



Core Content Evidence Guide v2.0

**Mathematics**

**High School**

# Gateway 1

[Criterion 1.1: 1ai, 1aii, 1bi, 1bii, 1c, 1d, 1e, 1f](#)

# Gateway 2

[Criterion 2.1: 2a, 2b, 2c, 2d](#)

[Criterion 2.2: 2e, 2f, 2g, 2h](#)

# Gateway 3

[Criterion 3.1: 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h](#)

[Criterion 3.2: 3i, 3j, 3k, 3l](#)

[Criterion 3.3: 3m, 3n, 3o, 3p, 3q, 3r, 3s, 3t, 3u, 3v](#)

[Criterion 3.4: 3w, 3x, 3y, 3z](#)

# Gateway 1: Focus & Coherence

## Criterion 1.1

### Focus and Coherence

Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p. 57 CCSSM).

### What is the purpose of this Criterion?

Criterion 1 considers how well the materials focus on college and career ready standards.

### Research Connection

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQulP Rubric for Lessons & Units](#)

### Scoring:

#### Meets Expectations

- 18-24 points

#### Partially Meets Expectations

- 13-17 points

#### Does Not Meet Expectations

- <13 points

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p. 57 CCSSM).
<b>Indicator 1a.i</b>	Materials focus on the high school standards.  1a.i. Materials attend to the full intent of the mathematical content contained in the high school standards for all students.

## Scoring:

Notes: The parts of the materials that teachers complete can be used as evidence of attending to the full intent of the standards for this indicator. If students do not have the opportunity to attend to standards, or aspects of them, independently but teachers do, then the materials would be attending to the full intent of the standards for this indicator but not giving students the opportunity to fully learn the standard, which is 1bii.

<b>4 points</b> <ul style="list-style-type: none"> <li>All aspects of all non-plus standards are addressed by the instructional materials of the series with only a few instances of exception.</li> </ul>	<b>2 points</b> <ul style="list-style-type: none"> <li>More than a few aspects of the non-plus standards have not been completely addressed by the instructional materials of the series.</li> </ul> <p style="text-align: center;">AND/OR</p> <ul style="list-style-type: none"> <li>Some non-plus standards have been entirely omitted from the instructional materials of the series.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Many aspects of the non-plus standards have not been completely addressed by the instructional materials of the series.</li> </ul> <p style="text-align: center;">AND/OR</p> <ul style="list-style-type: none"> <li>Many non-plus standards have been entirely omitted from the instructional materials of the series.</li> </ul>
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## About this indicator:

What is the purpose of this Indicator?

This indicator, along with the other indicators of Gateway 1, determines the shifts of focus and coherence. This indicator attends to the shift of focus by specifically examining those standards which do not have a plus (+) symbol (non-plus standards), and in the case of non-plus standards labeled as opportunities for modeling, this indicator examines only the content of those non-plus standards. This indicator attends to the shift of coherence by analyzing non-plus standards across a high school series to determine if the materials limit the aspects (see below) of non-plus standards that are addressed.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)

- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)

## Indicator 1a.i Guiding Questions:

Do the materials attend to the full intent (all aspects) of the non-plus high school standards? In other words, are all aspects of all non-plus standards present?

### Evidence Collection

Review the HS CCSSM to become familiar with the non-plus standards and clusters.

For each course in the series, note what aspects of non-plus standards are addressed through any instructional materials provided, including assessments.

Aspects could include, but are not limited to:

- types of mathematical objects (equation, expression, inequality, systems);
- types of numbers;
- families of functions/equations/inequalities (polynomial, exponential, logarithmic, rational, etc.);
- tools used (paper and pencil, graphing calculators, software, etc.);
- actions required by the teacher (see Notes in Scoring section); and
- actions required of students (see Notes in Scoring section).

For the series, determine if each aspect of the non-plus standards is completely addressed through any instructional materials provided, including assessments.

For the series, note entire non-plus standards that are not addressed or aspects of non-plus standards that are not addressed, examples include:

- If a series only offered opportunities with the cluster A-CED that involved mathematical objects from linear or quadratic families, then the series would not be attending to the full intent of the mathematical content contained in the cluster A-CED.
- If a series included opportunities addressing A-REI.11 for students to work with linear functions and not the other function types listed, then the series would not be attending to the full intent of the standard.
- A-SSE.3 states “Choose and produce an equivalent form of an expression...” The series would not meet the full intent of the standard if students are required to produce equivalent forms without ever having a choice as to which equivalent form. That is, if students are always directed to produce a specific equivalent form (e.g. “Rewrite in factored form”) and they are never allowed choice (e.g. “Rewrite in an equivalent form that reveals the zeros of the function.”), then the series does not meet the full intent of the standard.

### Cluster Meeting

Have all aspects of the non-plus standards been addressed through any instructional materials provided, including assessments, by the series?

- If yes, be sure to have evidence of where various aspects of different standards are addressed.

- If no, be sure to have evidence of which non-plus standards are omitted or which aspects of non-plus standards are not fully addressed.

Are there any courses in the series that excel in addressing this indicator?

Are there any courses in the series that do not address this indicator as well as the others?

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p. 57 of CCSSM).
<b>Indicator 1a.ii</b>	Materials focus on the high school standards.  1a.ii. Materials attend to the full intent of the modeling process when applied to the modeling standards.

Scoring:		
<p>2 points</p> <ul style="list-style-type: none"> <li>The full intent of the modeling process is used to address all, or nearly all, of the modeling standards by the instructional materials of the series.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>Materials intentionally develop the full intent of the modeling process throughout the series leading to culminating experiences that address all, or nearly all, of the modeling standards.</li> </ul>	<p>1 point</p> <ul style="list-style-type: none"> <li>Various aspects of the modeling process are present in isolation or combinations, yet opportunities for the complete modeling process are absent for the modeling standards throughout the instructional materials of the series.</li> </ul> <p style="text-align: center;">AND/OR</p> <ul style="list-style-type: none"> <li>The full intent of the modeling process has not been used to address more than a few modeling standards by the instructional materials of the series.</li> </ul> <p style="text-align: center;">AND/OR</p> <ul style="list-style-type: none"> <li>The full intent of the modeling process has been omitted for more than a few modeling standards by the instructional materials of the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Some aspects of the modeling process are altogether missing from the instructional materials of the series.</li> </ul> <p style="text-align: center;">AND/OR</p> <ul style="list-style-type: none"> <li>The full intent of the modeling process has not been used to address many of the modeling standards by the instructional materials of the series.</li> </ul> <p style="text-align: center;">AND/OR</p> <ul style="list-style-type: none"> <li>The full intent of the modeling process has been omitted for most of the modeling standards by the instructional materials of the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with the other indicators of Gateway 1, determines the shifts of focus and coherence. This indicator attends to the shift of focus by specifically examining the use of the modeling process with those standards that have a star symbol but do not have a plus (+) symbol (modeling standards). This indicator attends to the shift of coherence by analyzing the use of the modeling process with the modeling standards across a

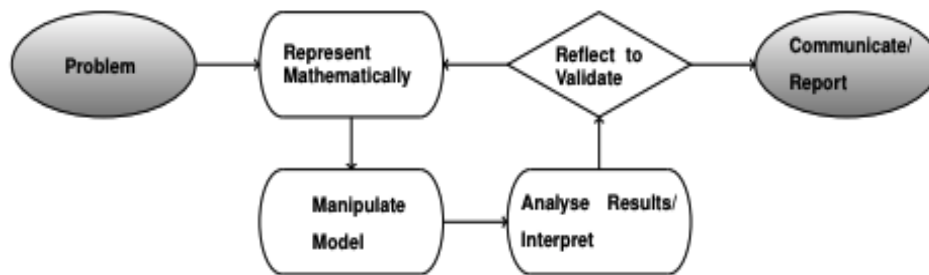
high school series to determine if the materials limit any of the aspects (see below) of the standards in which the modeling process is used.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUIP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- Review the progressions document “[Modeling, High School](#)”.
- Review “[How to Identify Tasks that Engage Students in Mathematical Modeling NCTM-SIAM Committee on Modeling Across the Curriculum](#)”
- “Math Modeling: Getting Started & Getting Solutions” (A link to this handbook cannot be provided, but it can be downloaded by googling “SIAM and Moody’s modeling handbook”.)



## Indicator 1a.ii Guiding Question:

Do the instructional materials attend to the full intent of the modeling process when applied to the modeling standards?

