AMSCO Geometry

Instructional Materials Evaluation Tool (IMET)

Mathematics, High School

Perfection LEARNING®

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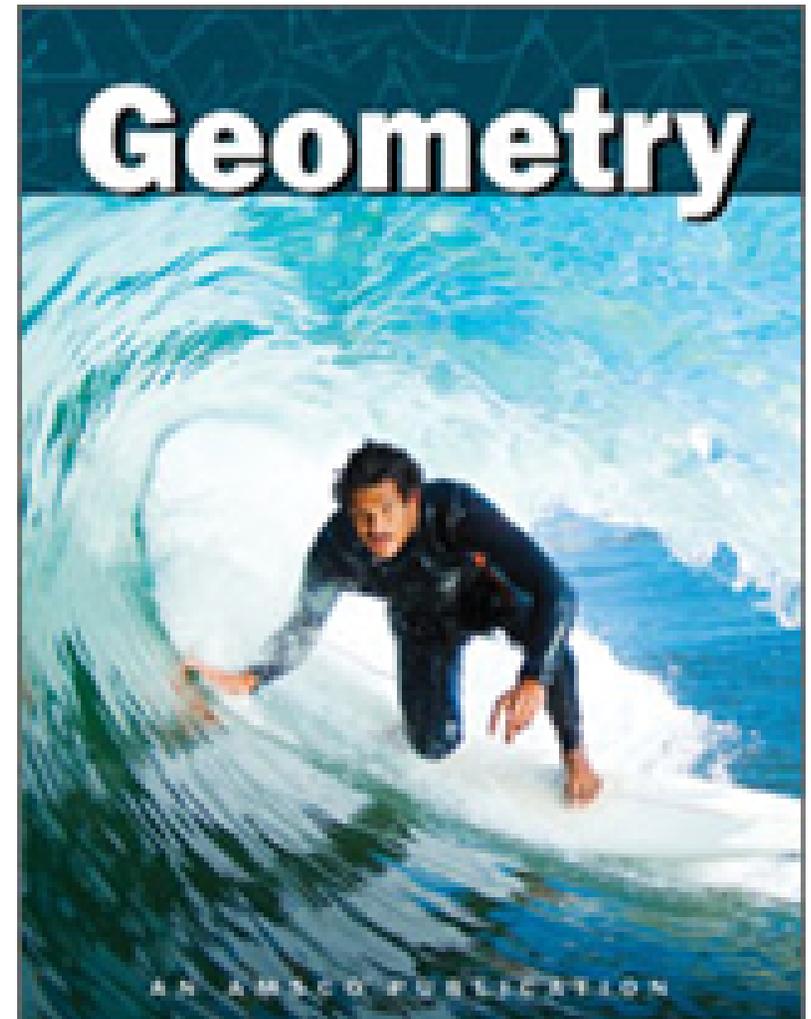
Introduction

What Are the Purposes of the IMET?

This Math IMET is designed to help educators determine whether instructional materials are aligned to the Shifts and major features of the Common Core State Standards (CCSS). The substantial instructional Shifts (www.corestandards.org/other-resources/key-shifts-in-mathematics) at the heart of the Common Core State Standards are:

- **Focus** strongly where the Standards focus.

- **Coherence:** Think across grades and link to major topics within the grade.

- **Rigor:** In major topics, pursue conceptual understanding, procedural skill and fluency, and application with equal intensity.

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. The IMET is designed to sharpen the alignment question and make alignment and misalignment more clearly visible. The IMET draws from the Common Core State Standards for Mathematics (www.corestandards.org/Math).

For materials passing the IMET, educators can make use of more detailed instruments available in the Materials Alignment Toolkit (www.achievethecore.org/materials-alignment-toolkit) developed collaboratively by the Council of the Great City Schools, the Council of Chief State School Officers, and Achieve to enable further analysis of individual grade-level alignment, supports for special populations, and other aspects of quality in aligned materials.

When to Use the IMET

1. Evaluating materials currently in use: The IMET can be used to analyze the degree of alignment of existing materials and help to highlight specific, concrete flaws in alignment. Even where materials and tools currently in use fail to meet one or more of these criteria, the pattern of failure is likely to be informative. States and districts can use the evaluation to create 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.

