: greater achievement at the college- and career-ready level, greater depth of understanding of mathematics, and a rich classroom environment in which reasoning, sense-making, applications, and a range of mathematical practices all thrive. None of this is realistic in a mile-wide, inch-deep world.

Both of the assessment consortia have made the focus, coherence, and rigor of the Standards central to their assessment designs.[3] Choosing materials that also embody the Standards will be essential for giving teachers and students the tools they need to build a strong mathematical foundation and succeed on the coming aligned exams.

Coherence

Coherence is about making math make sense. Mathematics is not a list of disconnected tricks or mnemonics. It is an elegant subject in which powerful knowledge results from reasoning with a small number of principles such as place value and properties of operations.[4] The Standards define progressions of learning that leverage these principles as they build knowledge over the grades.[5]

Coherence has to do with connections between topics. Vertical connections are crucial: these are the links from one grade to the next that allow students to progress in their mathematical education. For example, a kindergarten student might add two numbers using a "count all" strategy, but grade 1 students are expected to use "counting on" and more sophisticated strategies. It is critical to think across grades and examine the progressions in the standards to see how major content develops over time.

The Standards do not specify the progression of material within a single grade, but coherence across grades also depends on having careful, deliberate, and progressive development of ideas within each grade. Some examples of this can be seen in the *Progressions* documents.[6] For example, it would not make sense to address cluster 8.EE.B (understanding the connections between proportional relationships, lines, and linear equations) before addressing triangle similarity, as ideas of triangle similarity underlie the very definition of the slope of a line in the coordinate plane.

Connections at a single grade level can be used to improve focus, by closely linking secondary topics to the major work of the grade. For example, in grade 3, bar graphs are not "just another topic to cover." Rather, the standard about bar graphs asks students to use information presented in bar graphs to solve word problems using the four operations of arithmetic. Instead of allowing bar graphs to detract from the focus on arithmetic, the Standards are showing how bar graphs can be positioned in support of the major work of the grade. In this way coherence can support focus.

Materials cannot match the contours of the Standards by approaching each individual content standard as a separate event. Nor can materials align to the Standards by approaching each individual grade as a separate event. From the Appendix: "The standards were not so much assembled out of topics as woven out of progressions. Maintaining these progressions in the implementation of the standards will be important for helping all students learn mathematics at a higher level. … For example, the properties of operations, learned first for simple whole numbers, then in later grades extended to fractions, play a central role in understanding operations with negative numbers,

[3] See the Smarter/Balanced content specification and item development specifications, and the PARCC Model Content Framework and item development ITN. Complete information about the consortia can be found at www.smarterbalanced.org and www.parcconline.org.
[4] For some remarks by Phil Daro on this theme, see the excerpt at http://vimeo.com/achievethecore/darofocus, and/or the full video available at http://commoncoretools.me/2012/05/21/phil-daro-on-learning-mathematics-through-problem-solving/.
[5] For more information on progressions in the Standards, see http://ime.math.arizona.edu/progressions.
[6] http://ime.math.arizona.edu/progressions

expressions with letters and later still the study of polynomials. As the application of the properties is extended over the grades, an understanding of how the properties of operations work together should deepen and develop into one of the most fundamental insights into algebra. The natural distribution of prior knowledge in classrooms should not prompt abandoning instruction in grade level content, but should prompt explicit attention to connecting grade level content to content from prior learning. To do this, instruction should reflect the progressions on which the CCSSM are built."

"Fragmenting the Standards into individual standards, or individual bits of standards, … produces a sum of parts that is decidedly less than the whole" (Appendix). Breaking down standards poses a threat to the focus and coherence of the Standards. It is sometimes helpful or necessary to isolate a part of a compound standard for instruction or assessment, but not always, and not at the expense of the Standards as a whole. A drive to break the Standards down into 'microstandards' risks making the checklist mentality even worse than it is today. Microstandards would also make it easier for microtasks and microlessons to drive out extended tasks and deep learning. Finally, microstandards could allow for micromanagement: Picture teachers and students being held accountable for ever more discrete performances. If it is bad today when principals force teachers to write the standard of the day on the board, think of how it would be if every single standard turns into three, six, or a dozen or more microstandards. If the Standards are like a tree, then microstandards are like twigs. You can't build a tree out of twigs, but you can use twigs as kindling to burn down a tree.

Rigor

To help students meet the expectations of the Standards, educators will need to pursue, with equal intensity, three aspects of rigor in the major work of each grade: (1) conceptual understanding, (2) procedural skill and fluency, and (3) applications. The word "rigor" isn't a code word for just one of these three; rather, it means equal intensity in all three. The word "understand" is used in the Standards to set explicit expectations for conceptual understanding, the word "fluently" is used to set explicit expectations for fluency, and the phrase "real-world problems" and the star symbol (⋆) are used to set expectations and flag opportunities for applications and modeling. (Modeling is a Standard for Mathematical Practice as well as a content category in High School.)

To date, curricula have not always been balanced in their approach to these three aspects of rigor. Some curricula stress fluency in computation without acknowledging the role of conceptual understanding in attaining fluency and making algorithms more learnable. Some stress conceptual understanding without acknowledging that fluency requires separate classroom work of a different nature. Some stress pure mathematics without acknowledging that applications can be highly motivating for students and that a mathematical education should make students fit for more than just their next mathematics course. At another extreme, some curricula focus on applications without acknowledging that math doesn't teach itself.

The Standards do not take sides in these ways, but rather they set high expectations for all three components of rigor in the major work of each grade. Of course, that makes it necessary that we focus—otherwise we are asking teachers and students to do more with less.

II. Criteria for Materials and Tools Aligned to the Standards

> The single most important flaw in United States mathematics instruction is that the curriculum is "a mile wide and an inch deep." This finding comes from research comparing the U.S. curriculum to high performing countries, surveys of college faculty and teachers, the National Math Panel, the Early Childhood Learning Report, and all the testimony the CCSS writers heard. The standards are meant to be a blueprint for math instruction that is more focused and coherent. … Crosswalks and alignments and pacing plans and such cannot be allowed to throw away the focus and coherence and regress to the mile-wide curriculum.
>
> —Daro, McCallum, and Zimba, 2012 (from the Appendix)

Using the criteria

One approach to developing a document such as this one would have been to develop a separate criterion for each mathematical topic approached in deeper ways in the Standards, a separate criterion for each of the Standards for Mathematical Practice, etc. It is indeed necessary for textbooks to align to the Standards in detailed ways. However, enumerating those details here would have led to a very large number of criteria. Instead, the criteria use the Standards' focus, coherence, and rigor as the main themes. In addition, this document includes a section on indicators of quality in materials and tools, as well as a criterion for the mathematics and statistics in instructional resources for science and technical subjects. Note that the criteria apply to materials and tools, not to teachers or teaching.

The criteria can be used in several ways:

- *Informing purchases and adoptions*. Schools or districts evaluating materials and tools for purchase can use the criteria to test claims of alignment. States reviewing materials and tools for adoption can incorporate these criteria into their rubrics. Publishers currently modifying their programs, or designing new materials and tools, can use the criteria to shape these projects.
- *Working with previously purchased materials*. Most existing materials and tools likely fail to meet one or more of these criteria, even in cases where alignment to the Standards is claimed. But the pattern of failure is likely to be informative. States and districts need not wait for "the perfect book" to arrive, but can use the criteria now to carry out a thoughtful plan to modify or combine existing resources in such a way that students' actual learning experiences approach the focus, coherence, and rigor of the Standards. Publishers can develop innovative materials and tools specifically aimed at addressing identified weaknesses of widespread textbooks or programs.
- *Guiding the development of materials*. Publishers currently modifying their programs and designers of new materials and tools can use the criteria to shape these projects.
- *Professional development.* The criteria can be used to support activities that help communicate the shifts in the Standards. For example, teachers can analyze existing materials to reveal how they treat the major work of the grade, or assess how well materials attend to the three aspects of rigor, or determine which problems are key to developing the ideas and skills of the grade.

In all these cases, it is recommended that the criteria for focus be attended to first. By attending first to focus, coherence and rigor may realistically develop.

The Standards do not dictate the acceptable forms of instructional resources—to the contrary, they are a historic opportunity to raise student achievement through innovation. Materials and tools of very different forms can meet the criteria, including workbooks, multi-year programs, and targeted interventions. For example, materials and tools that treat a single important topic or domain might be valuable to consider.

Alignment for digital and online materials and tools. Digital materials offer substantial promise for conveying mathematics in new and vivid ways and customizing learning. In a digital or online format, diving deeper and reaching back and forth across the grades is easy and often useful. That can enhance focus and coherence. But if such capabilities are poorly designed, focus and coherence could also be diminished. In a setting of dynamic content navigation, the navigation experience must preserve the coherence of Standards clusters and progressions while allowing flexibility and user control: Users can readily see where they are with respect to the structure of the curriculum and its basis in the Standards' domains, clusters and standards.

Digital materials that are smaller than a course can be useful. The smallest granularity for which they can be properly evaluated is a cluster of standards. These criteria can be adapted for clusters of standards or progressions within a cluster, but might not make sense for isolated standards.

Special populations. As noted in the Standards (p. 4),

> All students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participation of students with special education needs.

Thus, **an over-arching criterion** for materials and tools is that they provide supports for special populations such as students with disabilities, English language learners,[7] and gifted students. Designers of materials should consult accepted guidelines for providing these supports.

*

For the sake of brevity, the criteria sometimes refer to parts of the Standards using abbreviations such as 3.MD.7 (an individual content standard), MP.8 (a practice standard), 8.EE.B (a cluster heading), or 4.NBT (a domain heading). Readers of the document should have a copy of the Standards available in order to refer to the indicated text in each case.

[7] Slides from a brief and informal presentation by Phil Daro about mathematical language and English language learners can be found at http://db.tt/VARV3ebl.

Criteria for Materials and Tools Aligned to the Standards

1. **Focus on Major Work: In any single grade, students and teachers using the materials as designed spend the large majority of their time on the major work of each grade**.[8] In order to preserve the focus and coherence of the Standards, both assessment consortia have designated clusters at each grade level as major, additional, or supporting,[9] with clusters designated as major comprising the major work of each grade. Major work is not the only work in the Standards, but materials are highly unlikely to be aligned to the Standards' focus unless they dedicate the large majority of their time[10] on the major work of each grade.

   This criterion also applies to digital or online materials without fixed pacing plans. Such tools are explicitly designed for focus, so that students spend the large majority of their time on the major work of each grade.

   Note that an important **subset** of the major work in grades K–8 is the progression that leads toward middle-school algebra (see Table 1, next page). Materials give especially careful treatment to these clusters and their interconnections.[11]

[8] The materials should devote at least 65% and up to approximately 85% of the class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

[9] For cluster-level emphases at grades K–2, see http://www.achievethecore.org/downloads/Math%20Shifts%20and%20Major%20Work%20of%20Grade.pdf.

[10] The materials should devote at least 65% and up to approximately 85% of the class time to the major work of the grade with Grades K–2 nearer the upper end of that range, i.e., 85%.

[11] For domain-by-domain progressions in the Standards, see http://ime.math.arizona.edu/progressions.

Table 1. Progress to Algebra in Grades K–8

K	1	2	3	4	5	6	7	8
Know number names and the count sequence Count to tell the number of objects Compare numbers Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from Work with numbers 11-19 to gain foundations for place value	Represent and solve problems involving addition and subtraction Understand and apply properties of operations and the relationship between addition and subtraction Add and subtract within 20 Work with addition and subtraction equations Extend the counting sequence Understand place value Use place value understanding and properties of operations to add and subtract Measure lengths indirectly and by iterating length units	Represent and solve problems involving addition and subtraction Add and subtract within 20 Understand place value Use place value understanding and properties of operations to add and subtract Measure and estimate lengths in standard units Relate addition and subtraction to length	Represent & solve problems involving multiplication and division Understand properties of multiplication and the relationship between multiplication and division Multiply & divide within 100 Solve problems involving the four operations, and identify & explain patterns in arithmetic Develop understanding of fractions as numbers Solve problems involving measurement and estimation of intervals of time, liquid volumes, & masses of objects Geometric measurement: understand concepts of area and relate area to multiplication and to addition	Use the four operations with whole numbers to solve problems Generalize place value understanding for multi-digit whole numbers Use place value understanding and properties of operations to perform multi-digit arithmetic Extend understanding of fraction equivalence and ordering Build fractions from unit fractions by applying and extending previous understandings of operations Understand decimal notation for fractions, and compare decimal fractions	Understand the place value system Perform operations with multi-digit whole numbers and decimals to hundredths Use equivalent fractions as a strategy to add and subtract fractions Apply and extend previous understandings of multiplication and division to multiply and divide fractions Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition Graph points in the coordinate plane to solve real-world and mathematical problems*	Apply and extend previous understandings of multiplication and division to divide fractions by fractions Apply and extend previous understandings of numbers to the system of rational numbers Understand ratio concepts and use ratio reasoning to solve problems Apply and extend previous understandings of arithmetic to algebraic expressions Reason about and solve one-variable equations and inequalities Represent and analyze quantitative relationships between dependent and independent variables	Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers Analyze proportional relationship and use them to solve real-world and mathematical problems Use properties of operations to generate equivalent expressions Solve real-life and mathematical problems using numerical and algebraic expressions and equations	Work with radical and integer exponents Understand the connections between proportional relationships, lines, and linear equations** Analyze and solve linear equations and pairs of simultaneous linear equations Define, evaluate, and compare functions Use functions to model relationships between quantities

*Indicates a cluster that is well thought of as part of a student's progress to algebra, but that is currently not designated as Major by one or both of the assessment consortia in their draft materials. Apart from the asterisked exception, the clusters listed here are a subset of those designated as Major in both of the assessment consortia's draft documents. ** Depends on similarity ideas from geometry to show that slope can be defined and then used to show that a linear equation has a graph which is a straight line and conversely.

2. **Focus in Early Grades: Materials do not assess any of the following topics before the grade level indicated.**

Table 2

Topic	Grade Introduced in the Standards
Probability, including chance, likely outcomes, probability models.	**7**
Statistical distributions, including center, variation, clumping, outliers, mean, median, mode, range, quartiles, and **statistical association or trends**, including two-way tables, bivariate measurement data, scatter plots, trend line, line of best fit, correlation.	**6**
Similarity, congruence, or geometric transformations.	**8**
Symmetry of shapes, including line/reflection symmetry, rotational symmetry.	**4**

As the second column indicates, the Standards as a whole do include the topics in Table 2—they are not being left out. However, in the coherent progression of the Standards, these topics first appear at later grades in order to establish focus. Thus, in aligned materials there are no chapter tests, unit tests, or other such assessment components that make students or teachers responsible for any of the above topics before the grade in which they are introduced in the Standards. (One way to meet this criterion is for materials to omit these topics entirely prior to the indicated grades.)

3. **Focus and Coherence through Supporting Work: Supporting content enhances focus and coherence simultaneously by engaging students in the major work of the grade.** For example, materials for K–5 generally treat data displays as an occasion for solving grade-level word problems using the four operations (see 3.MD.3);[12] materials for grade 7 take advantage of opportunities to use probability to support ratios, proportions, and percents. (This criterion does not apply in the case of targeted supplemental materials or other tools that do not include supporting content.)

4. **Rigor and Balance: Materials and tools reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by (all of the following, in the case of comprehensive materials; at least one of the following for supplemental or targeted resources):**

   a. **Developing students' <u>conceptual understanding</u> of key mathematical concepts, especially where called for in specific content standards or cluster headings.** Materials amply feature high-quality conceptual problems and questions. This includes brief conceptual problems with low computational difficulty (e.g., 'Find a number greater than 1/5 and less than 1/4'); brief

[12] For more information about this example, see Table 1 in the *Progression* for K-3 Categorical Data and 2-5 Measurement Data, http://commoncoretools.files.wordpress.com/2011/06/ccss_progression_md_k5_2011_06_20.pdf. More generally, the *PARCC Model Content Frameworks* give examples in each grade of how to improve focus and coherence by linking supporting topics to the major work.

conceptual questions (e.g., 'If the divisor does not change and the dividend increases, what happens to the quotient?'); and problems that involve identifying correspondences across different mathematical representations of quantitative relationships.[13] Classroom discussion about such problems can offer opportunities to engage in mathematical practices such as constructing and critiquing arguments (MP.3). In the materials, conceptual understanding is attended to most thoroughly in those places in the content standards where explicit expectations are set for understanding or interpreting. Such problems and activities center on fine-grained mathematical concepts–place value, the whole-number product $a \times b$, the fraction a/b, the fraction product $(a/b) \times q$, expressions as records of calculations, solving equations as a process of answering a question, etc. Conceptual understanding of key mathematical concepts is thus distinct from applications or fluency work, and these three aspects of rigor must be balanced as indicated in the Standards.

b. **Giving attention throughout the year to individual standards that set an expectation of <u>procedural skill and fluency</u>**. The Standards are explicit where fluency is expected. Materials in grades K–6 help students make steady progress throughout the year toward fluent (accurate and reasonably fast) computation, including knowing single-digit products and sums from memory (see, e.g., 2.OA.2 and 3.OA.7). Progress toward these goals is interwoven with students' developing conceptual understanding of the operations in question.[14] Manipulatives and concrete representations such as diagrams that enhance conceptual understanding are connected to the written and symbolic methods to which they refer (see, e.g., 1.NBT). As well, purely procedural problems and exercises are present. These include cases in which opportunistic strategies are valuable—e.g., the sum 698 + 240 or the system $x + y = 1$, $2x + 2y = 3$—as well as an ample number of generic cases so that students can learn and practice efficient algorithms (e.g., the sum 8767 + 2286). Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks.[15] Materials attend most thoroughly to those places in the content standards where explicit expectations are set for fluency. In higher grades, algebra is the language of much of mathematics. Like learning any language, we learn by using it. Sufficient practice with algebraic operations is provided so as to make realistic the attainment of the Standards as a whole; for example, fluency in algebra can help students get past the need to manage computational details so that they can observe structure (MP.7) and express regularity in repeated reasoning (MP.8).

c. **Allowing teachers and students using the materials as designed to spend sufficient time working with engaging <u>applications</u>, without losing focus on the major work of each grade.** Materials in grades K–8 include an ample number of single-step and multi-step contextual problems that develop the mathematics of the grade, afford opportunities for practice, and

[13] Note that for ELL students, multiple representations also serve as multiple access paths.