### Evidence Collection

Review the tables of content for both the student and teacher materials, any standards-alignment information in the materials, and any scope and sequence information provided by the publisher to establish a foundation of where and how often the modeling standards are addressed.

Review all instructional materials provided, including assessments. For each course in the series, note where modeling standards are being addressed with the full intent of the modeling process.

Note where modeling standards are being addressed with certain aspects of the modeling process, but not the full modeling process.

Aspects *could* include, but are not limited to:

- variable identification;
- approximation of quantities, shapes, behaviors, etc.;
- formulation of models (e.g. geometric, graphical, tabular, algebraic, statistical representations);

- analysis of relationships;
- interpretation of results in the context of the situation;
- validation of conclusions in light of the context;
- revision of models as needed;
- communication of results
- summarization of conclusions, assumptions, and methods; and
- tools used (paper and pencil, graphing calculators, software, etc.).

For the series, note modeling standards that are not addressed with the modeling process and/or aspects of the modeling process.

The following examples are for illustrative purpose only:

- If the materials regularly direct students to the choice of variables to be used, then the materials do not attend to the full intent of the modeling process.
- If the materials provide the model or dictate the type of model students should use, then the materials do not attend to the full intent of the modeling process.
- If the materials dictate what conclusions should be made, then the materials do not attend to the full intent of the modeling process.
- If the materials do not allow for students to reflect on the appropriateness of results in light of the context and/or make adaptations to the model, then the materials do not attend to the full intent of the modeling process.
- If modeling problems are included such that the mathematics students will use is clearly evident, then the materials do not attend to the full intent of the modeling process. For example, a modeling problem that requires using quadratic equations or functions is placed at the end of a chapter or lesson on quadratic equations.

## Cluster Meeting

Are individual aspects of the modeling process found in the materials? Do the materials focus on isolated aspects in order to build up to the fullness of the modeling process? If so, do the materials allow for multiple, culminating opportunities for students to employ the fullness of the modeling process?

- If yes, document which aspects, or combination of aspects, of the modeling process are found. Provide evidence of how the materials allow students to grow in the modeling process.
- If no, provide evidence for when different aspects of the modeling process are found in isolation or are completely omitted.

Has the full intent of the modeling process through any instructional materials provided, including assessments, been addressed?

- If yes, provide evidence of where the materials provide opportunities for students to employ the full modeling process.
- If no, provide evidence of where the materials interrupt the modeling cycle. Specify which aspects of the modeling process are addressed and which aspects are neglected.

Are there any modeling standards, clusters, domains, or conceptual categories that are addressed without the full intent of the modeling process?

Do the materials allow for growth and sophistication with modeling as specified in the progression documents?

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p. 57 of CCSSM).
<b>Indicator 1b.i</b>	<p>Materials provide students with opportunities to work with all high school standards and do not distract students with prerequisite or additional topics that do not support the high school standards.</p> <p>1b.i. Materials, when used as designed, allow students to spend the majority of their time on the content from CCSSM widely applicable as prerequisites for a range of college majors, postsecondary programs, and careers.</p>

<b>Scoring:</b>	
<p>2 points</p> <ul style="list-style-type: none"> <li>Evidence clearly describes how the materials for the SERIES, when used as designed, allows students to spend the majority of their time (&gt;50%) on the content widely applicable as prerequisites (<a href="#">WAPs</a>) for a range of college majors, postsecondary programs, and careers.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>The SERIES does not spend a majority of time on the WAPs, and the majority of the remaining materials address prerequisites or additional topics that are distracting.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with the other indicators of Gateway 1, determines the shifts of focus and coherence. This indicator attends to the shift of focus by specifically examining if a majority of the instructional materials are designed to engage students in content from the CCSSM widely applicable as prerequisites for a range of college majors, postsecondary programs, and careers. This indicator attends to the shift of coherence because much of the content from the CCSSM widely applicable as prerequisites for opportunities after high school not only spans multiple courses at the high school level but also incorporates the application of key takeaways from grades 6 through 8.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)

- [Institute for Mathematics Education Progressions Documents](#)
- Review Table 1 on page 8 of [High School Publishers' Criteria for the Common Core State Standards for Mathematics \(Spring 2013\)](#) to become familiar with the content from the CCSSM widely applicable as prerequisites for a range of college majors, postsecondary programs, and careers (WAPs).

## Indicator 1b.i Guiding Question:

Do the materials, when used as designed, focus on the Widely Applicable as Prerequisites (WAPs) for a range of college majors, postsecondary programs, and careers?

### Evidence Collection

Review all instructional materials provided, including assessments. For each course in the series, document how often the WAPs are addressed through any instructional materials provided, including assessments.

For each course in the series, document how often prerequisite or additional topics are included in a way that distracts students from the WAPs or non-plus standards. When noting a distraction, reviewers should clearly describe how the prerequisite or additional topics are drawing students' learning away from the WAPs or non-plus standards.

The following examples are non-conclusive guides for illustrative purpose only:

- In a first-year high school course, numerous activities, lessons, or chapters that merely review content standards from grades 6 through 8 could be distracting, prerequisite topics.
- A unit or chapter addressing the concept of limits and the skills associated with calculating limits could be a distracting additional topic.
- A unit on fractals or tessellations where the CCSSM are not intertwined would be considered an additional, distracting topic if the unit does not strengthen, support, or introduce CCSSM.

For the series, analyze how often the WAPs are addressed by the instructional materials, including assessments.

Analysis of how often the materials focus on WAPs could include, but is not limited to:

- amount of instructional materials, including assessment items, aligned to the WAPs;
- amount of instructional materials, not including assessment items, aligned to the WAPs; and
- amount of instructional materials that include distracting prerequisite or additional topics.

### Cluster Meeting

Do a majority of the materials in the series, when used as designed, engage students in the WAPs?

- If yes, be able to clearly explain what evidence has been collected and how the evidence justifies your conclusion.
- If no, be able to clearly justify with evidence how the materials fall short of having a majority. Evidence could include how the materials might be supplemented to achieve a majority.

Do the materials in the series, when used as designed, distract students with prerequisite or additional topics? In what ways might topics that align to standards from grades 6 through 8 or the plus standards not be considered distracting, prerequisite, or additional?

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p. 57 of CCSSM).
<b>Indicator 1b.ii</b>	Materials provide students with opportunities to work with all high school standards and do not distract students with prerequisite or additional topics.  1b.ii. Materials, when used as designed, allow students to fully learn each standard.

<b>Scoring:</b>		
<b>4 points</b> <ul style="list-style-type: none"> <li>Evidence clearly describes how the materials for the series, when used as designed, enable students to fully learn all or most of the non-plus standards.</li> </ul>	<b>2 points</b> <ul style="list-style-type: none"> <li>Materials for the series, when used as designed, do not enable students to fully learn some of the non-plus standards.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Materials for the series, when used as designed, do not enable students to fully learn most of the non-plus standards.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with the other indicators of Gateway 1, determines the shifts of focus and coherence. This indicator attends to the shift of focus by examining the non-plus standards. This indicator attends to the shift of coherence by determining if the materials of a series, when used as designed, enable all students to fully learn every aspect of each non-plus standard.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQulP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)

## Indicator 1b.ii Guiding Question:

Do the materials, when used as designed, allow students to fully learn each non-plus standard?

## Evidence Collection

Review the HS CCSSM to become familiar with the non-plus standards and clusters.

Review the tables of contents for both the student and teacher editions, any standards-alignment information in the materials, and any scope and sequence information provided by the publisher to establish a foundation of where and how often the non-plus standards are addressed.

Review chapters, lessons, activities, and assessments throughout the series to verify any standards-alignment information in the materials or given by the publishers.

For each course in the series, reviewers should note what aspects, how often those aspects, and in what ways those aspects of non-plus standards are addressed through any instructional materials provided, including assessments.

Aspects could include, but are not limited to:

- types of mathematical objects (equation, expression, inequality);
- types of numbers;
- families of mathematical objects (polynomial, exponential, logarithmic, rational, etc.); and
- tools used (paper and pencil, graphing calculators, software, etc.).

For the series, reviewers should examine all provided materials to document when *STUDENTS* are provided with sufficient opportunities to fully learn a non-plus standard, paying careful attention to each aspect of the standard.

- For example, if students are given numerous opportunities to decide if two figures are similar by using the definition of similarity in terms of transformations, articulate the transformations required to show the similarity, and explain the meaning of similarity- all verified with formative assessments and given further opportunities if needed- then the materials allow students to fully learn standard G-SRT.2.