2. Purchasing materials: Many factors go into local purchasing decisions. Alignment to the Standards is a critical factor to consider. This tool is designed to evaluate alignment of instructional materials to the Shifts and the major features of the CCSS. It also provides suggestions of additional indicators to consider in the materials evaluation and purchasing process.

3. Developing programs: Those developing new programs can use this tool as guidance for creating aligned curricula.

Please note that this tool was designed for evaluating comprehensive curricula (including their supplemental or ancillary materials), but it was not designed for the evaluation of standalone supplemental materials.

Who Uses the IMET?

Evaluating instructional materials requires both subject-matter and pedagogical expertise. Evaluators should be well versed in the Standards (www.corestandards.org/Math) for all grades in which materials are being evaluated. This includes understanding not only the individual standards statements, but also the overall structure of CCSSM itself (see www.achievethecore.org/progressions and www.achievethecore.org/file/2530), as well as the expectations of the Standards with respect to conceptual understanding, procedural skill and fluency, and application.

Getting Started

Prior to Evaluation

Assemble all of the materials necessary for the evaluation. It is essential for evaluators to have materials for all grades covered by the program, as some criteria cannot be rated without having access to each grade. In addition, each evaluator should have a reference copy of the Common Core State Standards for Mathematics (www.corestandards. org/Math). Reviewers may also choose to reference the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013) for additional support and guidance. (www. corestandards.org/assets/Math_Publishers_Criteria_HS_Spring%20 2013_FINAL.pdf).

Before conducting the evaluation itself, it is important to develop a protocol for the evaluation process. The protocol should include having evaluators study the IMET. It will also be helpful for evaluators to get a sense of each program overall before beginning the process. At a minimum, this would include reading the front matter of the text, looking at the table of contents, and paging through multiple chapters.

Sections 1–3 below should be completed to produce a comprehensive picture of the strengths and weaknesses of the materials under evaluation. Information about areas in need of improvement or supplementation should be shared with internal and external stakeholders.

Navigating the Tool

Step 1: Non-Negotiable Alignment Criteria (p. 4)

- The Non-Negotiable Alignment Criteria must each be met in full for materials to be considered aligned to the Shifts and the major features of the Common Core State Standards. Each Non-Negotiable Alignment Criterion has one or more metrics associated with it; every one of these metrics must be met in order for the criterion as a whole to be met.

- Examine the relevant materials and use evidence to rate the materials against each criterion and its associated metrics.

- Record and explain the evidence upon which the rating is based.

Step 2: Alignment Criteria (p. 14)

- The Alignment Criteria must each be met for materials to be considered aligned to the Shifts and the major features of the Common Core State Standards. For each Alignment Criterion, a specified number of the associated metrics must be met or partially met in order for the criterion as a whole to be met.

- Examine the materials in relation to these criteria, assigning each metric a point value. Rate the criterion as "Meets" or "Does Not Meet" based on the number of points assigned. The more points the materials receive on the Alignment Criteria, the better they are aligned.

- Record and explain the evidence upon which the rating is based.

Step 3: Evaluation Summary (p. 34)

- Compile all of the results from Sections 1 and 2 to determine if the instructional materials are aligned to the Shifts and major features of the CCSS.

Step 4: Indicators of Quality (p. 36)

- Indicators of Quality are important considerations that will help evaluators better understand the overall quality of instructional materials. These considerations are not criteria for alignment to the CCSS, but they provide valuable information about additional program characteristics. Evaluators may want to add their own indicators to the examples provided.

Directions for Non-Negotiable 1

Freedom from Obstacles to Focus

Non-Negotiable 1: Materials must focus coherently on the Widely Applicable Prerequisites in a way that is consistent with the progressions in the Standards.

Focus and coherence are the two major evidence-based design principles of the Common Core State Standards for Mathematics (CCSSM, p. 3). Focus is necessary in order to fulfill 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 flourish. In high school courses, narrowing and deepening the curriculum creates a structure that ties topics together. Thus, materials must focus coherently on the Widely Applicable Prerequisites in a way that is consistent with the progressions in the Standards.

Materials to Assemble

- Common Core State Standards for Mathematics (www.corestandards.org/wp-content/uploads/Math_Standards.pdf)

- Widely Applicable Prerequisites for College and Careers (www.achievethecore.org/prerequisites)

- From the materials being evaluated: teacher guides and all assessment components

It will also be helpful for reviewers to consult the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013). (www.corestandards.org/assets/Math_Publishers_Criteria_HS_Spring%202013_FINAL.pdf).