[14] For more about how students develop fluency in tandem with understanding, see the *Progressions* for Operations and Algebraic Thinking, http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf and for Number and Operations in Base Ten, http://commoncoretools.files.wordpress.com/2011/04/ccss_progression_nbt_2011_04_073.pdf.

[15] Non-mathematical approaches (such as the "butterfly method" of adding fractions) compromise focus and coherence and displace mathematics in the curriculum (cf. 5.NF.1). For additional background on this point, see the remarks by Phil Daro excerpted at http://vimeo.com/achievethecore/darofocus and/or the full video, available at http://commoncoretools.me/2012/05/21/phil-daro-on-learning-mathematics-through-problem-solving/.

engage students in problem solving. Materials for grades 6–8 also include problems in which students must make their own assumptions or simplifications in order to model a situation mathematically. Applications take the form of problems to be worked on individually as well as classroom activities centered on application scenarios. Materials attend thoroughly to those places in the content standards where expectations for multi-step and real-world problems are explicit. Students learn to use the content knowledge and skills specified in the content standards in applications, with particular stress on applying major work, and a preference for the more fundamental techniques from additional and supporting work. Modeling builds slowly across K–8, and applications are relatively simple in earlier grades. Problems and activities are grade-level appropriate, with a sensible tradeoff between the sophistication of the problem and the difficulty or newness of the content knowledge the student is expected to bring to bear.

Additional aspects of the Rigor and Balance Criterion:
(1) *The three aspects of rigor are not always separate in materials.* (Conceptual understanding and fluency go hand in hand; fluency can be practiced in the context of applications; and brief applications can build conceptual understanding.)

(2) *Nor are the three aspects of rigor always together in materials.* (Fluency requires dedicated practice to that end. Rich applications cannot always be shoehorned into the mathematical topic of the day. And conceptual understanding will not always come along for free unless explicitly taught.)

(3) Digital and online materials with no fixed lesson flow or pacing plan are not designed for superficial browsing but rather should be designed to instantiate the Rigor and Balance criterion.

5. **Consistent Progressions: Materials are consistent with the progressions in the Standards, by (all of the following):**

   a. **Basing content progressions on the grade-by-grade progressions in the Standards.** Progressions in materials match well with those in the Standards. Any discrepancies in content progressions enhance the required learning in each grade and are clearly aimed at helping students meet the Standards as written, rather than setting up competing requirements or effectively rewriting the standards. Comprehensive materials do not introduce gaps in learning by omitting any content that is specified in the Standards.

   The basic model for grade-to-grade progression involves students making tangible progress during each given grade, as opposed to substantially reviewing then marginally extending from previous grades. Remediation may be necessary, particularly during transition years, and resources for remediation may be provided, but previous-grades review is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year.

   Digital and online materials that allow students and/or teachers to navigate content across grade levels promote the Standards' coherence by tracking the structure and progressions in the Standards. For example, such materials might link problems and concepts so that teachers and students can browse a progression.

b. **Giving all students extensive work with grade-level problems.** Differentiation is sometimes necessary, but materials often manage unfinished learning from earlier grades inside grade level work, rather than setting aside grade-level work to reteach earlier content. Unfinished learning from earlier grades is normal and prevalent; it should not be ignored nor used as an excuse for cancelling grade level work and retreating to below-grade work. (For example, the development of fluency with division using the standard algorithm in grade 6 is the occasion to surface and deal with unfinished learning about place value; this is more productive than setting aside division and backing up.) Likewise, students who are "ready for more" can be provided with problems that take grade-level work in deeper directions, not just exposed to later grades' topics.

c. **Relating grade level concepts explicitly to prior knowledge from earlier grades.** The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge. Grade-level problems in the materials often involve application of knowledge learned in earlier grades. Although students may well have learned this earlier content, they have not learned how it extends to new mathematical situations and applications. They learn basic ideas of place value, for example, and then extend them across the decimal point to tenths and beyond. They learn properties of operations with whole numbers, and then extend them to fractions, variables, and expressions. The materials make these extensions of prior knowledge explicit. Thus, materials routinely integrate new knowledge with knowledge from earlier grades. Note that cluster headings in the Standards sometimes signal key moments where reorganizing and extending previous knowledge is important in order to accommodate new knowledge (e.g., see the cluster headings that use the phrase "Apply and extend previous understanding").

6. **Coherent Connections: Materials foster coherence through connections at a single grade, where appropriate and where required by the Standards, by (all of the following):**

a. **Including learning objectives that are visibly shaped by CCSSM cluster headings.** Cluster headings function like topic sentences in a paragraph in that they state the point of, and lend additional meaning to, the individual content standards that follow. While some clusters are simply the sum of their individual standards (e.g., 8.EE.C), many are not (e.g., 8.EE.B). In the latter case, the cluster heading signals the importance of using similarity ideas from geometry to show that slope can be defined and then used to show that a linear equation has a graph which is a straight line, and conversely.

Cluster headings can also signal multi-grade progressions, by using phrases such as "Apply and extend previous understandings of [X] to do [Y]." Hence an important criterion for coherence is that some or many of the learning objectives in the materials are visibly shaped by CCSSM cluster headings. Materials do not simply treat the Standards as a sum of individual content standards and individual practice standards.

b. **Including problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important**. If instruction only operates at the individual standard level, or even at the individual cluster level, then some important connections will be missed. For example, robust work in 4.NBT should sometimes or often synthesize across the clusters listed in that domain;

robust work in grade 4 should sometimes or often involve students applying their developing computation NBT skills in the context of solving word problems detailed in OA. Materials do not invent connections not explicit in the standards without first attending thoroughly to the connections that are required explicitly in the Standards (e.g., 3.MD.7 connects area to multiplication, to addition, and to properties of operations) Not everything in the standards is naturally well connected or needs to be connected (e.g., Order of Operations has essentially nothing to do with the properties of operations, and connecting these two things in a lesson or unit title is actively misleading). Instead, connections in materials are mathematically natural and important (e.g., base-ten computation in the context of word problems with the four operations), reflecting plausible direct implications of what is written in the Standards without creating additional requirements.

c. **Preserving the focus, coherence, and rigor of the Standards even when targeting specific objectives**. Sometimes a content standard is a compound statement, such as 'Do X and do Y.' More intricate compound forms also exist. (For example, see A-APR.1.) It is sometimes helpful or necessary to isolate a part of a compound standard, but not always, and not at the expense of the Standards as a whole. Digital or print materials or tools are not aligned if they break down the Standards in such a way as to detract from focus, coherence, or rigor. This criterion applies to student-facing and teacher-facing materials, as well as to architectural documents or digital platforms that are meant to guide the development of student-facing or teacher-facing materials.

7. **Practice-Content Connections: Materials meaningfully connect content standards and practice standards.** "Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction." (CCSSM, p. 8.) Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of activities or problems that stimulate students to develop the habits of mind described in the practice standards. These practices are well-grounded in the content standards.

   The practice standards are not just processes with ephemeral products (such as conversations). They also specify a set of products students are supposed to learn how to produce. Thus, students are asked to produce answers and solutions but also, in a grade-appropriate way, arguments, explanations, diagrams, mathematical models, etc.

   Materials are accompanied by an analysis, aimed at evaluators, of how the authors have approached each practice standard in relation to content within each applicable grade or grade band, and provide suggestions for delivering content in ways that help students meet the practice standards in grade-appropriate ways. Materials do not treat the practice standards as static across grades or grade bands, but instead tailor the connections to the content of the grade and to grade-level-appropriate student thinking. Materials also include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.

8. **Focus and Coherence via Practice Standards: Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards**. Content and practice standards are not connected mechanistically or randomly, but instead support focus and

coherence. Examples: Materials connect looking for and making use of structure (MP.7) with structural themes emphasized in the standards such as properties of operations, place value decompositions of numbers, numerators and denominators of fractions, numerical and algebraic expressions, etc.; materials use repeated reasoning (MP.8) as a *tool* with which to explore content that is emphasized in the Standards. (In K-5, materials might use regularity in repetitive reasoning to shed light on, e.g., the 10×10 addition table, the 10×10 multiplication table, the properties of operations, the relationship between addition and subtraction or multiplication and division, and the place value system; in 6-8, materials might use regularity in repetitive reasoning to shed light on proportional relationships and linear functions; in high school, materials might use regularity in repetitive reasoning to shed light on formal algebra as well as functions, particularly recursive definitions of functions.)

9. **Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.** For example, MP.1 does not say, "Solve problems." Or "Make sense of problems." Or "Make sense of problems and solve them." It says "Make sense of problems and persevere in solving them." Thus, students using the materials as designed build their perseverance in grade-level-appropriate ways by occasionally solving problems that require them to persevere to a solution beyond the point when they would like to give up.[16] MP.5 does not say, "Use tools." Or "Use appropriate tools." It says "Use appropriate tools strategically." Thus, materials include problems that reward students' strategic decisions about how to use tools, or about whether to use them at all. MP.8 does not say, "Extend patterns." Or "Engage in repetitive reasoning." It says "Look for and express regularity in repeated reasoning." Thus, it is not enough for students to extend patterns or perform repeated calculations. Those repeated calculations must lead to an insight (e.g., "When I add a multiple of 3 to another multiple of 3, then I get a multiple of 3."). The analysis for evaluators explains how the full meaning of each practice standard has been attended to in the materials.

10. **Emphasis on Mathematical Reasoning: Materials support the Standards' emphasis on mathematical reasoning, by (all of the following):**

    a. **Prompting students to construct viable arguments and critique the arguments of others concerning key grade-level mathematics that is detailed in the content standards (cf. MP.3).** Materials provide sufficient opportunities for students to reason mathematically and express reasoning through classroom discussion, written work and independent thinking. Reasoning is not confined to optional or avoidable sections of the materials but is inevitable when using the materials as designed. Materials do not approach reasoning as a generalized imperative, but instead create opportunities for students to reason *about* key mathematics detailed in the content standards for the grade. Materials thus attend first and most thoroughly to those places in the content standards setting explicit expectations for

[16] Curriculum designers might consider how research on motivation and character development has value for designing tools that develop students' perseverance and other mathematical practices. For more information, see, e.g., Dweck (2008), "Mindsets and Math" (http://opportunityequation.org/teaching-and-leadership/mindsets-math-science-achievement); Duckworth et al. (2007), "Grit: Perseverance and Passion for Long-Term Goals" (http://www.sas.upenn.edu/~duckwort/images/publications/DuckworthPetersonMatthewsKelly_2007_PerseveranceandPassion.pdf); and http://www.psychologicalscience.org/index.php/publications/observer/2013/april-13/true-grit.html.

explaining, justifying, showing, or proving. Students are asked to critique given arguments, e.g., by explaining under what conditions, if any, a mathematical statement is valid. Materials develop students' capacity for mathematical reasoning in a grade-level appropriate way, with a reasonable progression of sophistication from early grades up through high school.[17] Teachers and students using the materials as designed spend significant classroom time communicating reasoning (by constructing viable arguments and critiquing the arguments of others concerning key grade-level mathematics)—recognizing that learning mathematics also involves time spent working on applications and practicing procedures. Materials provide examples of student explanations and arguments (e.g., fictitious student characters might be portrayed).

b. **Engaging students in problem solving as a form of argument**. Materials attend thoroughly to those places in the content standards that explicitly set expectations for multi-step problems; multi-step problems are not scarce in the materials. Some or many of these problems require students to devise a strategy autonomously. Sometimes the goal is the final answer alone (cf. MP.1); sometimes the goal is to lay out the solution as a sequence of well justified steps. In the latter case, the solution to a problem takes the form of a cogent argument that can be verified and critiqued, instead of a jumble of disconnected steps with a scribbled answer indicated by drawing a circle around it (cf. MP.6). Problems and activities of this nature are grade-level appropriate, with a reasonable progression of sophistication from early grades up through high school.

c. **Explicitly attending to the specialized language of mathematics.** Mathematical reasoning involves specialized language. Therefore, materials and tools address the development of mathematical and academic language associated with the standards. The language of argument, problem solving and mathematical explanations are taught rather than assumed. Correspondences between language and multiple mathematical representations including diagrams, tables, graphs, and symbolic expressions are identified in material designed for language development. Note that variety in formats and types of representations—graphs, drawings, images, and tables in addition to text—can relieve some of the language demands that English language learners face when they have to show understanding in math.

   The text is considerate of English language learners, helping them to access challenging mathematics and helping them to develop grade level language. For example, materials might include annotations to help with comprehension of words, sentences and paragraphs, and give examples of the use of words in other situations. Modifications to language do not sacrifice the mathematics, nor do they put off necessary language development.

[17] As students progress through the grades, their production and comprehension of mathematical arguments evolves from informal and concrete toward more formal and abstract. In early grades students employ imprecise expressions which with practice over time become more precise and viable arguments in later grades. Indeed, the use of imprecise language is part of the process in learning how to make more precise arguments in mathematics. Ultimately, conversation about arguments helps students transform assumptions into explicit and precise claims.

A criterion for the mathematics and statistics in materials for science and technical subjects

Lack of alignment in these subjects could have the effect of compromising the focus and coherence of the mathematics Standards. Instead of reinforcing concepts and skills already carefully introduced in math class, teachers of science and technical subjects would have to teach this material in stopgap fashion. That wouldn't serve students well in any grade, and elementary teachers in particular would preside over a chaotic learning environment.

[S] **Consistency with CCSSM: Materials for science and technical subjects are consistent with CCSSM.** Materials for these subjects in K–8 do not subtract from the focus and coherence of the Standards by outpacing CCSSM math progressions in grades K–8 or misaligning to them. In grades 6–8, materials for these subjects also build coherence across the curriculum and support college and career readiness by integrating key mathematics into the disciplines, particularly simple algebra in the physical sciences and technical subjects, and basic statistics in the life sciences and technical subjects (see Table 3 for a possible picture along these lines).

Table 3

Algebraic competencies integrated into materials for middle school science and technical subjects	**Statistical competencies integrated into materials for middle school science and technical subjects**
• Working with positive and negative numbers (including fractions) to solve problems • Using variables and writing and solving equations to solve problems • Recognizing and using proportional relationships to solve problems • Graphing proportional relationships and linear functions to solve problems	• Working with distributions and measures of center and variability • Working with simple probability and random sampling • Working with bivariate categorical data (e.g., two-way tables) • Working with bivariate measurement data (e.g., scatter plots) and linear models

Indicators of quality in instructional materials and tools for mathematics

The preceding criteria express important dimensions of alignment to the Standards. The following are some additional dimensions of quality that materials and tools should exhibit in order to give teachers and students the tools they need to meet the Standards:

- Problems in the materials are worth doing:
  - The underlying design of the materials distinguishes between *problems* and *exercises*. Whatever specific terms are used for these two types, in essence the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Problems are problems because students haven't yet learned how to solve them; students are learning from solving them. Materials use problems to teach mathematics. Lessons have a few well designed problems that progressively build and extend understanding. Practice exercises that build fluency are easy to recognize for their purpose. Other exercises require longer chains of reasoning.
  - Each problem or exercise has a purpose—whether to teach new knowledge, bring misconceptions to the surface, build skill or fluency, engage the student in one or several mathematical practices, or simply present the student with a fun puzzle.
  - Assignments aren't haphazardly designed. Exercises are given to students in intentional sequences—for example, a sequence leading from prior knowledge to new knowledge, or a sequence leading from concrete to abstract, or a sequence that leads students through a number of important cases, or a sequence that elicits new understanding by inviting students to see regularity in repeated reasoning. Lessons with too many problems make problems a commodity; they forbid concentration, and they make focus and coherence unlikely.
  - The language in which problems are posed is carefully considered. Note that mathematical problems posed using only ordinary language are a special genre of text that has conventions and structures needing to be learned. The language used to pose mathematical problems should evolve with the grade level and across mathematics content.

- There is variety in the pacing and grain size of content coverage.
  - Materials that devote roughly equal time to each content standard do not allow teachers and students to focus where necessary.
  - The Standards are not written at uniform grain size. Sometimes an individual content standard will require days of work, possibly spread over the entire year, while other standards could be sufficiently addressed when grouped with other standards and treated in a shorter time span.

- There is variety in what students produce: Students are asked to produce answers and solutions, but also, in a grade-appropriate way, arguments, explanations, diagrams, mathematical models, etc. In a way appropriate to the grade level, students are asked to answer questions or develop explanations about why a solution makes sense, how quantities are represented in expressions, and how elements of symbolic, diagrammatic, tabular, graphical and/or verbal representations correspond.

- Lessons are thoughtfully structured and support the teacher in leading the class through the learning paths at hand, with active participation by all students in their own learning and in the learning of their classmates. Teachers are supported in extending student explanations and modeling explanations of new methods. Lesson structure frequently calls for students to find solutions, explain their reasoning, and ask and answer questions about their reasoning as it concerns problems, diagrams, mathematical models, etc. Over time there is a rhythm back and forth between making sense of concepts and exercising for proficiency.

- There are separate teacher materials that support and reward teacher study, including:
  - Discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit.
  - Discussion of student ways of thinking with respect to important mathematical problems and concepts—especially anticipating the variety of student responses.
  - Guidance on interaction with students, mostly questions to prompt ways of thinking.
  - Guidance on lesson flow.
  - Discussion of desired mathematical behaviors being elicited among the students.

- The use of manipulatives follows best practices (see, e.g., *Adding It Up*, 2001):
  - *Manipulatives are faithful representations of the mathematical objects they represent*. For example, colored chips can be helpful in representing some features of rational numbers, but they do not provide particularly direct representations of all of the important mathematics. The opposite of the opposite of red isn't clearly blue, for example, and chips aren't particularly well suited as models for adding rational numbers that are not integers (for this, a number line model may be more appropriate).
  - *Manipulatives are connected to written methods.* "Research indicates that students' experiences using physical models to represent hundreds, tens, and ones can be effective *if* the materials help them think about how to combine quantities and, eventually, how these processes connect with written procedures." (*Adding It Up*, p. 198, emphasis in the original). For example, base-ten blocks are a reasonable *model* for adding within 1000, but not a reasonable *method* for doing so; nor are colored chips a reasonable *method* for adding integers. (Cf. standards 1.NBT.4, 1.NBT.6, 2.NBT.7, and 5.NBT.7; these are not the only places in the curriculum where connecting to a written method is important). The word "fluently" in particular as used in the Standards refers to fluency with a written or mental method, not a method using manipulatives or concrete representations.