For the series, reviewers should document when aspects of non-plus standards are addressed on limited occasions through any instructional materials provided, including assessments.

The following examples are non-conclusive guides for illustrative purpose only:

- If the materials provide only one lesson where students use function notation, then the materials do not allow students to fully learn F-IF.2.
- If students are required to explain each step in solving a simple equation a limited number of times within the series, then the materials do not allow students to fully learn A-REI.1.
- If students only calculate average rate of change of linear functions and all other aspects of F-IF.6 are addressed, then the materials do not allow students to fully learn F-IF.6.
- If materials provide limited exercises for students to practice a standard, then the materials do not allow students to fully learn the standard.

For the series, reviewers should consider the numbers, equation types, contexts, etc. that students should encounter as indicated by the non-plus standards. The following examples are non-conclusive guides for illustrative purpose only:

- If students solve systems of linear equations only with equations in slope-intercept form, then the materials do not allow students to fully learn A-REI.6.

- If students only factor quadratics with a leading coefficient of 1, then the materials do not allow students to fully learn A-SSE.3 or A-APR.3.

For the series, reviewers should note where the materials employ formative assessments to help teachers and students know if students are ready to move on or if students require more work on non-plus standards. When this occurs, document how teachers and students will know what to do in order to fully learn non-plus standards.

## Cluster Meeting

Do the materials, when used as designed, enable students to fully learn each non-plus standard?

- If yes, be able to clearly describe the various ways in which the materials enable all students to learn all of the aspects of the non-plus standards.
- If no, be able to clearly describe what characteristics the series is missing and how those characteristics would inhibit students from fully learning each non-plus standard.

If the series has not enabled all students to fully learn each non-plus standard, then what are the specific characteristics (for example, limited opportunities for practice, extensive scaffolding, etc.) that the series is missing?

Do the available materials provide ample opportunity for students to demonstrate that they have mastered the standard by the end of the series?

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p.57 of CCSSM).
<b>Indicator 1c</b>	Materials require students to engage in high school mathematics by focusing on problem contexts and attending to various types of real numbers.

Scoring:		
<p>2 points</p> <ul style="list-style-type: none"> <li>Materials regularly use contexts appropriate for high school students, use various types of real numbers, and provide opportunities for students to apply key takeaways from grades 6-8.</li> </ul>	<p>1 point</p> <ul style="list-style-type: none"> <li>Materials regularly use contexts appropriate for high school students and apply key takeaways from grades 6-8, yet do not vary the types of real numbers being used. AND/OR</li> <li>Materials regularly use various types of real numbers and apply key takeaways from grades 6-8, yet do not use contexts appropriate for high school students. AND/OR</li> <li>Materials regularly use contexts appropriate for high school students and vary the types of real numbers being used, yet some of the key takeaways from grades 6-8 are not applied.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Materials regularly do not use contexts appropriate for high school students or vary the types of real numbers being used. AND/OR</li> <li>Materials do not apply most of the key takeaways from grades 6-8.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator supports the shifts of Focus and Coherence. This indicator examines the materials to determine if students are given extensive opportunities to work with course-level problems and exercises appropriate to high school and relates new concepts to students’ prior skills and knowledge.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)

- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

#### Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- Review the far right column in Table 1 on page 8 of [High School Publishers' Criteria for the Common Core State Standards for Mathematics \(Spring 2013\)](#) to become familiar with the application of key takeaways from Grades 6-8.

## Indicator 1c Guiding Question:

Do materials engage students in mathematics at a level of sophistication appropriate for high school?

### Evidence Collection

Review the units, chapters, lessons, and assessments in both student and teacher materials.

Throughout the series, look for mathematical contexts that consist of real-life and relevant situations appropriate for high school students. Document instances of contexts that are or are not appropriate for high school students.

Throughout the series, consider the types of numbers being used. Look for opportunities where students learn new mathematics with simpler numbers and later perform operations and apply concepts using the full number system including rational, irrational, and complex numbers.

Throughout the series, determine if key takeaways from middle school are applied at a level of sophistication appropriate for high school students. Materials should not be “re-teaching” standards from Grades 6-8. Note: standards from Grades 6-8 do not need to be identified in either the teacher or student materials for this indicator. Key takeaways from middle school include, but are not limited to:

#### Ratios and Proportional Relationships (6.RP.A; 7.RP.A; 8.EE.B)

- 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<sup>3</sup>, acre-feet, etc.)

#### Functions (8.F)

- Applying basic function concepts, e.g., by interpreting the features of a graph in the context of an applied problem
- Use functions to model relationships

#### The Number System (6-7.NS)

- Performing rational number arithmetic fluently

#### Geometry (6-8.G)

- Applying concepts and skills of geometric measurement e.g., when analyzing a diagram or schematic

#### Statistics and Probability (6-8.SP)

- Applying concepts and skills of basic statistics and probability.

Note: “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” (p. 10 HS Publishers’ Criteria).

If the materials provide resources for differentiated learning, consider whether lower-performing students and/or special populations still have opportunities to engage in non-plus standards experiences appropriate for high school. Every student should engage with course-level work. Note: The quality and types of the differentiation provided by the materials are examined in Gateway 3.

## Cluster Meeting

Are the contexts relevant for high school students? Document instances of contexts that are or are not appropriate for high school students.

Do students regularly practice operations on rational and irrational numbers? Do the tasks and exercises help students grow in their procedural skills with operations on real numbers?

Which of the key takeaway applications (from Table 1 of the Publishers’ Criteria) are present in the series? Are the key takeaways being applied, or are standards from Grades 6-8 simply being re-taught? Do the applications of key takeaways occur throughout the series or only within one course?

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p. 57 of CCSSM).
<b>Indicator 1d</b>	Materials are mathematically coherent by making meaningful connections in a single course and throughout the series, where appropriate and where required by the Standards.

<b>Scoring:</b>		
<b>2 points</b> <ul style="list-style-type: none"> <li>Materials foster coherence through meaningful mathematical connections in a single course and throughout the series, where appropriate and where required by the Standards.</li> </ul>	<b>1 point</b> <ul style="list-style-type: none"> <li>Materials partially foster coherence through meaningful mathematical connections in a single course and throughout the series, where appropriate and where required by the Standards.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Materials do not foster coherence through meaningful mathematical connections in a single course and throughout the series, where appropriate and where required by the Standards.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator supports the shifts of Focus and Coherence within and across courses throughout the series. This indicator examines the materials to determine if the materials are making meaningful connections to prior learning. Connections between and across multiple standards are made in meaningful ways to support understanding of multiple standards at the same time.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQulP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)

## Indicator 1d Guiding Question:

Do the materials make meaningful connections to prior learning within a course and across the series?

Do the materials connect multiple standards and/or clusters in meaningful ways?

## Evidence Collection

**Note:** Meaningful connections are ones where students build mathematical knowledge by linking and applying multiple concepts within and across courses. For this indicator, identifications do not have to be explicit.

Review the units, chapters and lessons in both student and teacher materials.

Review the course and series scope and sequence.

Look for evidence throughout the series where students build mathematical knowledge by linking and applying multiple concepts within and across courses.

Look for lesson objectives that develop in a systematic way to meet the full depth of the high school standards.

Identify connections to prior learning from the course or the series for teachers and students. Materials allow teachers to design lessons and units that carefully connect new content and skills to those learned earlier in the course or across the series. For example, lessons and activities that serve to connect two or more clusters in a domain, two or more domains in a conceptual category, or two or more conceptual categories.

Examples of connections between conceptual categories:

- Applying geometric concepts in modeling situations (G-MG) allows students to create equations in one variable (A-CED.1) and use units as a way to understand problems and guide the solution (N-Q.3).
- The correspondence between numerical coordinates and geometric points allows methods from algebra to be applied to geometry and vice versa. The solution set of an equation becomes a geometric curve, making visualization a tool for doing and understanding algebra.
- Functions may be used to describe data; if the data suggest a linear relationship, the relationship can be modeled with a regression line, and its strength and direction can be expressed through a correlation coefficient.

Examples of connections among standards, clusters, and domains:

- The progression from congruence to area to similarity can be used to put each of these topics on a logical footing: The basic assumptions that congruent figures have the same area and that area is invariant under finite dissection bring coherence to the formulas for calculating areas of polygonal regions. These formulas, along with results such as the fact that triangles with equal bases and heights have the same area, can be used to prove properties of dilations and similarity. The triangle similarity criteria are necessary to develop the trigonometry of right triangles.
- Study of linear associations in statistics and probability (S-ID.6c, 7) builds on students' understanding of linear relationships (cf. F-LE.1). Exploration of quadratic relationships in data on two measurement variables (S-ID.6) depends on understanding key features of a quadratic function and being able to interpret them in terms of a context (F-IF..4).