Metrics to Review

- **NN Metric 1A**: In any single course, students spend at least 50% of their time on Widely Applicable Prerequisites.

- **NN Metric 1B**: Student work in Geometry involves significant work with applications/modeling and problems that use algebra skills.

- **NN Metric 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.

- **NN Metric 1D**: Materials base courses on the content specified in the Standards.

- **NN Metric 1E**: Materials are designed to support all students in doing course-level mathematics.

- **NN Metric 1F**: Materials relate course-level concepts explicitly to prior knowledge from earlier grades or courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.

- **NN Metric 1G**: Materials include learning objectives that are visibly shaped by CCSSM cluster and domain headings.

- **NN Metric 1H**: Materials include 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.

Rating this Criterion

Non-Negotiable 1 is rated as Meets or Does Not Meet.

To rate Non-Negotiable 1, first rate Metrics 1A–1H. Each of these eight metrics must be rated as Meets in order for Non-Negotiable 1 to be rated as Meets. Rate each metric 1A–1H as Meets or Does Not Meet/Insufficient Evidence. If the evidence examined shows that the Criterion is met, then mark the Criterion as Meets. If the evidence examined shows that the Criterion is not met—or if there is insufficient evidence to make a determination—then mark the Criterion as Does Not Meet/Insufficient Evidence. Support all ratings with evidence.

Non-Negotiable 1

Focus and Coherence

Metric

NN Metric 1A:
In any single course, students spend at least 50% of their time on Widely Applicable Prerequisites.

How to Find the Evidence

Familiarize yourself with the Widely Applicable Prerequisites.

Evaluate the table of contents and any pacing guides. Do not stop there; also evaluate units, chapters, and lessons. (Evaluate both student and teacher materials.)

Because calculating percentage in instructional materials is difficult, reviewers should not set a precise percentage threshold for meeting Metric 1A. Instead, consider time spent on the Widely Applicable Prerequisites and judge qualitatively whether students and teachers using the materials as designed will devote the majority of time to the Widely Applicable Prerequisites

For context, read Criterion #1 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Reviewer Initials: _____   Title of Program: _____

Non-Negotiable 1

Focus and Coherence

Metric

NN Metric 1B:
Student work in Geometry involves significant work with applications/modeling and problems that use algebra skills.

How to Find the Evidence

Evaluate the table of contents and any pacing guides. Do not stop there; also evaluate units, chapters, lessons, homework assignments, and assessments. (Evaluate both student and teacher materials.)

NOTE: Since Geometry contains relatively fewer Widely Applicable Prerequisites, this metric is important to help foster students' college and career readiness. Problems that use algebra skills might include, for example, algebraic geometry problems in a coordinate setting, or problems of measurement involving unknown quantities.

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Non-Negotiable 1

Focus and Coherence

Metric

NN Metric 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.

How to Find the Evidence

Evaluate lessons, chapter/unit assessments, and homework assignments.

NOTE: Problems should include application of the following topics from grades 6–8:

- Ratios and proportional relationships

- Percentage and unit conversions (e.g., in the context of complex measurement problems involving quantities with derived or compound units, such as mg/mL, kg/m^3, acre-feet, etc.)

- Basic function concepts (e.g., by interpreting the features of a graph in the context of an applied problem)

- Concepts and skills of geometric measurement (e.g., when analyzing a diagram or schematic)

- Concepts and skills of basic statistics and probability (see grades 6–8.SP)

- Performing rational number arithmetic fluently

For context, read Table 1 on Page 8 of the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Non-Negotiable 1
Focus and Coherence

Metric

NN Metric 1D:
Materials base courses on the content specified in the Standards.

How to Find the Evidence

Evaluate the table of contents and any pacing guides. Do not stop there; also evaluate units, chapters, and lessons in both student and teacher materials.

For context, read Criterion #3a in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Reviewer Initials: _____   **Title of Program:** _____

Non-Negotiable 1
Focus and Coherence

Metric

NN Metric 1E:
Materials are designed to support all students in doing course-level mathematics.

How to Find the Evidence

Evaluate both student and teacher materials.