- Materials are carefully reviewed by qualified individuals, whose names are listed, in an effort to ensure:
  - Freedom from mathematical errors[18]
  - Grade-level appropriateness

[18] Sometimes errors in materials are simple falsehoods, e.g., printing an incorrect answer to a problem. Other errors are more subtle, e.g., asking students to explain why something is so when it has been defined to be so.

  - Freedom from bias (for example, problem contexts that use culture-specific background knowledge do not assume readers from all cultures have that knowledge; simple explanations or illustrations or hints scaffold comprehension).
  - Freedom from unnecessary language complexity.

- The visual design isn't distracting or chaotic, or aimed at adult purchasers, but instead serves only to support young students in engaging thoughtfully with the subject.

- Support for English language learners is thoughtful and helps those learners to meet the same standards as all other students. Allowing English language learners to collaborate as they strive to learn and show understanding in an environment where English is used as the medium of instruction will give them the support they need to meet their academic goals. Materials can structure interactions in pairs, in small groups, and in the large group (or in any other group configuration), as some English language learners might be shy to share orally with the large group, but might not have problem sharing orally with a small group or in pairs. (In addition, when working in pairs, if ELLs are paired up with a student who shares the same language, they might choose to think about and discuss the problems in their first language, and then worry about doing it in English.)

Appendix

The Structure is the Standards

Essay by Phil Daro, William McCallum, and Jason Zimba, February 16, 2012[19]

You have just purchased an expensive Grecian urn and asked the dealer to ship it to your house. He picks up a hammer, shatters it into pieces, and explains that he will send one piece a day in an envelope for the next year. You object; he says "don't worry, I'll make sure that you get every single piece, and the markings are clear, so you'll be able to glue them all back together. I've got it covered." Absurd, no? But this is the way many school systems require teachers to deliver mathematics to their students; one piece (i.e. one standard) at a time. They promise their customers (the taxpayers) that by the end of the year they will have "covered" the standards.

In the Common Core State Standards, individual statements of what students are expected to understand and be able to do are embedded within domain headings and cluster headings designed to convey the structure of the subject. "The Standards" refers to all elements of the design—the wording of domain headings, cluster headings, and individual statements; the text of the grade level introductions and high school category descriptions; the placement of the standards for mathematical practice at each grade level.

The pieces are designed to fit together, and the standards document fits them together, presenting a coherent whole where the connections within grades and the flows of ideas across grades are as visible as the story depicted on the urn.

The analogy with the urn only goes so far; the Standards are a policy document, after all, not a work of art. In common with the urn, however, the Standards were crafted to reward study on multiple levels: from close inspection of details, to a coherent grasp of the whole. Specific phrases in specific standards are worth study and can carry important meaning; yet this meaning is also importantly shaped by the cluster heading in which the standard is found. At higher levels, domain headings give structure to the subject matter of the discipline, and the practices' yearly refrain communicates the varieties of expertise which study of the discipline develops in an educated person.

Fragmenting the Standards into individual standards, or individual bits of standards, erases all these relationships and produces a sum of parts that is decidedly less than the whole. Arranging the Standards into new categories also breaks their structure. It constitutes a remixing of the Standards. There is meaning in the cluster headings and domain names that is not contained in the numbered statements beneath them. Remove or reword those headings and you have changed the meaning of the Standards; you now have different Standards; you have not adopted the Common Core.

Sometimes a remix is as good as or better than the original. Maybe there are 50 remixes, adapted to the preferences of each individual state (although we doubt there are 50 good ones). Be that as it may, a remix of a work is not the same as the original work, and with 50 remixes we would not have common standards; we would have the same situation we had before the Common Core.

Why is paying attention to the structure important? Here is why: The single most important flaw in United States mathematics instruction is that the curriculum is "a mile wide and an inch deep." This finding comes from research comparing the U.S. curriculum to high performing countries, surveys of

[19] http://commoncoretools.me/2012/02/16/the-structure-is-the-standards/.

college faculty and teachers, the National Math Panel, the Early Childhood Learning Report, and all the testimony the CCSS writers heard. The standards are meant to be a blueprint for math instruction that is more focused and coherent. The focus and coherence in this blueprint is largely in the way the standards progress from each other, coordinate with each other and most importantly cluster together into coherent bodies of knowledge. Crosswalks and alignments and pacing plans and such cannot be allowed to throw away the focus and coherence and regress to the mile-wide curriculum.

Another consequence of fragmenting the Standards is that it obscures the progressions in the standards. The standards were not so much assembled out of topics as woven out of progressions. Maintaining these progressions in the implementation of the standards will be important for helping all students learn mathematics at a higher level. Standards are a bit like the growth chart in a doctor's office: they provide a reference point, but no child follows the chart exactly. By the same token, standards provide a chart against which to measure growth in children's knowledge. Just as the growth chart moves ever upward, so standards are written as though students learned 100% of prior standards. In fact, all classrooms exhibit a wide variety of prior learning each day. For example, the properties of operations, learned first for simple whole numbers, then in later grades extended to fractions, play a central role in understanding operations with negative numbers, expressions with letters and later still the study of polynomials. As the application of the properties is extended over the grades, an understanding of how the properties of operations work together should deepen and develop into one of the most fundamental insights into algebra. The natural distribution of prior knowledge in classrooms should not prompt abandoning instruction in grade level content, but should prompt explicit attention to connecting grade level content to content from prior learning. To do this, instruction should reflect the progressions on which the CCSSM are built. For example, the development of fluency with division using the standard algorithm in grade 6 is the occasion to surface and deal with unfinished learning with respect to place value. Much unfinished learning from earlier grades can be managed best inside grade level work when the progressions are used to understand student thinking.

This is a basic condition of teaching and should not be ignored in the name of standards. Nearly every student has more to learn about the mathematics referenced by standards from earlier grades. Indeed, it is the nature of mathematics that much new learning is about extending knowledge from prior learning to new situations. For this reason, teachers need to understand the progressions in the standards so they can see where individual students and groups of students are coming from, and where they are heading. But progressions disappear when standards are torn out of context and taught as isolated events.

High School Publishers' Criteria for the Common Core State Standards for Mathematics

> These Standards are not intended to be new names for old ways of doing business. They are a call to take the next step. … It is time to recognize that standards are not just promises to our children, but promises we intend to keep.
>
> –CCSSM, p. 5

The Common Core State Standards were developed through a bipartisan, state-led initiative spearheaded by state superintendents and state governors. The Standards reflect the collective expertise of hundreds of teachers, education researchers, mathematicians, and state content experts from across the country. The Standards build on the best of previous state standards plus a large body of evidence from international comparisons and domestic reports and recommendations to define a sturdy staircase to college and career readiness. Most states have now adopted the Standards to replace previous expectations in English language arts/literacy and mathematics.

Standards by themselves cannot raise achievement. Standards don't stay up late at night working on lesson plans, or stay after school making sure every student learns—it's teachers who do that. And standards don't implement themselves. Education leaders from the state board to the building principal must make the Standards a reality in schools. Publishers too have a crucial role to play in providing the tools that teachers and students need to meet higher standards. This document, developed by the CCSSM writing team with review and collaboration from partner organizations, individual experts, and districts using the K-8 criteria, aims to support faithful CCSSM implementation by providing criteria for materials aligned to the Common Core State Standards for Mathematics. States, districts, and publishers can use these criteria to develop, evaluate, or purchase aligned materials, or to supplement or modify existing materials to remedy weaknesses. Note that an update to this document is planned for Fall 2013.

How should alignment be judged? Traditionally, judging alignment has been approached as a crosswalking exercise. But crosswalking can result in large percentages of "aligned content" while obscuring the fact that the materials in question align not at all to the letter or the spirit of the standards being implemented. These criteria are an attempt to sharpen the alignment question and make alignment and misalignment more clearly visible.

These criteria were developed from the perspective that publishers and purchasers are equally responsible for fixing the materials market. Publishers cannot deliver focus to buyers who only ever complain about what has been left out, yet never complain about what has crept in. More generally, publishers cannot invest in quality if the market doesn't demand it of them nor reward them for producing it.

The High School Publishers' Criteria are structured as follows:

I. Focus, Coherence, and Rigor in the High School Standards
II. Criteria for Materials and Tools Aligned to the High School Standards
III. Appendix: "Lasting Achievements in K–8"

I. Focus, Coherence, and Rigor in the High School Standards

> This finding that postsecondary instructors target fewer skills as being of high importance is consistent with recent policy statements and findings raising concerns that some states require too many standards to be taught and measured, rather than focusing on the most important state standards for students to attain. …
>
> Because the postsecondary survey results indicate that a more rigorous treatment of fundamental content knowledge and skills needed for credit-bearing college courses would better prepare students for postsecondary school and work, states would likely benefit from examining their state standards and, where necessary, reducing them to focus only on the knowledge and skills that research shows are essential to college and career readiness and postsecondary success. …
>
> —*ACT National Curriculum Survey 2009*

> …[B]ecause conventional textbook coverage is so fractured, unfocused, superficial, and unprioritized, there is no guarantee that most students will come out knowing the essential concepts of algebra.
>
> –Wiggins, 2012[1]

For years national reports have called for greater focus in U.S. mathematics education. TIMSS and other international studies have concluded that mathematics education in the United States is a mile wide and an inch deep. A mile-wide inch-deep curriculum translates to less time per topic. Less time means less depth and moving on without many students. In high-performing countries, strong foundations are laid and then further knowledge is built on them; the design principle in those countries is focus with coherent progressions. The U.S. has lacked such discipline and patience.

There is evidence that state standards have become somewhat more focused over the past decade. But in the absence of standards shared across states, instructional materials have not followed suit. Moreover, prior to the Common Core, state standards were making little progress in terms of coherence: states were not fueling achievement by organizing math so that the subject makes sense.

With the advent of the Common Core, a decade's worth of recommendations for greater focus and coherence finally have a chance to bear fruit. Focus and coherence are the two major evidence-based design principles of the Common Core State Standards for Mathematics.[2] These principles are meant to fuel greater achievement in a deep and rigorous curriculum, one in which students acquire conceptual understanding, procedural skill and fluency, and the ability to apply mathematics to solve problems and formulate mathematical models. Thus, the implications of the standards for mathematics education could be summarized briefly as follows:

[1] From http://grantwiggins.wordpress.com/2012/02/01/a-postscript-to-my-comment-about-kids-having-trouble-with-the-distributive-property.

[2] For some of the sources of evidence consulted during the standards development process, see pp. 91–93 of CCSSM.

Focus: focus strongly where the standards focus

Coherence: think across grades/courses, and link to major topics in each course

Rigor: in major topics, pursue with equal intensity

- conceptual understanding,
- procedural skill and fluency, and
- applications

Focus

Focus in high school is important in order to prepare students for college and careers. National surveys have repeatedly concluded that postsecondary instructors value greater mastery of a smaller set of prerequisites over shallow exposure to a wide array of topics, so that students can build on what they know and apply what they know to solve substantial problems. A college-ready curriculum including all of the standards without a (+) symbol in High School should devote the majority of students' time to building the particular knowledge and skills that are most important as prerequisites for a wide range of college majors, postsecondary programs, and careers.

Coherence

Coherence is about making math make sense. Mathematics is not a list of disconnected tricks or mnemonics. It is an elegant subject in which powerful knowledge results from reasoning with a small number of principles.[3] A special character of the mile-wide inch-deep problem in high school is that there are often too many separately memorized techniques, with no overall structure to tie them altogether. Taking advantage of coherence can reduce clutter in the curriculum. For example, if students can see that the distance formula and the trigonometric identity $\sin^2(t) + \cos^2(t) = 1$ are both manifestations of the Pythagorean theorem, they have an understanding that helps them reconstruct these formulas and not just memorize them temporarily. In order to help teachers and curriculum developers see coherence, the High School content standards in the Algebra and Function categories are arranged under headings like "Seeing Structure in Expressions" and Building Functions."

"Fragmenting the Standards into individual standards, or individual bits of standards … produces a sum of parts that is decidedly less than the whole" (Appendix from the K-8 Publishers' Criteria). Breaking down standards poses a threat to the focus and coherence of the Standards. It is sometimes helpful or necessary to isolate a part of a compound standard for instruction or assessment, but not always, and not at the expense of the Standards as a whole. A drive to break the Standards down into 'microstandards' risks making the checklist mentality even worse than it is today. Microstandards would also make it easier for microtasks and microlessons to drive out extended tasks and deep learning. Finally, microstandards could allow for micromanagement: Picture teachers and students

[3] For some remarks by Phil Daro on this theme, see the excerpt at http://vimeo.com/achievethecore/darofocus, and/or the full video available at http://commoncoretools.me/2012/05/21/phil-daro-on-learning-mathematics-through-problem-solving/.

being held accountable for ever more discrete performances. If it is bad today when principals force teachers to write the standard of the day on the board, think of how it would be if every single standard turns into three, six, or a dozen or more microstandards. If the Standards are like a tree, then microstandards are like twigs. You can't build a tree out of twigs, but you can use twigs as kindling to burn down a tree.

Rigor

To help students meet the expectations of the Standards, educators will need to pursue, with equal intensity, three aspects of rigor: (1) conceptual understanding, (2) procedural skill and fluency, and (3) applications. The word "rigor" isn't a code word for just one of these three; rather, it means equal intensity in all three. The word "understand" is used in the Standards to set explicit expectations for conceptual understanding, and the phrase "real-world problems" and the star symbol (⋆) are used to set expectations and flag opportunities for applications and modeling. (Modeling is a Standard for Mathematical Practice as well as a content category in High School.) The High School content standards do not set explicit expectations for fluency, but fluency is important in high school mathematics.

The Standards for Mathematical Practice set expectations for using mathematical language and representations to reason, solve problems, and model. These expectations are related to fluency: precision in the use of language, seeing structure in expressions, and reasoning from the concrete to the abstract correspond to high orders of fluency in the acquisition of mathematical language, especially in the form of symbolic expressions and graphs. High School mathematics builds new and more sophisticated fluencies on top of the earlier fluencies from K-8 that centered on numerical calculation.

To date, curricula have not always been balanced in their approach to these three aspects of rigor. Some curricula stress fluency in computation without acknowledging the role of conceptual understanding in attaining fluency and making algorithms more learnable. Some stress conceptual understanding without acknowledging that fluency requires separate classroom work of a different nature. Some stress pure mathematics without acknowledging that applications can be highly motivating for students and that a mathematical education should make students fit for more than just their next mathematics course. At another extreme, some curricula focus on applications, without acknowledging that math doesn't teach itself.

The Standards do not take sides in these ways, but rather they set high expectations for all three components of rigor in the major work of each grade. Of course, that makes it necessary that we focus—otherwise we are asking teachers and students to do more with less.

II. Criteria for Materials and Tools Aligned to the High School Standards

> Students deserve pathways to college designed as preparation, not as obstacle courses….
>
> —Daro, in the 2008 IAS-Carnegie Commission Report

Using the criteria

One approach to developing a document such as this one would have been to develop a separate criterion for each mathematical topic approached in deeper ways in the Standards, a separate criterion for each of the Standards for Mathematical Practice, etc. It is indeed necessary for textbooks to align to the Standards in detailed ways. However, enumerating those details here would have led to a very large number of criteria. Instead, the criteria use the Standards' focus, coherence, and rigor as the main themes. In addition, this document includes a section on indicators of quality in materials and tools, as well as a criterion for the mathematics and statistics in instructional resources for science and technical subjects. Note that the criteria apply to materials and tools, not to teachers or teaching.

The criteria can be used in several ways:

- *Informing purchases and adoptions*. Schools or districts evaluating materials and tools for purchase can use the criteria to test claims of alignment. States reviewing materials and tools for adoption can incorporate these criteria into their rubrics.
- *Working with previously purchased materials*. Most existing materials and tools likely fail to meet one or more of these criteria, even in cases where alignment to the Standards is claimed. But the pattern of failure is likely to be informative. States and districts need not wait for "the perfect book" to arrive, but can use the criteria now to carry out a thoughtful plan to modify or combine existing resources in such a way that students' actual learning experiences approach the focus, coherence, and rigor of the Standards. Publishers can develop innovative materials and tools specifically aimed at addressing identified weaknesses of widespread textbooks or programs.
- *Guiding the development of materials*. Publishers currently modifying their programs and designers of new materials and tools can use the criteria to shape these projects.
- *Professional development.* The criteria can be used to support activities that help communicate the shifts in the Standards. For example, teachers can analyze existing materials to reveal how they treat the major work of the grade, or assess how well materials attend to the three aspects of rigor, or determine which problems are key to developing the ideas and skills of the grade.

In all these cases, it is recommended that the criteria for focus be attended to first. By attending first to focus, coherence and rigor may realistically develop.

The Standards do not dictate the acceptable forms of instructional resources—to the contrary, they are a historic opportunity to raise student achievement through innovation. Materials and tools of very different forms can meet the criteria, including workbooks, multi-year programs, and targeted interventions. For example, materials and tools that treat a single important topic or domain might be valuable to consider.

Alignment for digital and online materials and tools. Digital materials offer substantial promise for conveying mathematics in new and vivid ways and customizing learning. In a digital or online format, diving deeper and reaching back and forth across the grades is easy and often useful. That can enhance focus and coherence. But if such capabilities are poorly designed, focus and coherence could also be diminished. In a setting of dynamic content navigation, the navigation experience must preserve the coherence of Standards clusters and progressions while allowing flexibility and user control: Users can readily see where they are with respect to the structure of the curriculum and its basis in the Standards' domains, clusters and standards.

Digital materials that are smaller than a course can be useful. The smallest granularity for which they can be properly evaluated is a cluster of standards. These criteria can be adapted for clusters of standards or progressions within a cluster, but might not make sense for isolated standards.