Further examples can be found at [PARCC HS Model Content Framework](#) starting on page 73.

## Cluster Meeting

How is coherence present both within and across courses in the series?

How are the materials using previous course concepts to develop the full depth of the high school standards?

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	Materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready” (p.57 CCSSM).
<b>Indicator 1e</b>	Materials explicitly identify and build on knowledge from Grades 6-8 to the high school standards.

Scoring:		
<b>2 points</b> <ul style="list-style-type: none"> <li>Connections between Grades 6-8 and high school concepts are present and allow students to extend their previous knowledge.</li> </ul>	<b>1 point</b> <ul style="list-style-type: none"> <li>Connections between Grades 6-8 and high school concepts are partially present but may not allow students to extend their previous knowledge.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Connections between Grades 6-8 and high school concepts are not present and do not allow students to extend their previous knowledge.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator supports the shifts of Focus and Coherence, looking specifically at how the non-plus standards coherently connect to and build upon standards from Grades 6-8. This indicator examines the materials to determine if references to standards from Grades 6-8 are for the purpose of building on students’ previous knowledge and allowing students to make connections to new learning.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQulP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- Review criterion 3c on page 11 of the [High School Publishers' Criteria for the Common Core State Standards for Mathematics \(Spring 2013\)](#).”

## Indicator 1e Guiding Question:

How do materials explicitly identify and build knowledge from Grades 6-8 to the high school standards?

## Evidence Collection

Review the units, chapters and lessons in both student and teacher materials.

Review additional documents provided by the publisher, such as scope and sequence materials.

Cluster headings in the Standards sometimes signal key moments where reorganizing and extending previous knowledge is important in order to accommodate new knowledge. At other times, the cluster headings signal key connections to Grades 6-8. Look for and be mindful of such clusters.

Examples include but are not limited to:

- N-RN.A “Extend the properties of exponents to rational exponents.”
- A-REI.C “Solve systems of equations” extends 8.EE.8 “Analyze and solve pairs of simultaneous linear equations.”
- F-IF.A “Understand the concept of a function and use function notation” connects naturally with 8.F.A “Define, evaluate, and compare functions.”
- G-SRT.A “Understand similarity in terms of similarity transformations” builds on the work of 8.G.A “Understand congruence and similarity...”
- G-GMD.A “Explain volume formulas and use them to solve problems” coheres with 8.G.9 “Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems,” 7.G.6 “Solve real-world and mathematical problems involving area, volume...,” and 6.G.A “Solve real-world and mathematical problems involving area, surface area, and volume.”
- G-CO.A “Prove geometric theorems” extends the work of 7.G.5 “Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.”
- S-ID.A “Summarize, represent, and interpret data on a single count or measurement variable” relates well to 6.SP.B “Summarize and describe distributions.”

Throughout the series, look for:

- Grades 6-8 standards that are clearly identified as such in both the teacher and student materials;
- connections between 6-8 and high school concepts that are clearly articulated for teachers but may not be explicitly named for students; and
- the design of the materials to focus on the connections to mathematics of the previous grades as referenced in the Progression documents.

Determine if standards from Grades 6-8 are addressed in an appropriate way for high school; making meaningful connections rather than materials “re-teaching” Grades 6-8 standards.

Examples of Grades 6-8 to high school coherence could include, but are not limited to:

- Students work extensively with ratios and proportions in Grades 6-8. In high school students work with trigonometric ratios.
- Students work with transformations in order to understand similarity and congruence. In high school, students extend their work with transformations to develop similarity and congruence proofs.
- Students in middle grades worked with measurement units, including units obtained by multiplying and dividing quantities. In high school, students apply these skills in a more sophisticated fashion to solve problems in which reasoning about units adds insight into the structure of the problem and the solutions in context (N-Q).

- Students in Grade 8 extended their prior understanding of proportional relationships to begin working with functions with an emphasis on linear functions. In high school, students will master linear and quadratic functions. Students encounter other kinds of functions to ensure that general principles are perceived in generality, as well as to enrich the range of quantitative relationships considered in problems.
- As students acquire mathematical tools from their study of algebra and functions, they apply these tools in statistical contexts (e.g., S-ID.6). In a modeling context, they might informally fit a quadratic function to a set of data, graphing the data and the model function on the same coordinate axes. They also draw on skills they first learned in middle school to apply basic statistics and simple probability in a modeling context. For example, they might estimate a measure of center or variation and use it as an input for a rough calculation.
- In Grades 6-8, students worked with a variety of geometric measures (length, area, volume, angle, surface area, and circumference). In high school, students apply these component skills in tandem with others in the course of modeling tasks and other substantial applications (MP4).
- In Grade 8, students learned the Pythagorean theorem and used it to determine distances in a coordinate system (8.G.6–8). Early in high school, students prove theorems using coordinates (G-GPE.4–7). Later in high school, students build on their understanding of distance in coordinate systems and draw on their growing command of algebra to connect equations and graphs of conic sections (e.g., G-GPE.1).
- Further examples can be found at [PARCC HS Model Content Framework](#) starting on page 44.

## Cluster Meeting

Are the Grades 6-8 standards explicitly identified?

How are the materials using standards from Grades 6-8 to develop understanding of high school content?

Are the Grades 6-8 connections a purposeful extension or reinforcement of course-level standards, or do the connections interfere with the work of the course/series?

# Gateway 1: Focus & Coherence

<b>Criterion 1.1</b>	The program includes a system of assessments identifying how materials provide tools, guidance, and support for teachers to collect, interpret, and act on data about student progress towards the standards.
<b>Indicator 1f</b>	Assessment information is included in the materials to indicate which standards are assessed.

Scoring:		
<b>2 points</b> <ul style="list-style-type: none"> <li>Materials consistently identify the standards and practices assessed for formal assessments.</li> </ul>	<b>1 point</b> <ul style="list-style-type: none"> <li>Materials consistently identify the standards and/or practices assessed for formal assessments, but do not include all standards and/or practices for the grade or course level.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Materials do not identify the standards and practices assessed for the formal assessments.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator examines the assessment materials to determine whether they identify the standards being assessed for all formal assessment types. It is important to note that some assessments may be building toward the standards and not intended to measure full depth of the standards; these assessments should identify which aspects of the standards are being assessed and/or being built toward.

Formal assessments are determined by the publisher and could include all types: formative, summative, etc. Reviewers look for a list of standards assessed for the entire assessment and/or associated with each item/task. Reviewers look for evidence of identification only.

### Indicator 1f Guiding Question:

Does assessment information included in the materials indicate which standards are assessed?

### Evidence Collection

Review assessments and corresponding assessment guidance across the series. \*Note: this is not an item analysis.

Look for and record evidence to:

- Describe how and where assessments clearly identify which standards are being assessed. Include the level at which the assessment is given (unit, lesson, etc.) and the level at which standards are identified (assessment, task, item, etc.).
- Describe any instances where standards are listed incorrectly or are not from the appropriate grade level/band.
- In the event that the assessments build toward grade-level or grade-band standards, describe whether the assessment information identifies which aspects of the standards are assessed. Also, describe how and where the materials include information that details how the assessments build toward the standards for the grade level or band.

## Cluster Meeting

Discuss and answer the following questions to support consensus scoring conversations:

- Where and how do the materials clearly identify which standards are assessed?
- Do the standards correlations or assessment guidance documents indicate if all standards for the grade level/band are assessed by the end of the grade level/band?
- If assessments are building towards the standards, do the materials identify which aspects of the standards are being assessed and how these contribute to building toward grade-level/grade-band standards?

# Gateway 1: Focus & Coherence

Criterion 1.1	Materials assess grade-level content and give all students extensive work with grade-level problems to meet the full intent of grade-level standards.
Indicator 1g	Assessments include opportunities for students to demonstrate the full intent of grade-level/course-level standards and practices across the series.

