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** **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. — **True/False:** **T F** — **Evidence:** **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. — **True/False:** **T F** — **Evidence:** **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)?**