Special populations. As noted in the Standards (p. 4),

> All students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post-school lives. The Standards should be read as allowing for the widest possible range of students to participate fully from the outset, along with appropriate accommodations to ensure maximum participation of students with special education needs.

Thus, **an over-arching criterion** for materials and tools is that they provide supports for special populations such as students with disabilities, English language learners,[4] and gifted students. Designers of materials should consult accepted guidelines for providing these supports.

*

For the sake of brevity, the criteria sometimes refer to parts of the Standards using abbreviations such as A.REI.10 (an individual content standard), MP.8 (a practice standard), F.BF.A (a cluster heading), or N.RN (a domain heading). Readers of the document should have a copy of the Standards available in order to refer to the indicated text in each case.

A note about high school courses: The High School Standards do not mandate the sequence or organization of high school courses. However, curriculum materials and tools based on a course sequence should ensure that the sequence of the courses does not break apart the coherence of the mathematics while meeting focus and rigor as well.

[4] Slides from a brief and informal presentation by Phil Daro about mathematical language and English language learners can be found at http://db.tt/VARV3ebl.

Criteria for Materials and Tools Aligned to the Standards

1. **Focus on Widely Applicable Prerequisites: In any single course, students using the materials as designed spend the majority of their time developing knowledge and skills that are widely applicable as prerequisites for postsecondary education**. Comprehensive materials coherently include all of the standards in High School without a (+) symbol, with a majority of the time devoted to building the particular knowledge and skills that are most *applicable and prerequisite* to a wide range of college majors and postsecondary programs. Materials developed to prepare students for STEM majors ensure that STEM-intending students learn all of the prerequisites in the Standards necessary for calculus and other advanced courses.

   Table 1 lists clusters and standards with relatively wide applicability across a range of postsecondary work. Table 1 is a **subset** of the material students must study to be college and career ready (CCSSM, pp. 57, 84). But to meet this criterion, materials must give especially careful treatment to the domains, clusters, and standards in Table 1, including their interconnections and their applications—amounting to a majority of students' time.

   This criterion also applies to digital or online materials without fixed pacing plans. Such tools are explicitly designed for focus, so that students spend the majority of their time on widely applicable work.

Table 1. Content From CCSSM Widely Applicable as Prerequisites for a Range of College Majors, Postsecondary Programs and Careers*

Number and Quantity	Algebra	Functions	Geometry	Statistics and Probability	Applying Key Takeaways from Grades 6–8**
N-RN, Real Numbers: Both clusters in this domain contain widely applicable prerequisites. **N-Q★, Quantities**: Every standard in this domain is a widely applicable prerequisite. Note, this domain is especially important in the high school content standards overall as a widely applicable prerequisite.	**Every domain in this category** contains widely applicable prerequisites.[o] Note, the **A-SSE** domain is especially important in the high school content standards overall as a widely applicable prerequisite.	**F-IF, Interpreting Functions**: Every cluster in this domain contains widely applicable prerequisites.[o] Additionally, standards **F-BF.1** and **F-LE.1** are relatively important within this category as widely applicable prerequisites.	**The following standards and clusters** are relatively important within this category as widely applicable prerequisites: **G-CO.1** **G-CO.9** **G-CO.10** **G-SRT.B** **G-SRT.C** Note, the above standards in turn have learning prerequisites within the Geometry category, including: G-CO.A G-CO.B G-SRT.A	**The following standards** are relatively important within this category as widely applicable prerequisites: **S-ID.2** **S-ID.7** **S-IC.1** Note, the above standards in turn have learning prerequisites within 6-8.SP.	**Solving problems at a level of sophistication appropriate to high school by**: • Applying ratios and proportional relationships. • Applying percentages and unit conversions, e.g., in the context of complicated measurement problems involving quantities with derived or compound units (such as mg/mL, kg/m^3, acre-feet, etc.). • Applying basic function concepts, e.g., by interpreting the features of a graph in the context of an applied problem. • Applying concepts and skills of geometric measurement e.g., when analyzing a diagram or schematic. • Applying concepts and skills of basic statistics and probability (see 6-8.SP). • Performing rational number arithmetic fluently.

A note about the codes: Letter codes (A, B, C) are used to denote cluster headings. For example, G-SRT.B refers to the *second* cluster heading in the domain G-SRT, "Prove theorems using similarity" (pp. 77 of CCSSM).

* Informed by postsecondary survey data in Conley *et al.* (2011), "Reaching the Goal: The Applicability and Importance of the Common Core State Standards to College and Career Readiness," http://www.epiconline.org/publications/documents/ReachingtheGoal-FullReport.pdf.

** See CCSSM, p. 84: "…some of the highest priority content for college and career readiness comes from Grades 6-8. This body of material includes powerfully useful proficiencies such as applying ratio reasoning in real-world and mathematical problems, computing fluently with positive and negative fractions and decimals, and solving real-world and mathematical problems involving angle measure, area, surface area, and volume."

★ Modeling star (present in CCSSM)

[o] Only the standards without a (+) sign are being cited here.

2. **Rigor and Balance: Materials and tools reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by (all of the following, in the case of comprehensive materials; at least one of the following for supplemental or targeted resources):**

   a. **Developing students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings.** Materials amply feature high-quality conceptual problems and questions. This includes brief conceptual problems with low computational difficulty (e.g., 'What is the maximum value of the function $f(t) = 5 - t^2$?'); brief conceptual questions (e.g., 'Is $\sqrt{2}$ a polynomial? How about $\frac{1}{2}(x + \sqrt{2}) + \frac{1}{2}(-x + \sqrt{2})$?'); and problems that involve identifying correspondences across different mathematical representations of quantitative relationships.[5] Classroom discussion about such problems can offer opportunities to engage in mathematical practices such as constructing and critiquing arguments (MP.3). In the materials, conceptual understanding is attended to most thoroughly in those places in the content standards where explicit expectations are set for understanding or interpreting. Such problems and activities center on fine-grained mathematical concepts, such as the correspondence between an equation and its graph, solving equations as a process of answering a question, analyzing a nonlinear equation $f(x) = g(x)$ by graphing f and g on a single set of axes, etc. Conceptual understanding of key mathematical concepts is thus distinct from applications or fluency work, and these three aspects of rigor must be balanced as indicated in the Standards.

   b. **Giving attention throughout the year to procedural skill and fluency**. In higher grades, algebra is the language of much of mathematics. Like learning any language, we learn by using it. Sufficient practice with algebraic operations is provided so as to make realistic the attainment of the Standards as a whole; for example, fluency in algebra can help students get past the need to manage computational details so that they can observe structure (MP.7) and express regularity in repeated reasoning (MP.8).[6] Progress toward procedural skill and fluency is interwoven with students' developing conceptual understanding of the operations in question. Manipulatives and concrete representations are connected to the written and symbolic methods to which they refer. As well, purely procedural problems and exercises are present. These include cases in which opportunistic strategies are valuable, as in solving $(3x - 2)^2 = 6x - 4$, as well as an ample number of generic cases so that students can learn and practice efficient and general methods (e.g., solving $c + 8 - c^2 = 3(c - 1)^2 - 5$). Methods and algorithms are general and based on principles of mathematics, not mnemonics or tricks.

[5] Note that for ELL students, multiple representations also serve as multiple access paths.

[6] See the PARCC Model Content Frameworks for Mathematics for additional examples of specific fluency recommendations: http://www.parcconline.org/mcf/mathematics/parcc-model-content-frameworks-browser.

c. **Allowing teachers and students using the materials as designed to spend sufficient time working with engaging applications/modeling.** Materials include an ample number of contextual problems that develop the mathematics of the course, afford opportunities for practice, and engage students in problem solving. Materials also include problems in which students must make their own assumptions or simplifications in order to model a situation mathematically. Applications take the form of problems to be worked on individually as well as classroom activities centered on application scenarios. Materials attend thoroughly to those places in the content standards where expectations for multi-step and real-world problems are explicit. Students learn to use the content knowledge and skills specified in the content standards in applications, with particular stress on applying widely applicable work. Problems and activities show a sensible tradeoff between the sophistication of the problem and the difficulty or newness of the content knowledge the student is expected to bring to bear.

Note that modeling is a mathematical practice in every grade, but in high school it is also a content category (CCSSM, pp. 72, 73); therefore, modeling is prominent and enhanced in high school materials, with more elements of the modeling cycle present (CCSSM, p. 72). Finally, materials include an ample number of high-school-level problems that involve applying key takeaways from grades K–8; see Table 1.[7] For example, a problem in which students use reference data to determine the energy cost of different fuels might draw on proportional relationships, unit conversion, and other skills that were first introduced in the middle grades, yet still be a high-school level problem because of the strategic competence required.[8]

Additional aspects of the Rigor and Balance Criterion:
(1) *The three aspects of rigor are not always separate in materials.* (Conceptual understanding and fluency go hand in hand; fluency can be practiced in the context of applications; and brief applications can build conceptual understanding.)

(2) *Nor are the three aspects of rigor always together in materials.* (Fluency requires dedicated practice to that end. Rich applications cannot always be shoehorned into the mathematical topic of the day. And conceptual understanding will not always come along for free unless explicitly taught.)

(3) Digital and online materials with no fixed lesson flow or pacing plan are not designed for superficial browsing but rather should be designed to instantiate the Rigor and Balance criterion.

[7] From CCSSM, p. 84: "The evidence concerning college and career readiness shows clearly that the knowledge, skills, and practices important for readiness include a great deal of mathematics prior to the boundary defined by (+) symbols in these standards. Indeed, some of the highest priority content for college and career readiness comes from Grades 6-8. This body of material includes powerfully useful proficiencies such as applying ratio reasoning in real-world and mathematical problems, computing fluently with positive and negative fractions and decimals, and solving real-world and mathematical problems involving angle measure, area, surface area, and volume."

[8] For more on the role that skills first introduced in the middle grades continue to play in high school and beyond, see Appendix, "Lasting Achievements in K–8."

3. **Consistent Content: Materials are consistent with the content in the Standards, by (all of the following):**

   a. **Basing courses on the content specified in the Standards.** Content in materials matches well with the mathematics specified in the Standards for Mathematical Content. (This does not require the table of contents in a book to be a replica of the content standards.) Any discrepancies in high school content enhance the required learning and are clearly aimed at helping students meet the Standards as written, rather than setting up competing requirements or effectively rewriting the standards. Comprehensive materials do not introduce gaps in learning by omitting any content without a (+) symbol that is specified in the Standards.

      Digital and online materials that allow students and/or teachers to navigate content across course levels promote coherence by tracking the structure in the Standards. For example, such materials might link problems and concepts so that teachers and students can browse a cluster.

   b. **Giving all students extensive work with course-level problems.** Previous-grades review and previous-course review is clearly identified as such to the teacher, and teachers and students can see what their specific responsibility is for the current year. The basic model for course-to-course progression involves students making tangible progress during each given course, as opposed to substantially reviewing then marginally extending from previous grades. Differentiation is sometimes necessary, but materials often manage unfinished learning from earlier grades and courses inside course-level work, rather than setting aside course-level work to reteach earlier content. Unfinished learning from earlier grades and courses is normal and prevalent; it should not be ignored nor used as an excuse for cancelling course level work and retreating to below-level work. (For example, the equation of a circle is an occasion to surface and deal with unfinished learning about the correspondence between equations and their graphs.) Likewise, students who are “ready for more” can be provided with problems that take course-level work in deeper directions, not just exposed to later courses’ topics.

   c. **Relating course level concepts explicitly to prior knowledge from earlier grades and courses.** The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge. Course-level problems in the materials often involve application of knowledge learned in earlier grades and courses. Although students may well have learned this earlier content, they have not learned how it extends to new mathematical situations and applications. They learn basic ideas of functions, for example, and then extend them to deal explicitly with domains. They learn about expressions as recording calculations with numbers, and then extend them to symbolic objects in their own right. The materials make these extensions of prior knowledge explicit. Thus, materials routinely integrate new knowledge with knowledge from earlier grades.

4. **Coherent Connections: Materials foster coherence through connections in a single course, where appropriate and where required by the Standards, by (all of the following):**

   a. **Including learning objectives that are visibly shaped by CCSSM cluster and domain headings.** Cluster headings and domain headings in the High School standards function like topic sentences in a paragraph in that they state the point of, and lend additional meaning to, the individual content standards that follow. Cluster or domain headings in High School also sometimes signal important content-practice connections, e.g., "Seeing Structure in Expressions" connects expressions to MP.7 and "Reasoning with Equations and Inequalities" connects solving to MP.3. Hence an important criterion for coherence is that some or many of the learning objectives in the materials are visibly shaped by CCSSM cluster or domain headings. Materials do not simply treat the Standards as a sum of individual content standards and individual practice standards.

   b. **Including problems and activities that serve to connect two or more clusters in a domain, two or more domains in a category, or two or more categories, in cases where these connections are natural and important**. If instruction only operates at the individual standard level, or even at the individual cluster level, then some important connections will be missed. For example, creating equations (see A-CED) isn't very valuable in itself unless students can also solve them (see A-REI). Materials do not invent connections not explicit in the standards without first attending thoroughly to the connections that are required explicitly in the Standards (e.g., A-REI.11 connects functions to equations in a graphical context.) Not everything in the standards is naturally well connected or needs to be connected (e.g., systems of linear equations aren't well thought of in relation to functions, and connecting these two things is incoherent). Instead, connections in materials are mathematically natural and important (e.g., work with quadratic functions and work with quadratic equations), reflecting plausible direct implications of what is written in the Standards without creating additional requirements.

   c. **Preserving the focus, coherence, and rigor of the Standards even when targeting specific objectives**. Sometimes a content standard is a compound statement, such as 'Do X and do Y.' More intricate compound forms also exist. (For example, see 3.OA.8.) It is sometimes helpful or necessary to isolate a part of a compound standard, but not always, and not at the expense of the Standards as a whole. Digital or print materials or tools are not aligned if they break down the Standards in such a way as to detract from focus, coherence, or rigor. This criterion applies to student-facing and teacher-facing materials, as well as to architectural documents or digital platforms that are meant to guide the development of student-facing or teacher-facing materials.

5. **Practice-Content Connections: Materials meaningfully connect content standards and practice standards.** "Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction." (CCSSM, p. 8.) Over the course of any given year of instruction, each mathematical practice standard is meaningfully present in the form of activities or problems that stimulate students to develop the habits of mind described in the practice standards. These practices are well-grounded in the content standards.

The practice standards are not just processes with ephemeral products (such as conversations). They also specify a set of products students are supposed to learn how to produce. Thus, students are asked to produce answers and solutions but also, in a course-appropriate way, arguments, explanations, diagrams, mathematical models, etc.

Materials are accompanied by an analysis, aimed at evaluators, of how the authors have approached each practice standard in relation to content within each applicable course and provide suggestions for delivering content in ways that help students meet the practice standards in course-appropriate ways. Materials tailor the connections to the content of the grade and to course-level-appropriate student thinking. Materials also include teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development.

6. **Focus and Coherence via Practice Standards: Materials promote focus and coherence by connecting practice standards with content that is emphasized in the Standards**. Content and practice standards are not connected mechanistically or randomly, but instead support focus and coherence. Examples: Materials connect looking for and making use of structure (MP.7) with structural themes emphasized in the standards, such as purposefully transforming expressions, linking the structure of an expression to a feature of the its context, grasping the behavior of a function defined by an expression, etc.; materials use looking for and expressing regularity in repeated reasoning (MP.8) to shed light on algebra and functions, e.g., by summarizing repeated numerical examples in the form of equations or in the form of recursive expressions that define functions. These and other practices can support focus—for example, by moving students from repeated reasoning with the slope formula to writing equations for straight lines in various forms, rather than relying on memorizing all those forms in isolation.

7. **Careful Attention to Each Practice Standard: Materials attend to the full meaning of each practice standard.** For example, MP.1 does not say, "Solve problems." Or "Make sense of problems." Or "Make sense of problems and solve them." It says "Make sense of problems and persevere in solving them." Thus, students using the materials as designed build their perseverance in course-appropriate ways by occasionally solving problems that require them to persevere to a solution beyond the point when they would like to give up.[9] MP.5 does not say, "Use tools." Or "Use appropriate tools." It says "Use appropriate tools strategically." Thus, materials include problems that reward students' strategic decisions about how to use tools, or about whether to use them at all. MP.8 does not say, "Extend patterns." Or "Engage in repetitive reasoning." It says "Look for and express regularity in repeated reasoning." Thus, it is not enough for students to extend patterns or perform repeated calculations. Those repeated calculations must lead to an insight (e.g., "When I substitute $x - k$ for x in a function $f(x)$, where k is any

[9] Curriculum designers might consider how research on motivation and character development has value for designing tools that develop students' perseverance and other mathematical practices. For more information, see, e.g., Dweck (2008), "Mindsets and Math" (http://opportunityequation.org/teaching-and-leadership/mindsets-math-science-achievement); Duckworth et al. (2007), "Grit: Perseverance and Passion for Long-Term Goals" (http://www.sas.upenn.edu/~duckwort/images/publications/DuckworthPetersonMatthewsKelly_2007_PerseveranceandPassion.pdf); and http://www.psychologicalscience.org/index.php/publications/observer/2013/april-13/true-grit.html.

constant, the graph of the function shifts *k* units to the right."). The analysis for evaluators explains how the full meaning of each practice standard has been attended to in the materials.