Scoring:		
<p>4 points</p> <ul style="list-style-type: none"> <li>Assessments include opportunities for students to demonstrate the full intent of grade-level/course-level standards and practices across the series.</li> </ul>	<p>2 points</p> <ul style="list-style-type: none"> <li>Assessments do not include opportunities for students to demonstrate the full intent of grade-level/course-level standards across the series.</li> <li>OR</li> <li>Assessments do not include opportunities for students to demonstrate the full intent of grade-level/course-level practices across the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Assessments do not include opportunities for students to demonstrate the full intent of grade-level/course-level standards and practices across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator examines the assessments within and across the materials to determine whether they include a variety of assessment types that are constructed in a manner that allows for the depth of the grade-level standards and practices to be assessed.

ALL standards in the CCSSM and Mathematical Practices should be considered throughout evidence collection for indicator 1g.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)

## Indicator 1g Guiding Question:

Do the assessments include opportunities for students to demonstrate the full intent of grade-level/course-level standards and practices across the series?

### Evidence Collection

Review assessments and corresponding assessment guidance across the series.

Look for and record evidence to:

- Describe the different types of modalities used in student assessments (e.g., writing, illustrating, demonstrating, modeling, oral presentations, and performance tasks) and explain how they ensure students can fully demonstrate the intent of grade-level standards and mathematical practices.
- Describe the different types of items used for student assessments (e.g., performance tasks, discussion questions, constructed response questions, project- or problem-based tasks, portfolios, justified multiple choice) and explain how they are designed to measure student performance while fully addressing the intent of grade-level standards and mathematical practices.
- Demonstrate that assessments address sufficient complexity to ensure students engage meaningfully with the full intent of grade-level standards and mathematical practices.

### Cluster Meeting

Discuss and answer the following questions to support consensus scoring conversations:

- Do the assessments include a variety of modalities (e.g., writing, illustrating, demonstrating, modeling, oral presentations, and performance tasks), and how do these modalities ensure students can fully demonstrate the intent of grade-level standards and mathematical practices across different assessments, grades/courses, and series?
- Do the assessments include a variety of item types (e.g., performance tasks, discussion questions, constructed response questions, project- or problem-based tasks, portfolios, justified multiple choice), and how are these item types designed to fully develop and measure the intent of grade-level standards and mathematical practices across different assessments, grades/courses, and series?
- Is there an appropriate balance of complexity in assessment tasks to ensure that students are provided opportunities to fully engage with and demonstrate the intent of grade-level standards and mathematical practices?

# Gateway 2: Rigor & Mathematical Practices

## Criterion 2.1

### Rigor and Balance

Materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.

### What is the purpose of this Criterion?

Criterion 1 considers the ways in which the materials for each grade reflect the balances in the Standards and help students to meet the rigorous expectations by providing students with opportunities to make their own connections to the mathematics to develop conceptual understanding, procedural skill and fluency, and application.

### Research Connection

- [Common Core State Standards Mathematics](#)

### Scoring:

#### Meets Expectations

- 7-8 points

#### Partially Meets Expectations

- 5-6 points

#### Does Not Meet Expectations

- <5 points

# Gateway 2: Rigor & Mathematical Practices

<b>Criterion 2.1</b>	Materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.
<b>Indicator 2a</b>	Materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters.

Scoring:		
<b>2 points</b> <ul style="list-style-type: none"> <li>Materials develop conceptual understanding throughout the series. AND</li> <li>Materials provide opportunities for students to independently demonstrate conceptual understanding throughout the series.</li> </ul>	<b>1 point</b> <ul style="list-style-type: none"> <li>Materials do not develop conceptual understanding throughout the series. OR</li> <li>Materials do not provide opportunities for students to independently demonstrate conceptual understanding throughout the series.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Materials do not develop conceptual understanding throughout the series. AND</li> <li>Materials do not provide opportunities for students to independently demonstrate conceptual understanding series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2b, 2c, and 2d, determines the shift of Rigor. Conceptual understanding of key concepts will allow students to be able to access concepts from a number of perspectives in order to see mathematics as more than a set of algorithmic procedures.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [Achieve Framework to Evaluate Cognitive Complexity in Mathematics Assessments](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [Video: "Building Conceptual Understanding in Mathematics" \(NCTM\)](#)
- [Video: "Conceptual Understanding Excerpt" \(The Hunt Institute\)](#)

- Review criterion 2a on page 9 of the [High School Publishers' Criteria for the Common Core State Standards for Mathematics \(Spring 2013\)](#).
- [Concrete Representational Abstract: Instructional Sequence for Mathematics](#)
- Reading: “Principles To Actions”, (NCTM) p. 42-48

## Indicator 2a Guiding Questions:

Do the instructional materials develop students’ conceptual understanding throughout the series?

Do the instructional materials provide opportunities for students to independently demonstrate conceptual understanding throughout the series?

## Evidence Collection

Conceptual Understanding is a flexible web of connections and relationships within and between ideas, interpretations, and images of mathematical concepts that supports students in making sense of the main ideas of mathematics. Students with conceptual understanding can apply and adapt prior knowledge to new tasks, beyond solving a single math problem.

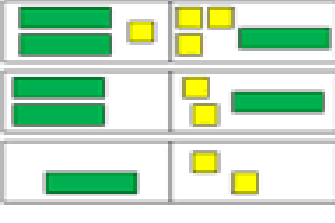
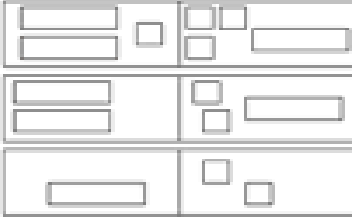
Select cluster(s) or standard(s) that specifically relate to conceptual understanding. Be aware that some cluster(s) and standard(s) lend themselves to more than one aspect of rigor. In such cases, look for evidence of conceptual understanding.

Look for the evidence in lessons, review lessons, chapter and/or unit assessments, homework assignments, concept checks (if included), hands-on activities (if included), investigations (if included), simple tasks and problems, and other areas that appear to be conceptual in nature.

Evaluate whether conceptual understanding present in lessons/chapters/units aligns to the aspect of rigor indicated by the standard(s).

Determine if the materials feature high-quality conceptual problems and conceptual discussion questions, including brief conceptual problems with low computational difficulty.

Determine if the materials offer opportunities for students to engage with concrete and representational (semi-concrete) representations, in writing and/or discussion, when developing conceptual understanding. For example:

Concrete	Representational	Abstract
<p>Student uses algebra tiles to solve the equation.</p> $2x + 1 = 3 + x$ 	<p>Student solves the equation by drawing representations of the concrete model.</p> $2x + 1 = 3 + x$ 	<p>The student connects the concrete models and the pictorial representation to the algebraic methods.</p> $2x + 1 = 3 + x$ $2x + 1 - 1 = 3 + x - 1$ $2x = 2 + x$ $2x - x = 2 + x - x$ $x = 2$

Determine if the materials feature opportunities to identify correspondences across mathematical representations in order to further develop conceptual understanding.

- Example: Through the series, the materials do not just offer opportunities for students to engage with different families of functions through equations, tables, graphs, and contexts, but the materials offer opportunities for students to make connections between the different representations for the various families of functions.

Evidence must include specific examples from the instructional materials. If evidence is addressing clusters or standards that relate specifically to conceptual understanding, list the specific clusters/standards and explain how the evidence demonstrates conceptual understanding. If opportunities to develop conceptual understanding are missed, specifically list the clusters/standards/opportunities that are missed.

The use of concrete representations (manipulatives) does not necessarily indicate conceptual understanding. If evidence includes concrete and/or visual representations, explain how the representations are being used to develop/enhance conceptual understanding. For example, students using algebra tiles to factor quadratic expressions should be able to explain the connections between the algebra tiles, the process of factoring, and the corresponding algebraic representations.

Note whether the instructional materials include a specific section in units/chapters/lessons, etc that are specifically designed for conceptual understanding. Include Unit, Lesson, Lesson Part and page numbers for reference for all examples.

*Examples include, but are not limited to:*

Clusters/Standards that relate to Conceptual Understanding
N-RN.1 – Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.
A-APR.B – Understand the relationship between zeros and factors of polynomials.
A-REI.A – Understand solving equations as a process of reasoning and explain the reasoning.

A-REI.10 – Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

A-REI.11 – Explain why the x-coordinates of the points where the graphs of the equations  $y = f(x)$  and  $y = g(x)$  intersect are the solutions of the equation  $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where  $f(x)$  and/or  $g(x)$  are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★

F-IF.A – Understand the concept of a function and use function notation.

F-LE.1 – Distinguish between situations that can be modeled with linear functions and with exponential functions.

G-SRT.2 – Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

G-SRT.6 – Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.