Consider whether struggling students are supported to work extensively with course-level mathematics. Also consider whether higher-performing students are supported to engage with course-level mathematics in greater depth.

For context, read Criterion #3b in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Non-Negotiable 1

Focus and Coherence

Metric

NN Metric 1F:
Materials relate course-level concepts explicitly to prior knowledge from earlier grades or courses. The materials are designed so that prior knowledge becomes reorganized and extended to accommodate the new knowledge.

How to Find the Evidence

Evaluate student and teacher materials, looking for problems that involve extending the knowledge learned in earlier grades and courses.

NOTE: Examples of evaluating this metric might be to look at whether materials connect the equation of a circle with the distance formula and the Pythagorean theorem.

For context, read Criterion #3c in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Non-Negotiable 1

Focus and Coherence

Metric

NN Metric 1G:
Materials include learning objectives that are visibly shaped by CCSSM cluster and domain headings.

How to Find the Evidence

Select several clusters from the course being evaluated. Evaluate teacher and student materials in relation to these clusters.

For context, read Criterion #4a in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Non-Negotiable 1

Focus and Coherence

Metric

NN Metric 1H:
Materials include 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.

How to Find the Evidence

In the course being evaluated, identify two or more clusters, two or more domains, or two or more categories for which connections are natural and important.

Evaluate the units, chapters, and lessons that deal with the chosen topics, looking for problems and activities that serve to connect the chosen clusters or domains.

NOTE: Examples of evaluating this metric might be to look at whether materials include problems in which students analyze a situation by building a function, graphing it, and using it to create and solve an equation.

For context, read Criterion #4b in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets**

☐ **Does Not Meet / Insufficient Evidence**

Reviewer Initials: _____   **Title of Program:** _____

Non-Negotiable 1

Focus and Coherence

Non-Negotiable 1: Materials must focus coherently on the Widely Applicable Prerequisites in a way that is consistent with the progressions in the Standards.

Rating for Non-Negotiable 1

If all metrics 1A–1H were rated as Meets, then rate Non-Negotiable 1 as Meets. If one or more metrics were rated as Does Not Meet/Insufficient Evidence, then rate Non-Negotiable 1 as Does Not Meet. Check the final rating.

Then, briefly describe the strengths and weaknesses of these materials in light of the above Criterion.

Rating

☐ **Meets**

☐ **Does Not Meet**

Strengths / Weaknesses:

Before moving to Alignment Criterion 1, record the final Meets or Does Not Meet rating in the Evaluation Summary on Page 34.

> ## Now continue by evaluating Alignment Criterion 1: Rigor and Balance.

Directions for Alignment Criterion 1

Rigor and Balance

Alignment Criterion 1: Materials must reflect the balances in the Standards and help students meet the Standards' rigorous expectations.

The Standards set expectations for all three aspects of rigor: conceptual understanding, procedural skill and fluency, and applications. Thus, materials must reflect the balances in the Standards and help students meet the Standards' rigorous expectations.

Materials to Assemble

- Common Core State Standards for Mathematics (www.corestandards.org/wp-content/uploads/Math_Standards.pdf)
- Widely Applicable Prerequisites for College and Careers (www.achievethecore.org/prerequisites)
- From the materials being evaluated: teacher guides, student texts and workbooks

It will also be helpful for reviewers to consult the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013). (www.corestandards.org/assets/Math_Publishers_Criteria_HS_Spring%202013_FINAL.pdf).

Metrics to Review

- **AC Metric 1A:** The materials support the development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings.

- **AC Metric 1B:** The materials are designed so that students attain the fluency and procedural skills required by the Standards.

- **AC Metric 1C:** The materials are designed so that teachers and students spend sufficient time working with applications, without losing focus on the Widely Applicable Prerequisites.

Rating this Criterion

Alignment Criterion 1 is rated as Meets or Does Not Meet.

To rate Alignment Criterion 1, first rate metrics 1A, 1B, and 1C. Rate each metric as Meets (2 points), Partially Meets (1 point), or Does Not Meet (0 points). For each metric, guiding questions are provided to aid in gathering evidence.

Since there are three metrics, and each metric is worth up to 2 points, the maximum possible rating across all three metrics is 6 points. Ideally, aligned materials will earn all 6 points; materials are judged to have met Alignment Criterion 1 if the materials rate 5 or 6 points. This threshold recognizes that evaluators sometimes differ in how they assess features such as rigor and balance, while at the same time ensuring that no single metric can receive a rating of zero and be aligned to the Shifts and major features of the CCSSM.