8. **Emphasis on Mathematical Reasoning: Materials support the Standards' emphasis on mathematical reasoning, by (all of the following):**

   a. **Prompting students to construct viable arguments and critique the arguments of others concerning key course-level mathematics that is detailed in the content standards (cf. MP.3).** Materials provide sufficient opportunities for students to reason mathematically and express reasoning through classroom discussion, written work and independent thinking. Reasoning is not confined to optional or avoidable sections of the materials but is inevitable when using the materials as designed. Materials do not approach reasoning as a generalized imperative, but instead create opportunities for students to reason *about* key mathematics detailed in the content standards. Materials thus attend first and most thoroughly to those places in the content standards setting explicit expectations for explaining, justifying, showing, or proving. Students are asked to critique given arguments, e.g., by explaining under what conditions, if any, a mathematical statement is valid.[10] Teachers and students using the materials as designed spend significant classroom time communicating reasoning (by constructing viable arguments and critiquing the arguments of others concerning key grade-level mathematics)—recognizing that learning mathematics also involves time spent working on applications and practicing procedures. Materials provide examples of student explanations and arguments (e.g., fictitious student characters might be portrayed). Materials follow accepted norms of mathematical reasoning, such as distinguishing between definitions and theorems, not asking students to explain why something is true when it has been defined to be so, etc.

   b. **Engaging students in problem solving as a form of argument**. Materials attend thoroughly to those places in the content standards that explicitly set expectations for multi-step problems; multi-step problems are not scarce in the materials. Some or many of these problems require students to devise a strategy autonomously. Sometimes the goal is the final answer alone (cf. MP.1); sometimes the goal is to lay out the solution as a sequence of well justified steps. In the latter case, the solution to a problem takes the form of a cogent argument that can be verified and critiqued, instead of a jumble of disconnected steps with a scribbled answer indicated by drawing a circle around it (cf. MP.6).

   c. **Explicitly attending to the specialized language of mathematics.** Mathematical reasoning involves specialized language. Therefore, materials and tools address the development of mathematical and academic language associated with the standards. The language of argument, problem solving and mathematical explanations are taught rather than assumed. Correspondences between language and multiple mathematical representations including

[10] As students progress through the grades, their production and comprehension of mathematical arguments evolves from informal and concrete toward more formal and abstract. In early grades students employ imprecise expressions which with practice over time become more precise and viable arguments in later grades. Indeed, the use of imprecise language is part of the process in learning how to make more precise arguments in mathematics. Ultimately, conversation about arguments helps students transform assumptions into explicit and precise claims.

diagrams, tables, graphs, and symbolic expressions are identified in material designed for language development. Note that variety in formats and types of representations—graphs, drawings, images, and tables in addition to text—can relieve some of the language demands that English language learners face when they have to show understanding in math.

The text is considerate of English language learners, helping them to access challenging mathematics and helping them to develop grade level language. For example, materials might include annotations to help with comprehension of words, sentences and paragraphs, and give examples of the use of words in other situations. Modifications to language do not sacrifice the mathematics, nor do they put off necessary language development.

A criterion for the mathematics and statistics in materials for science and technical subjects

Lack of alignment in these subjects could have the effect of compromising the focus and coherence of the mathematics Standards. Instead of reinforcing concepts and skills already carefully introduced in math class, teachers of science and technical subjects would have to teach this material in stopgap fashion.

[S] **Consistency with CCSSM: Materials for science and technical subjects are consistent with CCSSM.** High school materials for these subjects build coherence across the curriculum and support college and career readiness by integrating key mathematics into the disciplines, particularly simple algebra in the physical sciences and technical subjects, and basic statistics in the life sciences and technical subjects (see Table 2 for a possible picture along these lines).

Table 2

Algebraic competencies integrated into materials for high school science and technical subjects	**Statistical competencies integrated into materials for high school science and technical subjects**
• Working with positive and negative numbers (including fractions) to solve problems • Using variables and writing and solving equations to solve problems • Recognizing and using proportional relationships to solve problems • Working with functions and their graphs to solve problems	• Working with distributions and measures of center and variability • Working with simple probability and random sampling • Working with bivariate categorical data (e.g., two-way tables) • Working with bivariate measurement data (e.g., scatter plots) and linear models

Indicators of quality in instructional materials and tools for mathematics

The preceding criteria express important dimensions of alignment to the Standards. The following are some additional dimensions of quality that materials and tools should exhibit in order to give teachers and students the tools they need to meet the Standards:

- Problems in the materials are worth doing:
  - The underlying design of the materials distinguishes between *problems* and *exercises*. Whatever specific terms are used for these two types, in essence the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Problems are problems because students haven't yet learned how to solve them; students are learning from solving them. Materials use problems to teach mathematics. Lessons have a few well designed problems that progressively build and extend understanding. Practice exercises that build fluency are easy to recognize for their purpose. Other exercises require longer chains of reasoning.
  - Each problem or exercise has a purpose—whether to teach new knowledge, bring misconceptions to the surface, build skill or fluency, engage the student in one or several mathematical practices, or simply present the student with a fun puzzle.
  - Assignments aren't haphazardly designed. Exercises are given to students in intentional sequences—for example, a sequence leading from prior knowledge to new knowledge, or a sequence leading from concrete to abstract, or a sequence that leads students through a number of important cases, or a sequence that elicits new understanding by inviting students to see regularity in repeated reasoning. Lessons with too many problems make problems a commodity; they forbid concentration, and they make focus and coherence unlikely.
  - The language in which problems are posed is carefully considered. Note that mathematical problems posed using only ordinary language are a special genre of text that has conventions and structures needing to be learned. The language used to pose mathematical problems should evolve with the grade level and across mathematics content.

- There is variety in the pacing and grain size of content coverage.
  - Materials that devote roughly equal time to each content standard do not allow teachers and students to focus where necessary.
  - The Standards are not written at uniform grain size. Sometimes an individual content standard will require days of work, possibly spread over the entire year, while other standards could be sufficiently addressed when grouped with other standards and treated in a shorter time span.

- There is variety in what students produce: Students are asked to produce answers and solutions, but also, in a course-appropriate way, arguments, explanations, diagrams, mathematical models, etc. In a way appropriate to the grade level, students are asked to answer questions or develop explanations about why a solution makes sense, how quantities are represented in expressions, and how elements of symbolic, diagrammatic, tabular, graphical and/or verbal representations correspond.

- Lessons are thoughtfully structured and support the teacher in leading the class through the learning paths at hand, with active participation by all students in their own learning and in the learning of their classmates. Teachers are supported in extending student explanations and modeling explanations of new methods. Lesson structure frequently calls for students to find solutions, explain their reasoning, and ask and answer questions about their reasoning as it concerns problems, diagrams, mathematical models, etc. Over time there is a rhythm back and forth between making sense of concepts and exercising for proficiency.

- There are separate teacher materials that support and reward teacher study, including:
  - Discussion of the mathematics of the units and the mathematical point of each lesson as it relates to the organizing concepts of the unit.
  - Discussion of student ways of thinking with respect to important mathematical problems and concepts—especially anticipating the variety of student responses.
  - Guidance on interaction with students, mostly questions to prompt ways of thinking.
  - Guidance on lesson flow.
  - Discussion of desired mathematical behaviors being elicited among the students.

- The use of manipulatives follows best practices (see, e.g., *Adding It Up*, 2001):
  - *Manipulatives are faithful representations of the mathematical objects they represent*. For example, algebra tiles can be helpful in representing some features of algebra, but they do not provide particularly direct representations of all of the important mathematics. For example, tiles aren't particularly well suited as models for polynomials having non-integer coefficients and/or high degree.
  - *Manipulatives are connected to written methods*. For example, algebra tiles are a reasonable *model* of certain features of algebra, but not a reasonable *method* for doing algebra. Procedural skill and fluency refers a written or mental method, not a method using manipulatives or concrete representations.

- Materials are carefully reviewed by qualified individuals, whose names are listed, in an effort to ensure:
  - Freedom from mathematical errors[11]

[11] Sometimes errors in materials are simple falsehoods, e.g., printing an incorrect answer to a problem; other errors are more subtle, e.g., asking students to explain why something is so when it has been defined to be so.

  - Age-appropriateness
  - Freedom from bias (for example, problem contexts that use culture-specific background knowledge do not assume readers from all cultures have that knowledge; simple explanations or illustrations or hints scaffold comprehension).
  - Freedom from unnecessary language complexity.

- The visual design isn't distracting or chaotic, or aimed at adult purchasers, but instead serves only to support young students in engaging thoughtfully with the subject.

- Support for English language learners is thoughtful and helps those learners to meet the same standards as all other students. Allowing English language learners to collaborate as they strive to learn and show understanding in an environment where English is used as the medium of instruction will give them the support they need to meet their academic goals. Materials can structure interactions in pairs, in small groups, and in the large group (or in any other group configuration), as some English language learners might be shy to share orally with the large group, but might not have problem sharing orally with a small group or in pairs. (In addition, when working in pairs, if ELLs are paired up with a student who shares the same language, they might choose to think about and discuss the problems in their first language, and then worry about doing it in English.)

Appendix

"Lasting Achievements in K–8"

Essay by Jason Zimba, July 6, 2011[12]

Most of the K–8 content standards trace explicit steps A → B → C in a progression. This can sometimes make it seem as if any given standard only exists for the sake of the next one in the progression. There are, however, culminating or capstone standards (I sometimes call them "pinnacles"), most of them in the middle grades, that remain important far beyond the particular grade level in which they appear. This is signaled in the Standards themselves (p. 84):

> The evidence concerning college and career readiness shows clearly that the knowledge, skills, and practices important for readiness include a great deal of mathematics prior to the boundary defined by (+) symbols in these standards. Indeed, some of the highest priority content for college and career readiness comes from Grades 6–8. This body of material includes powerfully useful proficiencies such as applying ratio reasoning in real-world and mathematical problems, computing fluently with positive and negative fractions and decimals, and solving real-world and mathematical problems involving angle measure, area, surface area, and volume. Because important standards for college and career readiness are distributed across grades and courses, systems for evaluating college and career readiness should reach as far back in the standards as Grades 6–8. It is important to note as well that cut scores or other information generated by assessment systems for college and career readiness should be developed in collaboration with representatives from higher education and workforce development programs, and should be validated by subsequent performance of students in college and the workforce.

One example of a standard that refers to skills that remain important well beyond middle school is 7.EE.3:

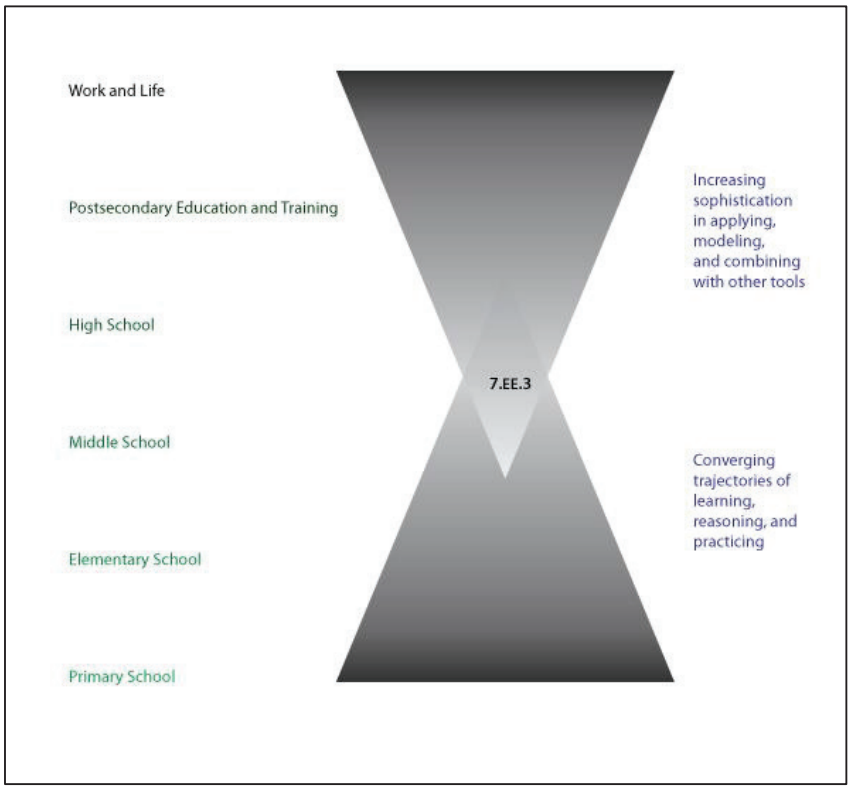
> Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Other lasting achievements from K–8 would include working with proportional relationships and unit rates (6.RP.3; 7.RP.1,2); working with percentages (6.RP.3e; 7.RP.3); and working with area, surface area, and volume (7.G.4,6).

As indicated in the quotation from the Standards, skills like these are crucial tools for college, work and life. They are not meant to gather dust during high school, but are meant to be applied in increasingly flexible ways, for example to meet the high school standards for Modeling. The illustration below shows how these skills fit in with both the learning progressions in the K–8

[12] http://commoncoretools.me/2011/06/15/essay-by-jason-zimba-on-pinnacle-standards/

standards as well as the demands of the high school standards and readiness for careers and a wide range of college majors.



As shown in the figure, standards like 7.EE.3 are best thought of as descriptions of component skills that will be applied flexibly during high school in tandem with others in the course of modeling tasks and other substantial applications. This aligns with the demands of postsecondary education for careers and for a wide range of college majors. Thus, when high school students work with these skills in high school, they are not working below grade level; nor are they reviewing. Applying securely held mathematics to open-ended problems and applications is a *higher*-order skill valued by colleges and employers alike.

One reason middle school is a complicated phase in the progression of learning is that the pinnacles are piling up even as the progressions A → B → C continue onward to the college/career readiness line. One reason we draw attention to lasting achievements here is that their importance for college and career readiness might easily be missed in this overall flow.

Revised Publishers' Criteria for the Common Core State Standards in English Language Arts and Literacy, Grades K–2

David Coleman • Susan Pimentel

INTRODUCTION

Developed by two of the lead authors of the Common Core State Standards and revised through conversations with teachers, researchers and other stakeholders, these criteria are designed to guide publishers and curriculum developers as they work to strengthen existing programs and ensure alignment of materials with the Standards to provide a clear and consistent framework. The standards are the product of a state-led effort coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers and were developed in collaboration with states, teachers, school administrators, and content experts.

The criteria articulated below concentrate on the most significant elements of the Common Core State Standards for literacy in kindergarten through second grade and lay out their implications for aligning materials with the standards. They are intended to guide teachers, curriculum developers and publishers to be purposeful and strategic in both what to include and what to exclude in instructional materials. By underscoring what matters most in the standards, the criteria illustrate what shifts must take place in the next generation of curricula, including paring away elements that distract or are at odds with the Common Core State Standards, and refining components to be consistent with research-based practices. These guidelines are not meant to dictate classroom practice but rather to help ensure that teachers receive and rely on effective tools. At the heart of these criteria is the belief that reading — in this case, learning to read, vocabulary development and the knowledge gained in these early years — is central to all other academic learning.

In the early grades, this includes thorough attention to the foundations of reading. While the goal for readers of all ages is to be able to understand and learn from what they read and to express such knowledge clearly through speaking and writing about text, primary grade instruction in the foundations of reading is essential to ensure that reading problems are prevented and that most students will read well enough to benefit from grade level instruction. While these criteria begin with the foundational skills, they are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines.

In kindergarten through the second grade, the most notable shifts in the standards when compared to state standards include explicit preparation to read informational text and a requirement that students' reading material be substantive and linked in meaningful ways to content area learning. They also include a more in-depth approach to vocabulary development

and a requirement that students encounter sufficiently complex text through listening even while they are learning how to read and write. The standards provide a coherent approach to reading comprehension in the early years built on anchor standards that extend into third through twelfth grade learning. Finally, the standards cultivate a wide range of writing including narrative expression of experiences real and imagined as well as sharing information and opinions.

DOCUMENT ORGANIZATION

This document has three parts: The first articulates criteria that should guide the teaching of reading foundations, the second details the criteria that should guide the selection of texts for read-alouds and for students who already can read, and the third outlines criteria for the development of high-quality, fully integrated materials that provide linear, cumulative skill progressions and practice with text-dependent questions and tasks, leading to fluent, independent reading for meaning.

ELA and Literacy Curricula, Grades K-2

I. Key Criteria for Reading Foundations

The Common Core State Standards offer specific guidance on reading foundations that should be incorporated into curriculum materials so that students will be well on their way to decoding automatically and reading with fluency by the time they finish second grade. While progress in fluency with more complex text should continue through third grade and beyond, and gains in understanding of language structure should continue through the elementary grades, the first three years of instruction (K-2) are the most critical for preventing students from falling behind and preventing reading failure. The standards articulate a well-developed set of skills and habits that taken collectively lay the foundation for students to achieve competence in reading comprehension. (See pp. 14–16 of the Common Core State Standards for more detail.)

Materials aligned with the Common Core State Standards need to provide sequential, cumulative instruction and practice opportunities for the full range of foundational skills. The elements should be gradually interwoven—from simple to complex—so that students come to understand and use the system of correspondences that characterize written English. The code systems on which reading and writing depend include letters, the speech sounds of spoken language (phonemes), the correspondences between phonemes and graphemes (phonics) and the representation of meaningful word parts (morphemes). Automatic and accurate word recognition is the expected outcome of this instruction. By learning to decipher word forms students will be able to access word meanings in print, and make the shift to independent, close reading of complex text.

1. ***Materials allow for flexibility in meeting the needs of a wide range of students.*** Students come to school unevenly prepared to read. While the primary purpose of a beginning reading instruction program is to ensure that all students learn how to read, some students will move ahead quickly and should be able to move on once they have demonstrated mastery of the basic content. Additionally, adjustments should be made to programs now in use to refine content and methodology that will likely "catch" more of those students who otherwise would fall behind and require remedial work.

2. ***Materials include effective instruction for all aspects of foundational reading (including distributed practice).***[1] Materials that are aligned to the standards should provide explicit and systematic instruction and diagnostic support in concepts of print, phonological awareness, phonics, vocabulary development, syntax, and fluency. These foundational skills are necessary and central components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines.

   Materials should provide ample opportunities for students to understand and fully learn the spelling/sound patterns necessary — though not sufficient — to become successful readers. This goal is accomplished when students can transfer knowledge of these

[1] Details about what explicitly should be taught is outlined in the Foundational Reading Standards and further explicated in Appendix A of the standards, including but not limited to the explicit teaching of the speech sounds of English orthography, instruction in the nature of the speech sound system (what is a vowel; what is a consonant; how is a consonant different from a vowel), and instruction in letter formation as well as letter naming and alphabetic order.

patterns to words not previously seen or studied. Because students differ widely in how much exposure and practice they need to master foundational skills, materials also need to incorporate high-quality activities for those students who are able to reach facility with less practice. Those students who need less practice can enjoy activities such as extension assignments and especially more independent reading.