S-ID.7 – Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

## Cluster Meeting

What does intentional development of conceptual understanding look like in materials?

What specific evidence illustrates intentional development of conceptual understanding?

How do the materials in the series enable students to reason in settings involving the careful application of concept definitions, relations, or representations?

Do the materials attend to conceptual understanding throughout the series?

Do the instructional materials provide opportunities for students to independently demonstrate conceptual understanding throughout the series?

# Gateway 2: Rigor & Mathematical Practices

<b>Criterion 2.1</b>	Materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.
<b>Indicator 2b</b>	Materials provide intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters.

Scoring:		
<p>2 points</p> <ul style="list-style-type: none"> <li>Materials develop procedural skills and fluencies throughout the series.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials provide opportunities for students to independently demonstrate procedural skills and fluencies throughout the series.</li> </ul>	<p>1 point</p> <ul style="list-style-type: none"> <li>Materials do not develop procedural skills and fluencies throughout the series.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>Materials do not provide opportunities for students to independently demonstrate procedural skills and fluencies throughout the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Materials do not develop procedural skills and fluencies throughout the series.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials do not provide opportunities for students to independently demonstrate procedural skills and fluencies throughout the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2a, 2c, and 2d, determines the shift of Rigor. In order to meet the expectations of the standards materials must attend to three aspects of rigor, attending to a balance among conceptual understanding, procedural skills and fluency, and application as called for by the standards. Procedural skills and fluencies are the call for efficiency and accuracy in calculations. Students need to practice core skills in order to have access to more complex concepts and procedures.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [Achieve Framework to Evaluate Cognitive Complexity in Mathematics Assessments](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)

- Review criterion 2b on page 9 of the [High School Publishers' Criteria for the Common Core State Standards for Mathematics \(Spring 2013\)](#).

## Indicator 2b Guiding Question:

Do the instructional materials develop students' procedural skills and fluencies throughout the series as called for in the standards?

Do the instructional materials provide opportunities for students to independently demonstrate procedural skills and fluencies throughout the series?

## Evidence Collection

Procedural skill includes knowing how and why an algorithm works.

Fluency includes: efficiency, accuracy, flexibility, and appropriate strategy selection.

Select cluster(s) or standard(s) that specifically relate to procedural skills. Be aware that some cluster(s) and standard(s) lend themselves to more than one aspect of rigor. In such cases, look for evidence of procedural skills.

Evaluate whether aspects of rigor present in lessons/chapters/units align to the aspect of rigor in the targeted standard(s).

Look for procedural problems and exercises that include cases in which students use algorithms efficiently/fluently. For example, solve the system  $2x + 3y = -(1/2)x + 6 - y$  and  $2x + 5 = y + 2$ .

Evidence must include specific examples from the instructional materials. If opportunities to develop procedural skills are missed, specifically list the clusters/standards/opportunities that are missed. Note whether the instructional materials include a specific section in units/chapters/lessons, etc that are specifically designed for procedural skills. Include Unit, Lesson, Lesson Part and page numbers for reference for all examples.

*Examples include, but are not limited to:*

Clusters/Standards that relate to Procedural Skills
N-RN.2 – Rewrite expressions involving radicals and rational exponents using the properties of exponents.
A-SSE.2 – Use the structure of an expression to identify ways to rewrite it.
A-APR.1 – Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; <u>add, subtract, and multiply polynomials</u> .
A-APR.6 – Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$ , where $a(x)$ , $b(x)$ , $q(x)$ , and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$ , using inspection, long division, or, for the more complicated examples, a computer algebra system.

F-BF.4a – Solve an equation of the form  $f(x) = c$  for a simple function  $f$  that has an inverse and write an expression for the inverse. *For example,  $f(x) = 2x + 3$  or  $f(x) = (x+1)/(x-1)$  for  $x \neq 1$ .*

G-CO.12 - Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).

G-GPE.4 – Use coordinates to prove simple geometric theorems algebraically.

G-GPE.5 – Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).

G-GPE.6 – Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

## Cluster Meeting

Throughout the series, review evidence of opportunities for students to develop procedural skill and fluency in the materials completed by teachers.

Throughout the series, review evidence of opportunities for students to independently demonstrate procedural skill and fluency in the units as completed by teachers.

The Publishers' Criteria for high school states, "In higher grades, algebra is the language of much of mathematics. Like learning any language, we learn by using it." In what ways do students have sufficient practice (algebraic or otherwise) in order to be adept/skilled with the operations of mathematics?

How do the materials develop procedural skills over a course? Over a series?

# Gateway 2: Rigor & Mathematical Practices

<b>Criterion 2.1</b>	Materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.
<b>Indicator 2c</b>	Materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters.

Scoring:		
<p>2 points</p> <ul style="list-style-type: none"> <li>Materials include multiple routine and non-routine applications of the mathematics throughout the series.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials provide opportunities for students to independently demonstrate multiple routine and non-routine applications of the mathematics throughout the series.</li> </ul>	<p>1 point</p> <ul style="list-style-type: none"> <li>Materials do not include multiple routine and non-routine applications of the mathematics throughout the series.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>Materials do not provide opportunities for students to independently demonstrate multiple routine and non-routine applications of the mathematics throughout the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Materials do not include multiple routine and non-routine applications of the mathematics throughout the series.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials do not provide opportunities for students to independently demonstrate multiple routine and non-routine applications of the mathematics throughout the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2a, 2b, and 2c, determines the shift of Rigor. Materials should include activities with a variety of contexts for both routine and non-routine applications. Students should apply mathematical knowledge in real-world contexts to make meaning of and access the content.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [Achieve Framework to Evaluate Cognitive Complexity in Mathematics Assessments](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

## Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- Review criterion 2c on page 10 of the [High School Publishers' Criteria for the Common Core State Standards for Mathematics \(Spring 2013\)](#).
- Reading: Chapter 1 of The GAIMME Report (A link to this report cannot be provided, but it can be downloaded by googling “The GAIMME Report”.)
- Reading: “Math Modeling: Getting Started & Getting Solutions” (A link to this handbook cannot be provided, but it can be downloaded by googling “SIAM and Moody's modeling handbook”.)
- Reading: “[How to Identify Tasks that Engage Students in Mathematical Modeling NCTM-SIAM Committee on Modeling Across the Curriculum](#)”.

## Indicator 2c Guiding Question:

Do the instructional materials develop students’ ability to utilize mathematical concepts and skills in engaging applications throughout the series?

Do the instructional materials provide opportunities for students to independently demonstrate application of mathematical concepts and skills in engaging applications throughout the series?

## Evidence Collection

Application problems often, but not always, present a real-world scenario. Applications take the form of problems to be worked on individually as well as classroom activities centered on application scenarios. Students have opportunities to both employ a prescribed mathematical strategy and choose their own strategy to find a solution.

Select cluster(s) or standard(s) that specifically address application of mathematics. Be aware that some cluster(s) and standard(s) lend themselves to more than one aspect of rigor. In such cases, look for evidence of application.

Determine if there is a variety of contextual problems, including non-routine problems, that develop the mathematics of the non-plus standards.

Look for evidence where application problems particularly stress applying the content of the non-plus standards.

Consider if applications build greater levels of complexity over the series.

Determine if the materials include an ample number of contextual problems that develop the mathematics of the course.

Note when the materials:

- afford opportunities for students to engage in and practice problem solving,
- allow or require students to make their own assumptions or simplifications in order to model a situation mathematically, and
- provide problems to be worked individually as well as classroom activities centered on application scenarios.

Evidence must include specific examples from the instructional materials. If opportunities for application are missed, specifically list the clusters/standards/ opportunities that are missed. Note whether the instructional materials include a specific section in units/chapters/lessons, etc that are specifically designed for application. Include Unit, Lesson, Lesson Part and page numbers for reference for all examples.

*Examples include, but are not limited to:*

Clusters/Standards that relate to Applications
N-Q.A – Reason quantitatively and use units to solve problems.
A-SSE.3 – Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.★
A-CED.3 - Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
A-REI.11 – Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$ ; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★
F-IF.B – Interpret functions that arise in applications in terms of the context.
F-BF.1 – Write a function that describes a relationship between two quantities.★
G-SRT.8 – Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★
G-GMD.3 – Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.★
G-MG.2 - Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).*
S-ID.2 – Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
S-CP.7 – Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$ , and interpret the answer in terms of the model.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- How do the materials include multiple routine and non-routine applications throughout the series?
- How do the materials provide opportunities for students to independently demonstrate multiple routine and non-routine applications throughout the series?