Alignment Criterion 1

Rigor and Balance

Use the questions on this page to evaluate Metric 1A. On page 16, record evidence for each question and rate Metric 1A.

Metric

AC Metric 1A:
The materials support the development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings.

How to Find the Evidence

Identify clusters or standards from the Widely Applicable Prerequisites that relate specifically to conceptual understanding to use throughout the questions associated with this metric.

NOTE: Some examples of clusters or standards that call for conceptual understanding include: N-RN.A.1, A-APR.B, A-REI.A.1, A-REI.D.10, A.REI.D.11, F.IF.A.1, F-LE.A.1, G.SRT.A.2, G-SRT.C.6, S-ID.C.7

For context, read Criterion #2a in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Is conceptual understanding attended to thoroughly where the Standards set explicit expectations for understanding or interpreting? Evaluate lessons, chapter/unit assessments, and homework assignments, paying attention to work aligned to standards that explicitly call for understanding or interpreting.

Do the materials feature high-quality conceptual problems and conceptual discussion questions? Evaluate lessons, chapter/unit assessments, and homework assignments. NOTE: Examples of conceptual problems might include such questions as "What is the maximum value of the function $f(t) = 5 - t^2$?" or "Is $\sqrt{2}$ a polynomial? How about $\frac{1}{2}(x + \sqrt{2}) + \frac{1}{2}(-x + \sqrt{2})$?"

Do the materials feature opportunities to identify correspondences across mathematical representations? Evaluate lessons, chapter/unit assessments, and homework assignments. NOTE: An example of evaluating this metric might include looking at whether materials support students in identifying correspondences among the expression that defines a function, the graph that shows the relationship, and the behavior of the phenomenon being modeled (if any).

Alignment Criterion 1

Rigor and Balance

Metric

AC Metric 1A:
The materials support the development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or cluster headings.

Evidence

Is conceptual understanding attended to thoroughly where the Standards set explicit expectations for understanding or interpreting?

Do the materials feature high-quality conceptual problems and conceptual discussion questions?

Do the materials feature opportunities to identify correspondences across mathematical representations?

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Alignment Criterion 1

Rigor and Balance

Use the questions on this page to evaluate Metric 1B. On page 18, record evidence for each question and rate Metric 1B.

Metric	How to Find the Evidence	Evidence
AC Metric 1B: The materials are designed so that students attain the fluency and procedural skills required by the Standards.	Identify clusters or standards from the Widely Applicable Prerequisites that relate specifically to fluency and procedural skill to use throughout the questions associated with this metric. NOTE: Some examples of standards that call for procedural skill and fluency include: A-SSE.A.1b, A-SSE.2, A-APR.A.1, A-APR.C.6, F-BF.B.3, G-GPE.B.4, G-GPE.B.5, G-GPE.B.7, G-CO.A.1, G-SRT.B.5 For context, read Criterion #2b in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).	Is progress toward fluency and procedural skill interwoven with the student's developing conceptual understanding of the skills in question? Evaluate lessons, chapter/unit assessments, daily routines, and homework assignments for evidence that the development of fluency and procedural skill is supported by conceptual understanding.

Reviewer Initials: _____   **Title of Program:** _____

Alignment Criterion 1

Rigor and Balance

Metric

AC Metric 1B:
The materials are designed so that students attain the fluencies and procedural skills required by the Standards.

Evidence

Is progress toward fluency and procedural skill interwoven with the student's developing conceptual understanding of the skills in question?

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Alignment Criterion 1

Rigor and Balance

Use the questions on this page to evaluate Metric 1C. On page 20, record evidence for each question and rate Metric 1C.

Metric

AC Metric 1C:
The materials are designed so that teachers and students spend sufficient time working with applications, without losing focus on the Widely Applicable Prerequisites.

How to Find the Evidence

Identify clusters or standards from the Widely Applicable Prerequisites that relate specifically to application to use throughout the questions associated with this metric.