3. ***Fluency is a particular focus of instructional materials.*** Fluency in the early grades is a function of automaticity in basic skills in speech sound, letter, word, and phrase recognition, as well as knowledge of the meanings of the words that are being read. Materials should include routines and guidance that will remind teachers to monitor the consolidation of skills as students are learning them. Consolidation is usually accomplished through systematic and cumulative instruction, sufficient practice to achieve accuracy, and a variety of specific fluency-building techniques supported by research. These include monitored partner reading, choral reading, repeated readings with text, short timed practice that is slightly challenging to the reader, and involving the student in monitoring progress toward a specific fluency goal.

   Teacher support for fluency instruction should explicitly recognize that reading rates vary with the type of text being read and the purpose for reading. For example, comprehension of texts that are of greater informational density or complexity generally requires slower reading. Therefore, if fluency is being monitored to identify those students who need more work in this area, passages that have been standardized through research should be used to assess students' fluency.

4. ***Materials focus on academic vocabulary prevalent in complex texts throughout reading, writing, listening, and speaking instruction.*** When they enter school, students differ markedly in their vocabulary knowledge. The entire curriculum should address this vocabulary gap early and systematically or it will expand and accelerate. All materials should provide opportunities for wider ranging and more intensive vocabulary instruction for students with weaker vocabularies than their peers.

   Instruction in science, social studies, and the arts will be a major vehicle for enhancing students' vocabulary because most new word learning takes place in the context of having to understand and express ideas about subject matter. Students should receive frequent instruction in word meanings and practice with a variety of vocabulary-building activities. For example, they should learn to examine the context of how the words are being used in the text, consider multiple meanings of common words, examine shades of meaning of words that overlap semantically, and choose words carefully to express ideas. As they learn to read meaningful word parts, such as verb markers and comparative endings, the relationship between word form and word meaning should also be addressed. For English language learners, explicitly highlighting and linking cognates of key words with other languages can be very useful. Materials should use games, jokes, puns, and other forms of word play to enhance instruction and develop a sense of excitement about words.

   Some students, including some English language learners, will also need support in mastering the meaning of high-frequency words that are essential to reading grade-level text. Supplemental resources will be necessary for supporting students who are developing knowledge of these words. Since teachers will often not have the time to teach explicitly all of the high-frequency words required, materials should make it possible

for students to learn the words' meanings on their own, providing such things as student-friendly definitions for high-frequency words whose meanings cannot be inferred from the context.

5. ***Materials offer assessment opportunities that measure progress in the foundations of reading.*** Activities used for assessment should clearly denote what standards are being emphasized, and materials should offer frequent and easily implemented assessments, including systems for record keeping and follow-up. These should include a framework and tools for standardized by research in relation to established predictive benchmarks when fluency is being measured. Vocabulary development as well should be assessed using the most reliable and valid methods currently available.

II. Key Criteria for Text Selections

The CCSS strongly point to the necessity for teaching students how to read with texts that are written to facilitate accurate, independent, confident reading, and the consolidation of basic reading skills in 2nd and 3rd grade. Students who can read are much more likely to read.

The Common Core State Standards point strongly toward the integration of text reading skills with language comprehension instruction, even for those students who lag behind in achieving reading facility. That said, students should be guided into thoughtful reading of even the simplest texts used with beginning readers. To that end, all texts should contain some meaningful information or narrative content with which to develop students' comprehension. The criteria recommended below emphasize the need to provide *all* students with consistent opportunities to confront and comprehend grade-level text.

In addition to students learning to read texts at the K-2 level of complexity, the standards encourage students to encounter more complex texts to build knowledge through read-alouds. Students' early knowledge in areas like history and science should not be limited to what they can read on their own. Because students at these grades can listen to much more complex material than they can read themselves, read-aloud selections should be provided to the teachers in curriculum materials. These should be at levels of complexity well above what students can read on their own.

1. ***Texts for each grade align with the requirements outlined in the standards*.** The Common Core State Standards hinge on students encountering appropriate texts at each grade level to develop the mature language skills and the conceptual knowledge they need for success in school and life. Beginning in grade 2, Reading Standard 10 outlines the band level of text complexity at which students need to demonstrate comprehension. (Appendix A in the Common Core State Standards gives further information on how text complexity can be measured and offers guidance to teachers and curriculum developers on selecting the texts their students read.)[2]

2. ***All students (including those who are behind) have extensive opportunities to encounter grade-level text.*** Far too often, students who have fallen behind are given only less

[2] A working group has developed clear, common standards for measuring text complexity that are consistent across different curricula and publishers. These measures blend quantitative and qualitative factors and are being widely shared and made available to publishers and curriculum developers. The measures are based on the principles laid out in Appendix A and have been further developed and refined. These criteria recognize the critical role that teachers play in text selection.

complex texts rather than the instruction they need in the foundational skills in reading as well as vocabulary and other supports they need to read at an appropriate level of complexity. Complex text, whether accessed through individual reading or as a group reading activity, is a rich repository of information which all readers learn how to access. Complex text contains more sophisticated academic vocabulary, lends itself to more complex tasks, and is able to support rich dialogue.

Instruction for slower readers is most effective when it addresses all of the critical reading components in an integrated and coordinated manner. Students who need additional assistance, however, must not miss out on essential instruction their classmates are receiving to help them think deeply about texts, participate in thoughtful discussions, and gain knowledge of both words and the world.

3. ***Text selections are worth reading and re-reading.*** The standards maintain that high-quality text selections should be consistently offered to students because they will encourage students and teachers to dig more deeply into their meanings than they would with lower quality material. Texts selected for inclusion should be well written and, as appropriate, richly illustrated. This principle applies equally to texts intended for reading aloud and texts for students to read by themselves. (For samples of appropriate quality of selection, see Appendix B of the Common Core State Standards.)

4. ***Literacy programs shift the balance of texts and instructional time to include equal measures of literary and informational text.*** The standards call for elementary curriculum materials to be recalibrated to reflect a mix of 50 percent literary and 50 percent informational text, including reading in ELA, science, social studies, and the arts. Achieving the appropriate balance between literary and informational text in the next generation of materials requires a significant shift in early literacy materials and instructional time so that scientific and historical text are given the same time and weight as literary text. (See p. 31 of the standards for details on how literature and informational texts are defined.)

   In the last few years, informational texts that are rich and accessible to even first and second grades are available although many more such texts are needed. Because students at these grades can listen to much more complex material than they can read themselves, read-aloud selections should be provided for the teachers in the curriculum materials. These should be at levels of complexity well above what students can read on their own. Science and social studies in particular should be taught in such a way that students have access to the concepts and vocabulary through read-alouds beyond what they can read on their own.

   To develop reading comprehension and vocabulary for *all* readers, the selected informational texts need to build a coherent body of knowledge within and across grades. (The sample series of texts regarding "The Human Body" provided on p. 33 of the Common Core State Standards offers an example of selecting texts to build knowledge coherently within and across grades. It includes both grade level texts and read aloud texts that illustrate the quality and complexity of student reading in the standards.)

5. ***Additional materials aim to increase the regular independent reading of texts that appeal to students' interests while developing both their knowledge base and joy in reading.*** These materials should ensure that all students have daily opportunities to read

texts of their choice on their own during and outside of the school day. Students need access to a wide range of materials on a variety of topics and genres both in their classrooms and in their school libraries to ensure that they have opportunities to independently read broadly and widely to build their knowledge, experience, and joy in reading. Materials will need to include texts at students' own reading level as well as texts with complexity levels that will challenge and motivate students. Texts should also vary in length and density, requiring students to slow down or read more quickly depending on their purpose for reading. In alignment with the standards and to acknowledge the range of students' interests, these materials should include informational texts as well as literature.

III. Key Criteria for Questions and Tasks

Materials offered in support of reading comprehension should assist teachers and students in staying focused on the primary goal of instruction in these early years: developing proficient and fluent readers able to learn independently from a wide variety of rich texts. The aim is for students to understand that thinking and reading occur simultaneously. Curricula should focus classroom time on practicing reading, writing, speaking, and listening with high-quality text and text-dependent questions and omit that which would otherwise distract from achieving those goals.

1. ***Questions and tasks cultivate students' abilities to ask and answer questions based on the text.*** Materials that accompany texts should ask students to think about what they have read or heard and then ask them to draw evidence from the text in support of their ideas about the reading. The standards strongly focus on students gathering evidence and knowledge from what they read and therefore require that a majority of questions and tasks that children ask and respond to be based on the text under consideration. (This is equally true for read-alouds students listen to as for material students read for themselves.)

   Student background knowledge and experiences can illuminate the reading but should not replace attention to the text itself. Questions and tasks should require thinking about the text carefully and finding evidence in the text itself to support the response. Discussion tasks, activities, questions, and writings following readings should draw on a full range of insights and knowledge contained in the text in terms of both content and language. Instructional support materials should focus on posing questions and writing tasks that help students become interested in the text and cultivate student mastery of the specific details and ideas of the text.

   High quality text dependent questions are more often text specific rather than generic. That is, high quality questions should be developed to address the specific text being read, in response to the demands of that text. Good questions engage students to attend to the particular dimensions, ideas, and specifics that illuminate each text. Though there is a productive role for good general questions for teachers and students to have at hand, materials should not over rely on "cookie-cutter" questions that could be asked of any text, such as "What is the main idea? Provide three supporting details." Materials should develop sequences of individually crafted questions that draw students and teachers into an exploration of the text or texts at hand.

2. ***Materials provide opportunities for students to build knowledge through close reading of specific texts (including read-alouds).*** Materials should design opportunities for careful reading of selected passages or texts and create a series of questions that demonstrate how close attention to those readings allows students to gather evidence and build knowledge. This approach can and should encourage the comparison and synthesis of multiple sources. Once each source is read or listened to and understood carefully, attention should be given to integrating what students have just read with what they have read and learned previously. How does what they have just read compare to what they have learned before? Drawing upon relevant prior knowledge, how does the text expand or challenge that knowledge?

3. ***Scaffolds enable all students to experience rather than avoid the complexity of the text.*** Many students will need careful instruction — including effective scaffolding — to enable them to read at the level required by the Common Core State Standards. However, the scaffolding should not preempt or replace the text by translating its contents for students or telling students what they are going to learn in advance of reading or listening to the text; the scaffolding should not become an alternate, simpler source of information that diminishes the need for students to read or listen to the text itself carefully.

   Students' initial exposure to a text should often engage them directly with the text so they can practice independent reading. Students should be asked to glean the information they need from multiple readings of a text, each with a specific purpose. In particular, aligned curriculum should explicitly direct students to re-read challenging portions of the text and teachers to return to these portions in read-alouds. Follow-up support should guide readers in the use of appropriate strategies and habits when encountering places in the text where they might struggle, including scaffolding the application of decoding strategies, and pointing students back to the text with teacher support when they are confused or run into vocabulary or other problems.

   When necessary, extra textual scaffolding prior to and during the first read should focus on words and concepts that are essential to a basic understanding and that students are not likely to know or be able to determine from context. Supports should be designed to serve a wide range of readers, including those English language learners and other students who are especially challenged by the complex text before them. Texts and the discussion questions should be selected and ordered so that they bootstrap onto each other and promote deep thinking and substantive engagement with the text. Care should also be taken that introducing broad themes and questions in advance of reading does not prompt overly general conversations rather than focusing reading on the specifics, drawing evidence from the text, and gleaning meaning from it. In short, activities related to the text should be such that the text itself is the focus of the instruction and children are able to appreciate and get a sense of the selection as a whole.

4. ***Reading strategies support comprehension of specific texts and the focus on building knowledge.*** Close reading and gathering knowledge from specific texts should be at the heart of classroom activities and not be consigned to the margins when completing assignments. Reading strategies should work *in the service of* reading comprehension (rather than an end unto themselves) and assist students in building knowledge from

texts. To be effective, strategies should be introduced and exercised when they help clarify a specific part of a text and are dictated by specific features of a text and especially to assist with understanding more challenging sections. Over time, and through supportive discussion, interaction, and reflection, students need to build an infrastructure of skills, habits, knowledge, dispositions, and experience that enables them to approach new challenging texts with confidence and stamina.

5. ***Reading passages are by design centrally located within materials.*** The reading passages in either the teachers' guides or the students' editions of curriculum materials should be easily found and put at the center of the layout so that teachers can select the appropriate texts. The text should be the clear focus of student and teacher attention. Surrounding materials should be thoughtfully considered and justified as essential before being included. The text should be central, and surrounding materials should be included only when necessary, so as not to distract from the text itself.

6. ***Materials offer assessment opportunities that genuinely measure progress.*** Aligned materials should guide teachers to provide scaffolding to students but also gradually remove those supports by including tasks that require students to demonstrate their independent capacity to read and write in every domain at the appropriate level of complexity and sophistication. Activities used for assessment should clearly denote what standards are being emphasized, and materials should offer frequent and easily implemented assessments, including systems for record keeping and follow-up.

7. ***Writing opportunities for students are prominent and varied.*** The standards call for writing both as a means of communicating thinking and answering questions and as a means of self-expression and exploration. Writing assignments should be varied and ask students to draw on their experience, on their imagination, and most frequently on the texts they encounter through reading or read-alouds. As a means to such expressions, the standards require students in the early grades to know their letters, phonetic conventions, sentence structures, spelling and the like. Acquiring these basic skills and tools along with regular opportunities to express themselves will enable students to engage in a full range of writing, including writing narratives (both real and imagined), writing to inform, and writing opinions.

CONCLUSION: TRANSPARENT RESEARCH AND PRACTICE BASE

Curriculum materials must also have a clear and documented research base. Curriculum offered as an excellent match for the Common Core State Standards should produce evidence of its usability and efficacy with a full range of students, including English language learners. In all materials, principles of reading acquisition are explained, instructions to teachers and students are clear and concise, and the relationship between tasks and the expected learning outcome is clear. Programs that already have a research base should build on that base by continuing to monitor their efficacy with the whole range of Common Core State Standards.

Revised Publishers' Criteria for the Common Core State Standards in English Language Arts and Literacy, Grades 3–12

David Coleman • Susan Pimentel

INTRODUCTION

Developed by two of the lead authors of the Common Core State Standards and revised through conversations with teachers, researchers, and other stakeholders, these criteria are designed to guide publishers and curriculum developers as they work to ensure alignment with the standards in English language arts (ELA) and literacy for history/social studies, science, and technical subjects. The standards are the product of a state-led effort — coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers — and were developed in collaboration with teachers, school administrators, and experts to provide a clear and consistent framework to prepare students for college and the workforce.

The criteria articulated below concentrate on the most significant elements of the Common Core State Standards and lay out their implications for aligning materials with the standards. These guidelines are not meant to dictate classroom practice but rather to help ensure that teachers receive effective tools. They are intended to guide teachers, curriculum developers, and publishers to be purposeful and strategic in both what to include and what to exclude in instructional materials. By underscoring what matters most in the standards, the criteria illustrate what shifts must take place in the next generation of curricula, including paring away elements that distract or are at odds with the Common Core State Standards.

At the heart of these criteria are instructions for shifting the focus of literacy instruction to center on careful examination of the text itself. In aligned materials, work in reading and writing (as well as speaking and listening) must center on the text under consideration. The standards focus on students reading closely to draw evidence and knowledge from the text and require students to read texts of adequate range and complexity. The criteria outlined below therefore revolve around the texts that students read and the kinds of questions students should address as they write and speak about them.

The standards and these criteria sharpen the focus on the close connection between comprehension of text and acquisition of knowledge. While the link between comprehension and knowledge in reading science and history texts is clear, the same principle applies to all reading. The criteria make plain that developing students' prowess at drawing knowledge from the text itself is the point of reading; reading well means gaining the maximum insight or knowledge possible from each source. Student knowledge drawn from the text is demonstrated when the student uses evidence from the text to support a claim about the text. Hence evidence and knowledge link directly to the text.

DOCUMENT ORGANIZATION

This document has two parts: The first articulates criteria for ELA materials in grades 3–12 and the second for history/social studies, science, and technical materials in grades 6–12. Each part contains sections discussing the following key criteria:

I. **Key Criteria for Text Selection**
II. **Key Criteria for Questions and Tasks**
III. **Key Criteria for Academic Vocabulary**
IV. **Key Criteria for Writing to Sources and Research**

The criteria for ELA materials in grades 3–12 have one additional section:

V. **Additional Key Criteria for Student Reading, Writing, Listening, and Speaking**

ELA and Literacy Curricula, Grades 3-5; ELA Curricula, Grades 6–12

I. Key Criteria for Text Selection

1. **Text Complexity:** The Common Core State Standards require students to read increasingly complex texts with growing independence as they progress toward career and college readiness.

   A. ***Texts for each grade align with the complexity requirements outlined in the standards*.** Reading Standard 10 outlines the level of text complexity at which students need to demonstrate comprehension in each grade. (Appendix A in the Common Core State Standards gives further information on how text complexity can be measured and offers guidance to teachers and curriculum developers on selecting the texts their students read.)[1] Research makes clear that the complexity levels of the texts students are presently required to read are significantly below what is required to achieve college and career readiness. The Common Core State Standards hinge on students encountering appropriately complex texts at each grade level to develop the mature language skills and the conceptual knowledge they need for success in school and life. Instructional materials should also offer advanced texts to provide students at every grade with the opportunity to read texts beyond their current grade level to prepare them for the challenges of more complex text.

   B. ***All students (including those who are behind) have extensive opportunities to encounter grade-level complex text.*** Far too often, students who have fallen behind are only given less complex texts rather than the support they need to read texts at the appropriate level of complexity. Complex text is a rich repository of ideas, information, and experience which all readers should learn how to access, although some students will need more scaffolding to do so. Curriculum developers and teachers have the flexibility to build progressions of texts of increasing complexity within grade-level bands that overlap to a limited degree with earlier bands (e.g., grades 4–5 and grades 6–8).