- Do the materials have a consistent lesson structure for including multiple routine and non-routine applications?
- Based on the student-facing materials, how do students independently demonstrate multiple routine and non-routine applications?

# Gateway 2: Rigor & Mathematical Practices

<b>Criterion 2.1</b>	Materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.
<b>Indicator 2d</b>	The three aspects of rigor are not always treated together and are not always treated separately. There is a balance of the three aspects of rigor within the grade as reflected by the standards.

<b>Scoring:</b>	
<b>2 points</b> <ul style="list-style-type: none"> <li>All three aspects of rigor are present independently and multiple aspects of rigor are engaged simultaneously to develop students' mathematics understanding of a single topic/unit of study throughout the series.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Multiple aspects of rigor are not engaged simultaneously to develop students' mathematical understanding of a single topic/unit of study throughout the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2a, 2b, and 2c, determines the shift of Rigor. In order to be considered rigorous, program materials must include a balance of conceptual understanding, procedural skills and fluencies, and application as reflected in the standards. This balance should be evident in all aspects of the high school series and in each course to support students as they develop mathematical understanding.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [Achieve Framework to Evaluate Cognitive Complexity in Mathematics Assessments](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [Video: "The Balance Between Skills and Understanding" \(The Hunt Institute\)](#)
- [Video: "Mathematics Fluency: A Balanced Approach" \(The Hunt Institute\)](#)
- [Reading: "Additional Aspects of the Rigor and Balance Criterion" \(Publishers' Criteria, p. 10\)](#)

## Indicator 2d Guiding Question:

Do the instructional materials balance the three aspects of rigor?

### Evidence Collection

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

Look for individual lessons/topics, as well as complete units, that include more than one aspect of rigor.

Look for a balance of all three aspects of rigor, considering the program materials as a whole and as individual units of study.

- Consider whether the content/topic is being introduced to students for the first time or is an extension of previous learning.
- Consider whether materials in the series simultaneously develop conceptual understandings and procedural skills.
- Be mindful of where students are encouraged to use multiple representations and written explanations to support their work in application problems.

For this indicator, consider the intent of the series to balance the three aspects of rigor, not the quality of the materials—indicators 2a-c focus on the quality of rigor within the materials.

Determine if the materials consistently balance the three aspects of rigor while allowing for dedicated focus on each individual aspect. Look for the evidence in lessons, review lessons, routine daily checks, chapter and unit assessments, homework assignments, and other sections demonstrating connections between procedural skills and conceptual understanding.

Determine if the materials neglect to attend to all aspects of rigor specified by the standards or clusters.

Examples may include, but are not limited to:

- With A-APR.1, the materials fully develop students adding, subtracting, and multiplying polynomials, but the materials do not engage students in understanding that polynomials form a system closed under addition, subtraction, and multiplication.
- With A-REI.11, the materials have students find solutions to systems of equations through applications, but the materials do not have students develop conceptual understanding by explaining why the  $x$ -coordinates of the points where two graphs intersect are the solutions to setting the two equations equal to each other.

Evidence must include explicit examples of where *more than one* aspect of rigor is present (can be two or three aspects, but does not have to include all three). Look for lessons that call out specific components of rigor, and lessons that focus on individual aspects of rigor.

### Cluster Meeting

Do the materials intentionally focus on one aspect of rigor over the others in specific units? If so, do the materials work to maintain balance throughout each course and the series?

In what ways do the materials maintain balance of the aspects of rigor throughout each course and the series?

In what ways do the materials neglect one, or more, aspect(s) of rigor throughout each course and the series?

# Gateway 2: Rigor & Mathematical Practices

## Criterion 2.2

### Standards for Mathematical Practice

Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice (MPs).

### What is the purpose of this Criterion?

The purpose of this criterion is to ensure the Standards for Mathematical Practice are identified and connected to grade-level mathematical content, and the materials present opportunities for students to both learn and independently demonstrate each of the MPs.

### Research Connection

- [Common Core State Standards Mathematics](#)

### Scoring:

#### Meets Expectations

- 7-8 points

#### Partially Meets Expectations

- 4-6 points

#### Does Not Meet Expectations

- <4 points

# Gateway 2: Rigor & Mathematical Practices

<b>Criterion 2.2</b>	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice.
<b>Indicator 2e</b>	Materials support the intentional development of MP1: Make sense of problems and persevere in solving them, for students, in connection to the high school content standards, as required by the mathematical practice standards.

<b>Scoring:</b>	
<b>1 point</b> <ul style="list-style-type: none"> <li>There is intentional development of MP1 to meet its full intent in connection to course-level content across the series.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>There is not intentional development of MP1 to meet its full intent in connection to course-level content across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2f, 2g, 2h, 2i, 2j, 2k, and 2l, determines the meaningful integration of the Standards for Mathematical Practice. This indicator specifically looks at MP1 which addresses making sense of problems and persevere in solving them. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQulP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP1: Make sense of problems and persevere in solving them](#)
- [This compilation document](#)

## Indicator 2e Guiding Question:

Across the series, is MP1 used to enrich the mathematical content?

Across the series, is there intentional development of MP1 that reaches the full intent of the MP?

## Evidence Collection

Look at all lessons in teacher's manuals and in the student materials to ensure that MP1 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP1 is occurring throughout the courses of the series.

Record any instances where MP1 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP1 is being used to enrich the mathematics content and are fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- analyze and make sense of problems
- find solution pathways
- engage in problem solving
- persevere in solving problems
- monitor and evaluate their progress in solving problems
- determine if their answers make sense
- reflect on and revise their problem solving strategies
- check their answers with different methods

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- pose rich problems
- provide time for students to make sense of problems
- provide opportunities for students to engage in problem solving

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where a MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If the MP is only located in a specific part of the teacher's manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified, but also look at places where it is not identified.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is the MP1 identified and connected to series-level mathematical content?
- In what ways do the students use the MP to its full intent across the series?
- In what ways, if any, do the materials provided for teachers enable students to engage with the MP?

# Gateway 2: Rigor & Mathematical Practices

<b>Criterion 2.2</b>	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice (MPs).
<b>Indicator 2f</b>	Materials support the intentional development of MP2: Reason abstractly and quantitatively, for students, in connection to the high school content standards, as required by the mathematical practice standards.

<b>Scoring:</b>	
<b>1 point</b> <ul style="list-style-type: none"> <li>There is intentional development of MP2 to meet its full intent in connection to course-level content across the series.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>There is not intentional development of MP2 to meet its full intent in connection to course-level content across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2e, 2g, 2h, 2i, 2j, 2k, and 2l, determines the meaningful integration of the Standards for Mathematical Practice. This indicator specifically looks at MP2 which addresses the practices of reasoning. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP2: Reason abstractly and quantitatively](#)
- [This compilation document](#)

## Indicator 2f Guiding Question:

Across the series, is MP2 used to enrich the mathematical content?

Across the series, is there intentional development of MP2 that reaches the full intent of the MP?

## Evidence Collection

Look at all lessons in teacher's manuals and in the student materials to ensure that MP2 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP2 is occurring throughout the courses of the series.

Record any instances where MP2 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP2 is being used to enrich the mathematics content and is fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- represent situations symbolically
- consider units involved in a problem and attend to the meaning of quantities
- understand the relationships between problem scenarios and mathematical representations
- explain/discuss what the numbers or symbols in an expression/equation represent
- determine if their answers make sense

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- ensure students make connections between mathematical representations and scenarios
- provide opportunities for students to engage in active mathematical discourse
- ask clarifying and probing questions
- model the use of mathematical symbols and notation
- support students in analyzing quantities and their relationships
- facilitate connections between multiple representations

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where an MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If you found that the MP is only located in a specific part of the teacher's manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified in the materials, but also look at places where it is not identified.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is MP2 identified and connected to series-level mathematical content?
- In what ways do the students use the MP to its full intent across the series?
- In what ways, if any, do the materials provided for teachers enable students to engage with the MP?

# Gateway 2: Rigor & Mathematical Practices

Criterion 2.2	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice (MPs).
Indicator 2g	Materials support the intentional development of MP3: Construct viable arguments and critique the reasoning of others, in connection to the high school content standards, as required by the mathematical practice standards.

## Scoring:

### 1 point

- There is intentional development of MP3 to meet its full intent in connection to course-level content across the series.

### 0 points

- There is not intentional development of MP3 to meet its full intent in connection to course-level content across the series.