NOTE: Some examples of clusters or standards that call for application include: N-Q.A, A-SSE.B.3, A-REI.D.11, F-IF.B, F-IF.C.7, F-BF.A.1, G-SRT.C.8, S-ID.A.2, S-IC.A.1

For context, read Criterion #2c in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Are there single- and multi-step contextual problems that develop the mathematics of the course, afford opportunities for practice, and engage students in problem solving? Do the problems attend thoroughly to those places in the content standards where expectations for multi-step and real-world problems are explicit? Evaluate lessons, chapter/unit assessments, and homework assignments.

Do application problems particularly stress applying the Widely Applicable Prerequisites? Evaluate lessons, chapter/unit assessments, and homework assignments.

Are there ample opportunities for students to engage with modeling problems? Do materials require students to use both individual parts of the modeling cycle as well as the full modeling cycle? Read the pages on High School—Modeling in the Standards for Mathematics (pp. 72 and 73). Evaluate lessons, chapter/unit assessments, and homework assignments.

Alignment Criterion 1
Rigor and Balance

Metric

AC Metric 1C:
The materials are designed so that teachers and students spend sufficient time working with applications, without losing focus on the Widely Applicable Prerequisites.

Evidence

Are there single- and multi-step contextual problems that develop the mathematics of the course, afford opportunities for practice, and engage students in problem solving? Do the problems attend thoroughly to those places in the content standards where expectations for multi-step and real-world problems are explicit?

Do application problems particularly stress applying the Widely Applicable Prerequisites?

Are there ample opportunities for students to engage with modeling problems? Do materials require students to use both individual parts of the modeling cycle as well as the full modeling cycle?

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Alignment Criterion 1

Rigor and Balance

Alignment Criterion 1: Materials must reflect the balances in the Standards and help students meet the Standards' rigorous expectations.

Points Assigned for Alignment Criterion 1

Materials must earn at least 5 out of 6 points to meet this Alignment Criterion. If materials earn fewer than 5 points, the Criterion has not been met. Check the final rating.

Then, briefly describe the strengths and weaknesses of these materials in light of the above Criterion.

Rating

____ **Total (6 points possible)**

☐ **Meets**

☐ **Does Not Meet**

Strengths / Weaknesses:

Before moving to Alignment Criterion 2, record the final Meets or Does Not Meet rating in the Evaluation Summary on Page 34.

Directions for Alignment Criterion 2

Standards for Mathematical Practice

Alignment Criterion 2: Materials must authentically connect content standards and practice standards.

The Standards require that designers of instructional materials connect the mathematical practices to mathematical content in instruction (CCSSM, p. 8). Thus, materials must demonstrate authentic connections between content standards and practice standards.

Materials to Assemble

- Common Core State Standards for Mathematics (www.corestandards.org/wp-content/uploads/Math_Standards.pdf)

- Widely Applicable Prerequisites for College and Careers (www.achievethecore.org/prerequisites)

- From the materials being evaluated: teacher guides, student texts and workbooks

It will also be helpful for reviewers to consult the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013). (www.corestandards.org/assets/Math_Publishers_Criteria_HS_Spring%202013_FINAL.pdf).

Metrics to Review

- **AC Metric 2A:** Materials address the practice standards in such a way as to enrich the Widely Applicable Prerequisites; practice standards strengthen the focus of the course instead of detracting from it, in both teacher and student materials.

- **AC Metric 2B:** Materials attend to the full meaning of each practice standard.

- **AC Metric 2C:** Materials support the Standards' emphasis on mathematical reasoning.

Rating this Criterion

Alignment Criterion 2 is rated as Meets or Does Not Meet.

To rate Alignment Criterion 2, first rate metrics 2A, 2B, and 2C. Rate each metric as Meets (2 points), Partially Meets (1 point), or Does Not Meet (0 points). For metrics 2B and 2C, guiding questions are provided to aid in gathering evidence.

Since there are three metrics, and each metric is worth up to 2 points, the maximum possible rating across all three metrics is 6 points. Ideally, aligned materials will earn all 6 points; materials are judged to have met Alignment Criterion 2 if the materials rate 5 or 6 points. This threshold recognizes that evaluators sometimes differ in how they assess features such as mathematical practices, while at the same time ensuring that no single metric can receive a rating of zero and be aligned to the Shifts and major features of the CCSSM.

Alignment Criterion 2

Standards for Mathematical Practice

Metric

AC Metric 2A:
Materials address the practice standards in such a way as to enrich the Widely Applicable Prerequisites; practice standards strengthen the focus of the course instead of detracting from it, in both teacher and student materials.