   Curriculum materials should provide extensive opportunities for all students in a classroom to engage with complex text, although students whose reading ability is developing at a slower rate also will need supplementary opportunities to read text they can comprehend successfully without extensive supports. These students may also need extra assistance with fluency practice and vocabulary building. Students who need additional assistance, however, must not miss out on essential practice and instruction their classmates are receiving to help them read closely, think deeply about texts, participate in thoughtful discussions, and gain knowledge of both words and the world.

   Some percentage of students will enter grade 3 or later grades without a command of foundational reading skills such as decoding. It is essential for these students to have

[1] A working group has developed clear, common standards for measuring text complexity that are consistent across different curricula and publishers. These measures blend quantitative and qualitative factors and are being widely shared and made available to publishers and curriculum developers. The measures are based on the principles laid out in Appendix A and have been further developed and refined. These criteria recognize the critical role that teachers play in text selection.

age-appropriate materials to ensure that they receive the extensive training and practice in the foundational reading skills required to achieve fluency and comprehension. The K–2 publishers' criteria more fully articulate the essential foundational skills all students need to decode to become fluent readers and comprehend text.

C. ***Shorter, challenging texts that elicit close reading and re-reading are provided regularly at each grade.*** The study of short texts is particularly useful to enable students at a wide range of reading levels to participate in the close analysis of more demanding text. The Common Core State Standards place a high priority on the close, sustained reading of complex text, beginning with Reading Standard 1. Such reading focuses on what lies within the four corners of the text. It often requires compact, short, self-contained texts that students can read and re-read deliberately and slowly to probe and ponder the meanings of individual words, the order in which sentences unfold, and the development of ideas over the course of the text. Reading in this manner allows students to fully understand informational texts as well as analyze works of literature effectively.

D. ***Novels, plays, and other extended full-length readings are also provided with opportunities for close reading.*** Students should also be required to read texts of a range of lengths — for a variety of purposes — including several longer texts each year. Discussion of extended or longer texts should span the entire text while also creating a series of questions that demonstrate how careful attention to specific passages within the text provide opportunities for close reading. Focusing on extended texts will enable students to develop the stamina and persistence they need to read and extract knowledge and insight from larger volumes of material. Not only do students need to be able to read closely, but they also need to be able to read larger volumes of text when necessary for research or other purposes.

E. ***Additional materials aim to increase regular independent reading of texts that appeal to students' interests while developing both their knowledge base and joy in reading.*** These materials should ensure that all students have daily opportunities to read texts of their choice on their own during and outside of the school day. Students need access to a wide range of materials on a variety of topics and genres both in their classrooms and in their school libraries to ensure that they have opportunities to independently read broadly and widely to build their knowledge, experience, and joy in reading. Materials will need to include texts at students' own reading level as well as texts with complexity levels that will challenge and motivate students. Texts should also vary in length and density, requiring students to slow down or read more quickly depending on their purpose for reading. In alignment with the standards and to acknowledge the range of students' interests, these materials should include informational texts and literary nonfiction as well as literature. A variety of formats can also engage a wider range of students, such as high-quality newspaper and magazine articles as well as information-rich websites.

2. **Range and Quality of Texts:** The Common Core State Standards require a greater focus on informational text in elementary school and literary nonfiction in ELA classes in grades 6–12.

A. ***In grades 3–5, literacy programs shift the balance of texts and instructional time to include equal measures of literary and informational texts.*** The standards call for elementary curriculum materials to be recalibrated to reflect a mix of 50 percent literary and 50 percent informational text, including reading in ELA, science, social studies, and the arts. Achieving the appropriate balance between literary and informational text in the next generation of materials requires a significant shift in early literacy materials and instructional time so that scientific and historical text are given the same time and weight as literary text. (See p. 31 of the standards for details on how literature and informational texts are defined.) In addition, to develop reading comprehension for all readers, as well as build vocabulary, the selected informational texts should build a coherent body of knowledge both within and across grades. (The sample series of texts regarding "The Human Body" provided on p. 33 of the Common Core State Standards offers an example of selecting texts that build knowledge coherently within and across grades.)[2]

B. ***In grades 6–12, ELA programs shift the balance of texts and instructional time towards reading substantially more literary nonfiction*.** The Common Core State Standards require aligned ELA curriculum materials in grades 6–12 to include a blend of literature (fiction, poetry, and drama) and a substantial sampling of literary nonfiction, including essays, speeches, opinion pieces, biographies, journalism, and historical, scientific, or other documents written for a broad audience. (See p. 57 of the standards for more details.) Most ELA programs and materials designed for them will need to increase substantially the amount of literary nonfiction they include. The standards emphasize arguments (such as those in the U.S. foundational documents) and other literary nonfiction that is built on informational text structures rather than literary nonfiction that is structured as stories (such as memoirs or biographies). Of course, literary nonfiction extends well beyond historical documents to include the best of nonfiction written for a broad audience on a wide variety of topics, such as science, contemporary events and ideas, nature, and the arts. (Appendix B of the Common Core State Standards provides several examples of high-quality literary nonfiction.)

C. ***The quality of the suggested texts is high — they are worth reading closely and exhibit exceptional craft and thought or provide useful information*.** Given the emphasis of the Common Core State Standards on close reading, many of the texts selected should be worthy of close attention and careful re-reading for understanding. To become career and college ready, students must grapple with a range of works that span many genres, cultures, and eras and model the kinds of thinking and writing students should aspire to in their own work. Also, there should be selections of sources that require students to read and integrate a larger volume of material for research purposes. (See Appendix B of the standards for grade-specific examples of texts.)

[2] The note on the range and content of student reading in K–5 (p. 10) states: "By reading texts in history/social studies, science, and other disciplines, students build a foundation of knowledge in these fields that will also give them background knowledge to be better readers in all content areas in later grades. Students can only gain this foundation when the curriculum is intentionally and coherently structured to develop rich content knowledge within and across grades."

D. ***Specific texts or text types named in the standards are included.*** At specific points, the Common Core State Standards require certain texts or types of texts. In grades 9–12, foundational documents from American history, selections from American literature and world literature, a play by Shakespeare, and an American drama are all required. In early grades, students are required to study classic myths and stories, including works representing diverse cultures. Aligned materials for grades 3–12 should set out a coherent selection and sequence of texts (of sufficient complexity and quality) to give students a well-developed sense of bodies of literature (like American literature or classic myths and stories) as part of becoming college and career ready.

E. ***Within a sequence or collection of texts, specific anchor texts are selected for especially careful reading.*** Often in research and other contexts, several texts will be read to explore a topic. It is essential that such materials include a selected text or set of texts that can act as cornerstone or anchor text(s) that make careful study worthwhile. The anchor text(s) provide essential opportunities for students to spend the time and care required for close reading and to demonstrate in-depth comprehension of a specific source or sources. The additional research sources beyond the anchor texts then enable students to demonstrate they can read widely as well as read a specific source in depth.

II. Key Criteria for Questions and Tasks

1. **High-Quality Text-Dependent Questions and Tasks:** Among the highest priorities of the Common Core State Standards is that students be able to read closely and gain knowledge from texts.

   A. ***A significant percentage of tasks and questions are text dependent.*** The standards strongly focus on students gathering evidence, knowledge, and insight from what they read and therefore require that a majority of the questions and tasks that students ask and respond to be based on the text under consideration. Rigorous text-dependent questions require students to demonstrate that they not only can follow the details of what is explicitly stated but also are able to make valid claims that square with all the evidence in the text.

   Text-dependent questions do not require information or evidence from outside the text or texts; they establish what follows and what does not follow from the text itself. Eighty to ninety percent of the Reading Standards in each grade require text-dependent analysis; accordingly, aligned curriculum materials should have a similar percentage of text-dependent questions. When examining a complex text in depth, tasks should require careful scrutiny of the text and specific references to evidence from the text itself to support responses.

   High quality text dependent questions are more often text specific rather than generic. That is, high quality questions should be developed to address the specific text being read, in response to the demands of that text. Good questions engage students to attend to the particular dimensions, ideas, and specifics that illuminate each text. Though there is a productive role for good general questions for teachers

and students to have at hand, materials should not over rely on "cookie-cutter" questions that could be asked of any text, such as “What is the main idea? Provide three supporting details.” Materials should develop sequences of individually crafted questions that draw students and teachers into an exploration of the text or texts at hand.

A text-dependent approach can and should be applied to building knowledge from multiple sources as well as making connections among texts and learned material, according to the principle that each source be read and understood carefully. Gathering text evidence is equally crucial when dealing with larger volumes of text for research or other purposes. Student background knowledge and experiences can illuminate the reading but should not replace attention to the text itself.

B. ***High-quality sequences of text-dependent questions elicit sustained attention to the specifics of the text and their impact.*** The sequence of questions should cultivate student mastery of the specific ideas and illuminating particulars of the text. High-quality text-dependent questions will often move beyond what is directly stated to require students to make nontrivial inferences based on evidence in the text. Questions aligned with Common Core State Standards should demand attention to the text to answer fully. An effective set of discussion questions might begin with relatively simple questions requiring attention to specific words, details, and arguments and then move on to explore the impact of those specifics on the text as a whole. Good questions will often linger over specific phrases and sentences to ensure careful comprehension and also promote deep thinking and substantive analysis of the text. Effective question sequences will build on each other to ensure that students learn to stay focused on the text so they can learn fully from it. Even when dealing with larger volumes of text, questions should be designed to stimulate student attention to gaining specific knowledge and insight from each source.

C. ***Questions and tasks require the use of textual evidence, including supporting valid inferences from the text.*** The Common Core State Standards require students to become more adept at drawing evidence from the text and explaining that evidence orally and in writing. Aligned curriculum materials should include explicit models of a range of high-quality evidence-based answers to questions — samples of proficient student responses — about specific texts from each grade. Questions should require students to demonstrate that they follow the details of what is explicitly stated and are able to make nontrivial inferences beyond what is explicitly stated in the text regarding what logically follows from the evidence in the text. Evidence will play a similarly crucial role in student writing, speaking, and listening, as an increasing command of evidence in texts is essential to making progress in reading as well as the other literacy strands.

D. ***Instructional design cultivates student interest and engagement in reading rich texts carefully.*** A core part of the craft of developing instructional materials is to construct questions and tasks that motivate students to read inquisitively and carefully. Questions should reward careful reading by focusing on illuminating specifics and ideas of the text that “pay off” in a deeper understanding and insight. Often, a good question will help students see something worthwhile that they would not have seen on a more cursory reading. The sequence of questions should not be

random but should build toward more coherent understanding and analysis. Care should be taken that initial questions are not so overly broad and general that they pull students away from an in-depth encounter with the specific text or texts; rather, strong questions will return students to the text to achieve greater insight and understanding. The best questions will motivate students to dig in and explore further — just as texts should be worth reading, so should questions be worth answering.

E. ***Materials provide opportunities for students to build knowledge through close reading of specific texts.*** Materials should design opportunities for close reading of selected passages or texts and create a series of questions that demonstrate how careful attention to those readings allows students to gather evidence and build knowledge. This approach can and should encourage the comparison and synthesis of multiple sources. Once each source is read and understood carefully, attention should be given to integrating what students have just read with what they have read and learned previously. How does what they have just read compare to what they have learned before? Drawing upon relevant prior knowledge, how does the text expand or challenge that knowledge? As students apply knowledge and concepts gained through reading to build a more coherent understanding of a subject, productive connections and comparisons across texts and ideas should bring students back to careful reading of specific texts. Students can and should make connections between texts, but this activity should not supersede the close examination of each specific text.

F. ***Questions and tasks attend to analyzing the arguments and information at the heart of informational text.*** As previously stated, the Common Core State Standards emphasize the reading of more informational text in grades K–5 and more literary nonfiction in grades 6–12. This emphasis mirrors the Writing Standards that focus on students' abilities to marshal an argument and write to inform or explain. The shift in both reading and writing constitutes a significant change from the traditional focus in ELA classrooms on narrative text or the narrative aspects of literary nonfiction (the characters and the story) toward more in-depth engagement with the informational and argumentative aspects of these texts. While the English teacher is not meant to be a content expert in an area covered by particular texts, curriculum materials should guide teachers and students to demonstrate careful understanding of the information developed in the text. For example, in a narrative with a great deal of science, teachers and students should be required to follow and comprehend the scientific information as presented by the text. In a similar fashion, it is just as essential for teachers and students to follow the details of an argument and reasoning in literary nonfiction as it is for them to attend to issues of style.

2. **Cultivating Students' Ability To Read Complex Texts Independently:** Another key priority of the Common Core State Standards is a requirement that students be able to demonstrate their independent capacity to read at the appropriate level of complexity and depth.

   A. ***Scaffolds enable all students to experience rather than avoid the complexity of the text.*** Many students will need careful instruction — including effective scaffolding — to enable them to read at the level of text complexity required by the Common Core State Standards. However, the scaffolding should not preempt or replace the text by translating its contents for students or telling students what they are going to learn in

advance of reading the text; the scaffolding should not become an alternate, simpler source of information that diminishes the need for students to read the text itself carefully. Effective scaffolding aligned with the standards should result in the reader encountering the text on its own terms, with instructions providing helpful directions that focus students on the text. Follow-up support should guide the reader when encountering places in the text where he or she might struggle. Aligned curriculum materials therefore should explicitly direct students to re-read challenging portions of the text and offer instructors clear guidance about an array of text-based scaffolds. When productive struggle with the text is exhausted, questions rather than explanations can help focus the student's attention on key phrases and statements in the text or on the organization of ideas in the paragraph.

When necessary, extra textual scaffolding prior to and during the first read should focus on words and concepts that are essential to a basic understanding and that students are not likely to know or be able to determine from context. Supports should be designed to serve a wide range of readers, including those English language learners and other students who are especially challenged by the complex text before them. Texts and the discussion questions should be selected and ordered so that they bootstrap onto each other and promote deep thinking and substantive engagement with the text.

B. ***Reading strategies support comprehension of specific texts and the focus on building knowledge and insight.*** Close reading and gathering knowledge from specific texts should be at the heart of classroom activities and not be consigned to the margins when completing assignments. Reading strategies should work *in the service of* reading comprehension (rather than an end unto themselves) and assist students in building knowledge and insight from specific texts. To be effective, instruction on specific reading techniques should occur when they illuminate specific aspects of a text. Students need to build an infrastructure of skills, habits, knowledge, dispositions, and experience that enables them to approach new challenging texts with confidence and stamina. As much as possible, this training should be embedded in the activity of reading the text rather than being taught as a separate body of material. Additionally, care should be taken that introducing broad themes and questions in advance of reading does not prompt overly general conversations rather than focusing reading on the specific ideas and details, drawing evidence from the text, and gleaning meaning and knowledge from it.

C. ***Design for whole-group, small-group, and individual instruction cultivates student responsibility and independence.*** It is essential that questions, tasks, and activities be designed to ensure that all students are actively engaged in reading. Materials should provide opportunities for students to participate in real, substantive discussions that require them to respond directly to the ideas of their peers. Teachers can begin by asking the kind and level of questions appropriate to the reading and then students should be prompted to ask high-quality questions about what they are reading to one another for further comprehension and analysis. Writing about text is also an effective way to elicit this active engagement. Students should have opportunities to use writing to clarify, examine, and organize their own thinking, so reading materials

should provide effective ongoing prompts for students to analyze texts in writing. Instructional materials should be designed to devote sufficient time in class to students encountering text without scaffolding, as they often will in college- and career-ready environments. A significant portion of the time spent with each text should provide opportunities for students to work independently on analyzing grade-level text because this independent analysis is required by the standards.

D. ***Questions and tasks require careful comprehension of the text before asking for further evaluation or interpretation.*** The Common Core State Standards call for students to demonstrate a careful understanding of what they read before engaging their opinions, appraisals, or interpretations. Aligned materials should therefore require students to demonstrate that they have followed the details and logic of an author's argument before they are asked to evaluate the thesis or compare the thesis to others. When engaging in critique, materials should require students to return to the text to check the quality and accuracy of their evaluations and interpretations. Often, curricula surrounding texts leap too quickly into broad and wide-open questions of interpretation before cultivating command of the details and specific ideas in the text.

E. ***Materials make the text the focus of instruction by avoiding features that distract from the text.*** Teachers' guides or students' editions of curriculum materials should highlight the reading selections. Everything included in the surrounding materials should be thoughtfully considered and justified before being included. The text should be central, and surrounding materials should be included only when necessary, so as not to distract from the text itself. Instructional support materials should focus on questions that engage students in becoming interested in the text. Rather than being consigned to the margins when completing assignments, close and careful reading should be at the center of classroom activities. Given the focus of the Common Core State Standards, publishers should be extremely sparing in offering activities that are not text based. Existing curricula will need to be revised substantially to focus classroom time on students and teachers practicing reading, writing, speaking, and listening in direct response to high-quality text.

F. ***Materials offer assessment opportunities that genuinely measure progress.*** Aligned materials should guide teachers to provide scaffolding but also gradually remove those supports by including tasks that require students to demonstrate their independent capacity to read and write in every domain at the appropriate level of complexity and sophistication. Activities used for assessment should clearly denote what standards and texts are being emphasized, and materials should offer frequent and easily implemented assessments, including systems for record keeping and follow-up.

III. Key Criteria for Academic Vocabulary

Materials focus on academic vocabulary prevalent in complex texts throughout reading, writing, listening, and speaking instruction. Academic vocabulary (described in more detail as Tier 2 words in Appendix A of the Common Core State Standards) includes those words that readers will find in all types of complex texts from different disciplines.

Sometimes curricula ignore these words and pay attention only to the technical words that are unique to a discipline. Materials aligned with the Common Core State Standards should help students acquire knowledge of general academic vocabulary because these are the words that will help them access a wide range of complex texts.

Aligned materials should guide students to gather as much as they can about the meaning of these words from the context of how they are being used in the text, while offering support for vocabulary when students are not likely to be able to figure out their meanings from the text alone. As the meanings of words vary with the context, the more varied the context provided to teach the meaning of a word is, the more effective the results will be (e.g., a state was admitted to the Union; he admitted his errors; admission was too expensive). In alignment with the standards, materials should also require students to explain the impact of specific word choices on the text. Materials and activities should also provide ample opportunities for students to practice the use of academic vocabulary in their speaking and writing.