How to Find the Evidence

Familiarize yourself with the Widely Applicable Prerequisites.

Evaluate teacher and student materials for evidence that the mathematical practices support and connect to the focus of the course.

NOTE: Examples of evaluating this metric might include looking at whether materials use regularity in repeated reasoning to illuminate formal algebra as well as functions, particularly recursive definitions of functions.

For context, read Criterion #6 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).

Evidence

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Reviewer Initials: _____   **Title of Program:** _____

Alignment Criterion 2

Standards for Mathematical Practice

Use the questions on this page to evaluate Metric 2B. On page 25, record evidence for each question and rate Metric 2B.

Metric	How to Find the Evidence	Evidence
AC Metric 2B: Materials attend to the full meaning of each practice standard.	For context, read Criterion #7 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).	Over the course of any given year of instruction, is each practice standard meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standards? Evaluate lessons, chapter/ unit assessments, and homework assignments for evidence of each practice standard being meaningfully present in instruction. Are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development included? Are alignments to practice standards accurate? Evaluate teacher materials, paying attention to explanations of the role of the practice standards in the classroom and in students' mathematical development. Evaluate documents aligning lessons to practice standards for accuracy. NOTE: Examples to look for when evaluating this metric might include the following: a highly scaffolded problem should not be aligned to MP.1; or a problem that directs a student to use a calculator should not be aligned to MP.5; or a problem about merely extending a pattern should not be aligned to MP.8.

Alignment Criterion 2

Standards for Mathematical Practice

Metric

AC Metric 2B:
Materials attend to the full meaning of each practice standard.

Evidence

Over the course of any given year of instruction, is each practice standard meaningfully present in the form of assignments, activities, or problems that stimulate students to develop the habits of mind described in the practice standard?

Are teacher-directed materials that explain the role of the practice standards in the classroom and in students' mathematical development included? Are alignments to practice standards accurate?

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Alignment Criterion 2

Standards for Mathematical Practice

Use the questions on this page to evaluate Metric 2C. On page 27, record evidence for each question and rate Metric 2C.

Metric	How to Find the Evidence	Evidence
AC Metric 2C: Materials support the Standards' emphasis on mathematical reasoning.	For context, read Criterion #8 in the High School Publishers' Criteria for the Common Core State Standards for Mathematics (Spring 2013).	Do the materials support students in constructing viable arguments and critiquing the arguments of others concerning course-level mathematics that is detailed in the content standards? Read Standard for Mathematical Practice 3. Evaluate teacher and student materials to ensure that students are given opportunities to reason with grade-level mathematics.
		Do the materials support students in producing not only answers and solutions, but also, in a course-appropriate way, arguments, explanations, diagrams, mathematical models, etc., especially in the Widely Applicable Prerequisites? Familiarize yourself with the Widely Applicable Prerequisites. Evaluate teacher and student materials to understand the types of work students are expected to produce.
		Do materials explicitly attend to the specialized language of mathematics? Is the language of argument, problem solving, and mathematical explanations taught rather than assumed? Evaluate teacher and student materials, paying attention to how mathematical language is taught. NOTE: An example of evaluating this metric might include looking at whether students are supported in: basing arguments on definitions using the method of providing a counterexample, or recognizing that examples alone do not establish a general statement.

Alignment Criterion 2

Standards for Mathematical Practice

Metric

AC Metric 2C:
Materials support the Standards' emphasis on mathematical reasoning.

Evidence

Do the materials support students in constructing viable arguments and critiquing the arguments of others concerning course-level mathematics that is detailed in the content standards?

Do the materials support students in producing not only answers and solutions, but also, in a course-appropriate way, arguments, explanations, diagrams, mathematical models, etc., especially in the Widely Applicable Prerequisites?

Do materials explicitly attend to the specialized language of mathematics? Is the language of argument, problem solving, and mathematical explanations taught rather than assumed?

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Alignment Criterion 2

Standards for Mathematical Practice

Alignment Criterion 2: Materials must authentically connect content standards and practice standards.

Points Assigned for Alignment Criterion 2

Materials must earn at least 5 out of 6 points to meet this Alignment Criterion. If materials earn fewer than 5 points, the Criterion has not been met. Check the final rating.