Some students, including some English language learners, will also need support in mastering high-frequency words that are not Tier 2 words but are essential to reading grade-level text. Materials should therefore offer the resources necessary for supporting students who are developing knowledge of high-frequency words. Since teachers will often not have the time to teach explicitly all of the high-frequency words required, materials should make it possible for students to learn the words' meanings on their own, providing such things as student-friendly definitions for high-frequency words whose meanings cannot be inferred from the context. It also can be useful for English language learners to highlight explicitly and link cognates of key words with other languages.

IV. Key Criteria for Writing to Sources and Research

1. ***Materials portray writing to sources as a key task.*** The Common Core State Standards require students not only to show that they can analyze and synthesize sources but also to present careful analysis, well-defended claims, and clear information through their writing. Several of the Writing Standards, including most explicitly Standard 9, require students to draw evidence from a text or texts to support analysis, reflection, or research. Materials aligned with the Common Core State Standards should give students extensive opportunities to write in response to sources throughout grade-level materials. Model rubrics for the writing assignments as well as high-quality student samples should also be provided as guidance to teachers.

2. ***Materials focus on forming arguments as well as informative writing.*** While narrative writing is given prominence in early grades, as students progress through the grades the Common Core State Standards increasingly ask students to write arguments or informational reports from sources. As a consequence, less classroom time should be spent in later grades on personal writing in response to decontextualized prompts that ask students to detail personal experiences or opinions. The Common Core State Standards require that the balance of writing students are asked to do parallel the balance assessed on the National Assessment of Educational Progress (NAEP):

    - In elementary school, 30 percent of student writing should be to argue, 35 percent should be to explain/inform, and 35 percent should be narrative.

- In middle school, 35 percent of student writing should be to write arguments, 35 percent should be to explain/inform, and 30 percent should be narrative.
- In high school, 40 percent of student writing should be to write arguments, 40 percent should be to explain/inform, and 20 percent should be narrative.

These forms of writing are not strictly independent; for example, arguments and explanations often include narrative elements, and both informing and arguing rely on using information or evidence drawn from texts.

3. ***Materials make it clear that student writing should be responsive to the needs of the audience and the particulars of the text in question.*** As the standards are silent on length and structure, student writing should not be evaluated by whether it follows a particular format or formula (e.g., the five paragraph essay). Instead, the Common Core State Standards have been carefully designed to focus on the elements or characteristics of good writing including drawing sufficient evidence from texts, writing coherently with well-developed ideas, and writing clearly with sufficient command of standard English.

4. ***Students are given extensive practice with short, focused research projects.*** Writing Standard 7 emphasizes that students should conduct several short research projects in addition to more sustained research efforts. Materials should require several of these short research projects annually to enable students to repeat the research process many times and develop the expertise needed to conduct research independently. A progression of shorter research projects also encourages students to develop expertise in one area by confronting and analyzing different aspects of the same topic as well as other texts and source materials on that topic.

V. Additional Key Criteria for Student Reading, Writing, Listening, and Speaking

1. ***Materials provide systematic opportunities for students to read complex text with fluency.*** Fluency describes the pace and accuracy with which students read — the extent to which students adjust the pace, stress, and tone of their reading to respond to the words in the text. Often, students who are behind face fluency challenges and need more practice reading sufficiently complex text. Materials aligned with the Common Core State Standards should draw on the connections between the Speaking and Listening Standards and the Reading Standards on fluency to provide opportunities for students to develop this important skill (e.g., rehearsing an oral performance of a written piece has the built-in benefit of promoting reading fluency).

2. ***Materials help teachers plan substantive academic discussions.*** In accordance with the Speaking and Listening Standards, materials aligned with the Common Core State Standards should show teachers how to plan engaging discussions around grade-level topics and texts that students have studied and researched in advance. Speaking and Listening prompts and questions should offer opportunities for students to share preparation, evidence, and research — real, substantive discussions that require students to respond directly to the ideas of their peers. Materials should highlight strengthening students' listening skills as well as their ability to respond to and challenge their peers with relevant follow-up questions and evidence.

3. ***Materials use multimedia and technology to deepen attention to evidence and texts.*** The Common Core State Standards require students to compare the knowledge they gain from reading texts to the knowledge they gain from other multimedia sources, such as video. The Standards for Reading Literature specifically require students to observe different productions of the same play to assess how each production interprets evidence from the script. Materials aligned with the Common Core State Standards therefore should use multimedia and technology in a way that engages students in absorbing or expressing details of the text rather than becoming a distraction or replacement for engaging with the text.

4. ***Materials embrace the most significant grammar and language conventions.*** The Language Standards provide a focus for instruction each year to ensure that students gain adequate mastery of the essential "rules" of standard written and spoken English. They also push students to learn how to approach language as a matter of craft so they can communicate clearly and powerfully. In addition to meeting each year's grade-specific standards, students are expected to retain and further develop skills and understandings mastered in preceding grades. Thus, aligned materials should demonstrate that they explicitly and effectively support student mastery of the full range of grammar and conventions as they are applied in increasingly sophisticated contexts. The materials should also indicate when students should adhere to formal conventions and when they are speaking and writing for a less formal purpose.

CONCLUSION: EFFICACY OF ALIGNED MATERIALS

Curriculum materials must have a clear and documented research base. The most important evidence is that the curriculum accelerates student progress toward career and college readiness. It can be surprising which questions, tasks, and instructions provoke the most productive engagement with text, accelerate student growth, and deepen instructor facility with the materials. A great deal of the material designed for the standards will by necessity be new, but as much as possible the work should be based on research and developed and refined through actual testing in classrooms. Publishers should provide a clear research plan for how the efficacy of their materials will be assessed and improved over time. Revisions should be based on evidence of actual use and results with a wide range of students, including English language learners.

History/Social Studies, Science, and Technical Subjects Literacy Curricula, Grades 6–12

INTRODUCTION

This brief addendum to the publishers' criteria for ELA in grades 3–12 focuses on the portions of those criteria most relevant to materials in history/social studies, science, and technical subjects. In the criteria that follow, we restate several of the key points from the ELA criteria as they relate to these content areas and add others that are particularly significant. As was the case with ELA, what follows is not an exhaustive list but the most significant elements of the Common Core State Standards to be mindful of when revising and developing aligned materials.

Meeting the demands of the Literacy Standards requires substantially expanding the literacy requirements in history/social studies as well as in science and technical subjects. The adoption of the Literacy Standards in History/Social Studies, Science, and Technical Subjects therefore requires several significant shifts in these curricula. Specifically, in alignment with NAEP, the standards require that in grades 6–12, student reading across the curriculum must include a balance of texts that is one-third literary, one-third history/social studies, and one-third science. Specific standards (pp. 60–66) define the actual literacy skills for which history/social studies, science, and technical teachers are responsible. (Appendix B of the Common Core State Standards contains a sampling of texts of appropriate quality and complexity for study in these disciplines.)

I. Text Selection

1. **Text Complexity:** The Common Core State Standards require students to read increasingly complex texts with growing independence as they progress toward career and college readiness.

   A. ***Texts for each grade align with the complexity requirements outlined in the standards*.** Reading Standard 10 outlines the level of text complexity at which students need to demonstrate comprehension in each grade. (Appendix A in the Common Core State Standards gives further information on how text complexity can be measured and offers guidance to teachers and curriculum developers on selecting the texts their students read.)[3] Research makes clear that the complexity levels of the texts students are presently required to read are significantly below what is required to achieve college and career readiness. The Common Core State Standards hinge on students encountering appropriately complex texts at each grade level to develop the mature language skills and the conceptual knowledge they need for success in school and life. Instructional materials should also offer advanced texts to provide students at every grade with the opportunity to read texts beyond their current grade level to prepare them for the challenges of more complex text.

[3] A working group has developed clear, common standards for measuring text complexity that are consistent across different curricula and publishers. These measures blend quantitative and qualitative factors and are being widely shared and made available to publishers and curriculum developers. The measures are based on the principles laid out in Appendix A and have been further developed and refined. These criteria recognize the critical role that teachers play in text selection.

B. ***All students (including those who are behind) have extensive opportunities to encounter grade-level complex text.*** Far too often, students who have fallen behind are only given less complex texts rather than the support they need to read texts at the appropriate level of complexity. Complex text is a rich repository of information which all readers learn how to access, although some students will need more scaffolding to do so. Curriculum developers and teachers have the flexibility to build progressions of text within grade-level bands that overlap to a limited degree with earlier bands (e.g., grades 4–5 and grades 6–8).

   Curriculum materials should provide extensive opportunities for all students in a classroom to engage with complex text, although students whose reading ability is developing at a slower rate also will need supplementary opportunities to read text they can comprehend successfully without extensive supports. These students may also need extra assistance with fluency practice and vocabulary building. Students who need additional assistance, however, must not miss out on essential practice and instruction their classmates are receiving to help them read closely, think deeply about texts, participate in thoughtful discussions, and gain knowledge of both words and the world.

2. **Range and Quality of Texts:** The Common Core State Standards require a keen focus on informational text.

   A. ***Curricula provide texts that are valuable sources of information.*** Informational texts in science, history, and technical subjects may or may not exhibit literary craft, but they should be worth reading as valuable sources of information to gain important knowledge. It is essential that the scientific and historical texts chosen for careful study be focused on such significant topics that they are worth the instructional time for students to examine them deliberately to develop a full understanding. To encourage close reading on a regular basis, many of these texts should be short enough to enable thorough examination. Students should also be required to assimilate larger volumes of content-area text to demonstrate college and career readiness. Discussion of extended or longer texts should span the entire text while also creating a series of questions that demonstrate how careful attention to specific passages within the text provides opportunities for close reading. Focusing on extended texts will enable students to develop the stamina and persistence they need to read and extract knowledge and insight from larger volumes of material. Not only do students need to be able to read closely, but they also need to be able to read larger volumes of text when necessary for research or other purposes.

   B. ***Curricula include opportunities to combine quantitative information derived from charts and other visual formats and media with information derived from text.*** An important part of building knowledge in history/social studies, science, and technical subjects is integrating information drawn from different formats and media. For example, the Reading Standards require students to integrate the knowledge they gain from quantitative data with information they gain from a single or multiple written text sources. Therefore, materials aligned with the Common Core State

Standards might require students to compare their own experimental results to results about which they have read, and integrate information from video or other media with what they learn from text.

II. Questions and Tasks

1. **High-Quality Text-Dependent Questions and Tasks:** Among the highest priorities of the Common Core State Standards is that students be able to read closely and gain knowledge from texts.

   A. ***Curricula provide opportunities for students to build knowledge through close reading of a specific text or texts.*** As in the ELA Reading Standards, the large majority of the Literacy Standards for History/Social Studies, Science, and Technical Subjects require that aligned curricula include high-quality questions and tasks that are text dependent. Such questions should encourage students to "read like a detective" by prompting relevant and central inquiries into the meaning of the source material that can be answered only through close attention to the text. The Literacy Standards therefore require students to demonstrate their ability to follow the details of what is explicitly stated, make valid inferences that logically follow from what is stated, and draw knowledge from the text. Student background knowledge and experiences can illuminate the reading but should not replace attention to the text itself.

   Materials should design opportunities for close reading of selected passages from extended or longer texts and create a series of questions that demonstrate how close attention to those passages allows students to gather evidence and knowledge from the text. This text-dependent approach can and should be applied to building knowledge from the comparison and synthesis of multiple sources in science and history. (It bears noting that science includes many non-text sources such as experiments, observations, and discourse around these scientific activities.) Once each source is read and understood carefully, attention should be given to integrating what students have just read with what they have read and learned previously. How does what they have just read compare to what they have learned before? Drawing upon relevant prior knowledge, how does the text expand or challenge that knowledge? As students apply knowledge and concepts gained through reading to build a more coherent understanding of a subject, productive connections and comparisons across texts and ideas should bring students back to careful reading of specific texts. Gathering text evidence is equally crucial when dealing with larger volumes of text for research or other purposes.

   B. ***All activities involving text require that students demonstrate increasing mastery of evidence drawn from text.*** The Common Core State Standards require students to become more adept at drawing evidence from the text and explaining that evidence orally and in writing. Aligned curriculum materials should include explicit models of a range of high-quality evidence-based answers to questions — samples of proficient student responses — about specific texts from each grade. Questions should require students to demonstrate that they follow the details of what is explicitly stated and are able to make nontrivial inferences beyond what is explicitly stated in the text regarding what logically follows from the evidence in the text. Gathering text evidence

is equally crucial when dealing with larger volumes of text for research or other purposes.

C. ***Questions and tasks require careful comprehension of the text before asking for further evaluation and interpretation.*** The Common Core State Standards call for students to demonstrate a careful understanding of what they read before engaging their opinions, appraisals, or interpretations. Aligned materials should therefore require students to demonstrate that they have followed the details and logic of an author's argument before they are asked to evaluate the thesis or compare the thesis to others. Before students are asked to go beyond the text and apply their learning, they should demonstrate their grasp of the specific ideas and details of the text.

2. **Cultivating Students' Ability To Read Complex Texts Independently:** Another key priority of the Common Core State Standards is a requirement that students be able to demonstrate their independent capacity to read at the appropriate level of complexity and depth. Aligned materials therefore should guide teachers to provide scaffolding to students but also gradually remove those supports by including tasks that require students to demonstrate their independent capacity to read and write in every domain at the appropriate level of complexity and sophistication.

   A. ***Scaffolds enable all students to experience rather than avoid the complexity of the text.*** Many students will need careful instruction — including effective scaffolding — to enable them to read at the level of text complexity required by the Common Core State Standards. However, the scaffolding should not preempt or replace the text by translating its contents for students or telling students what they are going to learn in advance of reading the text; the scaffolding should not become an alternate, simpler source of information that diminishes the need for students to read the text itself carefully. Effective scaffolding aligned with the standards should result in the reader encountering the text on its own terms, with instructions providing helpful directions that focus students on the text. Follow-up support should guide readers in the use of appropriate strategies and habits when encountering places in the text where they might struggle. When productive struggle with the text is exhausted, questions rather than explanations can help focus the student's attention on key phrases and statements in the text or on the organization of ideas in the paragraph or the work as a whole.

      When necessary, extra textual scaffolding prior to and during the first read should focus on words and concepts that are essential to a basic understanding and that students are not likely to know or be able to determine from context. Supports should be designed to serve a wide range of readers, including those English language learners and other students who are especially challenged by the complex text before them. Texts and the discussion questions should be selected and ordered so that they bootstrap onto each other and promote deep thinking and substantive engagement with the text.

   B. ***Design for whole-group, small-group, and individual instruction cultivates student responsibility and independence.*** It is essential that questions, tasks, and activities are designed to ensure that all students are actively engaged in reading. Materials should

provide opportunities for students to participate in real, substantive discussions that require them to respond directly to the ideas of their peers. Teachers can begin by asking the kind and level of questions appropriate to the reading and then students should be prompted to ask high-quality questions about what they are reading to further comprehension and analysis. Writing about text is also an effective way to elicit this active engagement. Students should have opportunities to use writing to clarify, examine, and organize their own thinking, so reading materials should provide effective ongoing prompts for students to analyze texts in writing. Instructional materials should be designed to devote sufficient time in class to students encountering text without scaffolding, as they often will in college- and career-ready environments. A significant portion of the time spent with each text should provide opportunities for students to work independently within and outside of class on analyzing the text because this independent analysis is required by the standards.

III. Academic (and Domain-Specific) Vocabulary

Materials focus on academic vocabulary prevalent in complex texts throughout reading, writing, listening, and speaking instruction. The Common Core State Standards require a focus on academic vocabulary that is prevalent in more complex texts as well as domain-specific words. Academic vocabulary (described in more detail as Tier 2 words in Appendix A of the Common Core State Standards) includes those words that readers will find in all types of complex texts from different disciplines. Materials aligned with the Common Core State Standards should help students acquire knowledge of general academic vocabulary in addition to domain-specific words because these words will help students access a range of complex texts in diverse subject areas.

Aligned materials should guide students to gather as much as they can about the meaning of these words from the context of how they are being used in the text, while offering support for vocabulary when students are not likely to be able to figure out their meanings from the text alone. As the meanings of words vary with the context, the more varied the context provided to teach the meaning of a word is, the more effective the results will be (e.g., a state was admitted to the Union; he admitted his errors; admission was too expensive). In alignment with the standards, materials should also require students to explain the impact of specific word choices on the text. Materials and activities should also provide ample opportunities for students to practice the use of academic vocabulary in their speaking and writing.

Some students, including some English language learners, will also need support in mastering high-frequency words that are not Tier 2 words but are essential to reading grade-level text. Materials should therefore offer the resources necessary for supporting students who are developing knowledge of high-frequency words. Since teachers will often not have the time to teach explicitly all of the high-frequency words required, materials should make it possible for students to learn the words' meanings on their own, providing such things as student-friendly definitions for high-frequency words whose meanings cannot be inferred from the context. It also can be useful for English language learners to highlight explicitly and link cognates of key words with other languages.

IV. Writing to Sources and Research

1. ***Materials portray writing to sources as a key task.*** Crafting an argument frequently relies on using information; similarly, an analysis of a subject will include argumentative elements. While these forms are not strictly independent, what is critical to both forms of writing is the use and integration of evidence. In historical, technical, and scientific writing, accuracy matters, and students should demonstrate their knowledge through precision and detail.

2. ***Materials make it clear that student writing should be responsive to the needs of the audience and the particulars of the text in question.*** As the standards are silent on length and structure, student writing should not be evaluated by whether it follows a traditional format or formula (e.g. the five paragraph essay). Instead, the Common Core State Standards have been carefully designed to focus on the elements or characteristics of good writing including drawing sufficient evidence from texts, writing coherently with well-developed ideas, and writing clearly with sufficient command of standard English.

3. ***Students are given extensive practice with short, focused research projects.*** Writing Standard 7 emphasizes that students should conduct several short research projects in addition to more sustained research efforts. Materials should require several of these short research projects annually to enable students to repeat the research process many times and develop the expertise needed to conduct research independently. A progression of shorter research projects also encourages students to develop expertise in one area by confronting and analyzing different aspects of the same topic as well as other texts and source materials on that topic.

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