Then, briefly describe the strengths and weaknesses of these materials in light of the above Criterion.

Rating

____ **Total (6 points possible)**

☐ **Meets**

☐ **Does Not Meet**

Strengths / Weaknesses:

Before moving to Alignment Criterion 3, record the final Meets or Does Not Meet rating in the Evaluation Summary on Page 34.

Reviewer Initials: _____   **Title of Program:** _____

Directions for Alignment Criterion 3

Access to the Standards for All Students

Alignment Criterion 3: Materials must provide supports for English Language Learners and other special populations.

Because the Standards are for all students, evaluation requires that careful attention be paid to ensure that all students, including English Language Learners and those with different learning needs, have access to high-quality, aligned materials. The IMET is designed primarily to help educators determine whether instructional materials are aligned to the Shifts and major features of the CCSS. The IMET also allows room for local considerations to ensure that selected materials provide access for the specific set of students who will be using those materials.

Materials to Assemble

- Common Core State Standards for Mathematics (www.corestandards.org/wp-content/uploads/Math_Standards.pdf)

- From the materials being evaluated: teacher guides, student texts and workbooks

Metrics to Review

- **AC Metric 3A:** 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.

- **AC Metric 3B:** Materials provide appropriate level and type of scaffolding, differentiation, intervention, and support for a broad range of learners with gradual removal of supports, when needed, to allow students to demonstrate their mathematical understanding independently.

- **AC Metric 3C:** Design of lessons recommends and facilitates a mix of instructional approaches for a variety of learners (e.g., using multiple representations, asking a range of questions, checking for understanding, flexible grouping, pair-share, deconstructing/reconstructing the language of problems).

Rating this Criterion

Alignment Criterion 3 is rated as Meets or Does Not Meet.

To rate Alignment Criterion 3, first rate metrics 3A, 3B, and 3C. Rate each metric as Meets (2 points), Partially Meets (1 point), or Does Not Meet (0 points).

Since there are three metrics, and each metric is worth up to 2 points, the maximum possible rating across all three metrics is 6 points. Ideally, aligned materials will earn all 6 points; materials are judged to have met Alignment Criterion 3 if the materials earn 5 or 6 points. This threshold recognizes that evaluators sometimes differ in how they assess features such as support for special populations, while at the same time ensuring that no single metric can receive a rating of zero and be aligned to the Shifts and major features of the CCSSM. (If reviewers notice that materials have strong supports for some populations but weak supports for others, then reviewers can consider disaggregating scores for this Alignment Criterion to ensure that the selected materials provide access for the specific students who will be using the materials.)

Alignment Criterion 3

Access to the Standards for All Students

Metric

AC Metric 3A:
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.

How to Find the Evidence

Evaluate teacher and student materials, paying attention to supports offered for special populations. Supports provided should ensure that all students are engaging with grade-level standards. For example, supports for English Language Learners should include attention to and analysis of the language of mathematical problems.

Evidence

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Reviewer Initials: _____ **Title of Program:** _____

Alignment Criterion 3

Access to the Standards for All Students

Metric

AC Metric 3B:
Materials provide appropriate level and type of scaffolding, differentiation, intervention, and support for a broad range of learners with gradual removal of supports, when needed, to allow students to demonstrate their mathematical understanding independently.

How to Find the Evidence

Evaluate teacher and student materials, paying attention to whether materials provide differentiation that will lead all learners to engage with on-grade-level content. For example, materials may offer suggestions for distinguishing between difficulties in conceptual understanding versus developing English proficiency and should offer suggestions for supporting learners in both circumstances.

Evidence

Rating

☐ **Meets (2)**

☐ **Partially Meets (1)**

☐ **Does Not Meet (0)**

Reviewer Initials: _____   **Title of Program:** _____

Alignment Criterion 3

Access to the Standards for All Students

Metric

AC Metric 3C:
Design of lessons recommends and facilitates a mix of instructional approaches for a variety of learners (e.g., using multiple representations, asking a range of questions, checking for understanding, flexible grouping, pair-share, deconstructing/ reconstructing the language of problems).

How to Find the Evidence

Evaluate teacher materials, noting instructional approaches suggested for whole class and differentiated lessons and activities.

Evidence

Rating

- ☐ **Meets (2)**
- ☐ **Partially Meets (1)**
- ☐ **Does Not Meet (0)**