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2e, 2f, 2h, 2i, 2j, 2k, and 2l, determines the meaningful integration of the Standards for Mathematical Practice. This indicator specifically looks at MP3 which addresses the practice of reasoning and explaining. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQulP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP3: Construct viable arguments and critique the reasoning of others](#)
- [This compilation document](#)

## Indicator 2g Guiding Question:

Across the series, is MP3 used to enrich the mathematical content?

Across the series, is there intentional development of MP3 that reaches the full intent of the MPs?

## Evidence Collection

Look at all lessons in teacher's manuals and in the student materials to ensure that MP3 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP3 is occurring throughout the courses of the series.

Record any instances where MP3 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP3 is being used to enrich the mathematics content and are fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- explain/justify their reasoning
- construct mathematical arguments.
- create their own conjectures
- listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments
- perform error analysis of provided student work/solutions/arguments.

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- ensure students make connections between mathematical representations and scenarios
- provide opportunities for students to engage in active mathematical discourse
- ask clarifying and probing questions
- help students compare methods and strategies.

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where an MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If you found that the MP is only located in a specific part of the teacher's manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified in the materials, but also look at places where it is not identified. It may help to search for keywords like conjecture, explain, justify, discuss, analyze, ask, and clarify.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is MP3 identified and connected to the series-level mathematical content?
- In what ways do the students use MP3 to its full intent across the series?
- In what ways, if any, do the materials provided for teachers enable students to engage with MP3?

# Gateway 2: Rigor & Mathematical Practices

Criterion 2.2	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice (MPs).
Indicator 2h	Materials support the intentional development of MP4: Model with mathematics, for students, in connection to the high school content standards, as required by the mathematical practice standards.

Scoring:	
<p>1 point</p> <ul style="list-style-type: none"> <li>There is intentional development of MP4 to meet its full intent in connection to course-level content across the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>There is not intentional development of MP4 to meet its full intent in connection to course-level content across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2e, 2f, 2g, 2i, 2j, 2k, and 2l, determines the meaningful integration of the Standards for Mathematical Practice. This indicator specifically looks at MP4 which addresses mathematical modeling. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP4: Model with mathematics](#)
- [This compilation document](#)

## Indicator 2h Guiding Question:

Across the series, is MP4 used to enrich the mathematical content?

Across the series, is there intentional development of MP4 that reaches the full intent of the MPs?

## Evidence Collection

Note: If all aspects of the modeling cycle are present in the materials, then the materials meet the full intent of MP4.

Look at all lessons in teacher's manuals and in the student materials to ensure that MP4 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP4 is occurring throughout the courses of the series.

Record any instances where MP4 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP4 is being used to enrich the mathematics content and are fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- engage in the modeling cycle
- apply prior knowledge to new problems
- identify important relationships and map relationships with tables, diagrams, graphs, rules, etc.
- draw conclusions from solutions as they pertain to a situation

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- Pose problems connected to previous concepts
- Provide a variety of real world contexts
- Provide meaningful, real-world, authentic performance tasks
- Promote discourse and investigation that could lead to refining and/or revising models

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where an MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If you found that the MP is only located in a specific part of the teacher's manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified in the materials, but also look at places where it is not identified.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is MP4 identified and connected to series-level mathematical content?
- In what ways do the students use the MP to its full intent across the series?
- In what ways, if any, do the materials provided for teachers enable students to engage with the MP?

# Gateway 2: Rigor & Mathematical Practices

Criterion 2.2	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice (MPs).
Indicator 2i	Materials support the intentional development of MP5: Use appropriate tools strategically, for students, for students, in connection to the high school content standards, as required by the mathematical practice standards.

Scoring:	
<p>1 point</p> <ul style="list-style-type: none"> <li>There is intentional development of MP5 to meet its full intent in connection to course-level content across the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>There is not intentional development of MP5 to meet its full intent in connection to course-level content across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2e, 2f, 2g, 2h, 2j, 2k, and 2l, determines the meaningful integration of the Standards for Mathematical Practice. This indicator specifically looks at MP5 which addresses the use of appropriate tools. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP5: Use appropriate tools strategically](#)
- [This compilation document](#)

## Indicator 2i Guiding Question:

Across the series, is MP5 used to enrich the mathematical content?

Across the series, is there intentional development of MP5 that reaches the full intent of the MPs?

## Evidence Collection

Look at all lessons in teacher's manuals and in the student materials to ensure that MP 5 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP5 is occurring throughout the courses of the series.

Record any instances where MP5 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP5 is being used to enrich the mathematics content and are fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- choose appropriate tools
  - use multiple tools to represent information in a situation
  - create and use models to represent
  - reflect on whether the results make sense, possibly improving or revising the model
- \*also consider whether the materials encourage opportunities for students to use technological tools to explore and deepen their understanding of concepts

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- Make a variety of tools available
- Allow student to have choice when selecting tools
- Model tools effectively, including their benefits and limitations
- Encourage the use of multiple tools for communication, calculation, investigation, sense-making, etc.

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where an MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If you found that the MP is only located in a specific part of the teacher's manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified in the materials, but also look at places where it is not identified.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is the MP5 identified and connected to series-level mathematical content?
- In what ways do the students use the MP to its full intent across the series?
- In what ways, if any, do the materials provided for teachers enable students to engage with the MP?

# Gateway 2: Rigor & Mathematical Practices

Criterion 2.2	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice.
Indicator 2j	Materials support the intentional development of MP6: Attend to precision, for students, in connection to the high school content standards, as required by the mathematical practice standards.

Scoring:	
<p>1 point</p> <ul style="list-style-type: none"> <li>There is intentional development of MP6 to meet its full intent in connection to course-level content across the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>There is not intentional development of MP6 to meet its full intent in connection to course-level content across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2e, 2f, 2g, 2h, 2i, 2k, and 2l, determines the meaningful integration of the Standards for Mathematical Practice. This indicator specifically looks at MP6 which addresses attending to precision. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP1](#): Make sense of problems and persevere in solving them
- [MP6](#): Attend to precision
- [This compilation document](#)

## Indicator 2j Guiding Question:

Across the series, is MP6 used to enrich the mathematical content?

Across the series, is there intentional development of MP6 that reaches the full intent of the MP?

## Evidence Collection

Look at all lessons in teacher's manuals and in the student materials to ensure that MP6 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP6 is occurring throughout the courses of the series.

Record any instances where MP6 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP6 is being used to enrich the mathematics content and are fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- use accurate, precise mathematical language (vocabulary and conventions)
- specify units of measure
- state the meaning of symbols
- formulate clear explanations
- calculate accurately and efficiently
- use and label tables, graphs, etc. appropriately
- introduce and use definitions accurately

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- ensure students know and use clear definitions
- model accurate, precise mathematical language (vocabulary and conventions)
- provide feedback to students on the accurate use of mathematical language

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where a MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If the MP is only located in a specific part of the teacher's manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified, but also look at places where it is not identified.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is MP6 identified and connected to the series-level mathematical content?
- In what ways do the students use MP6 to its full intent across the series?
- In what ways is the specialized language of mathematics intentionally developed?
- In what ways, if any, do the materials provided for teachers enable students to engage with MP6?

# Gateway 2: Rigor & Mathematical Practices

Criterion 2.2	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice (MPs).
Indicator 2k	Materials support the intentional development of MP7: Look for and make use of structure, for students, in connection to the high school content standards, as required by the mathematical practice standards.

Scoring:	
<p>1 point</p> <ul style="list-style-type: none"> <li>There is intentional development of MP7 to meet its full intent in connection to course-level content across the series.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>There is not intentional development of MP7 to meet its full intent in connection to course-level content across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2e, 2f, 2g, 2h, 2i, 2j, and 2l, determines the adherence to the Standards for Mathematical Practice. This indicator specifically looks at MP which supports the intentional development of seeing structure. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQUiP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP7: Look for and make use of structure](#)
- [This compilation document](#)

## Indicator 2k Guiding Question:

Across the series, is MP7 used to enrich the mathematical content?

Across the series, is there intentional development of MP7 that reaches the full intent of the MPs?

## Evidence Collection

Look at all lessons in teacher’s manuals and in the student materials to ensure that MP7 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP8 is occurring throughout the courses of the series.

Record any instances where MP8 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP8 is being used to enrich the mathematics content and are fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- Look for patterns and make generalizations.
- Look and explain the structure of expressions.
- Look at and decompose “complicated” into “simpler” things.  
E.g. seeing  $\sin^2x + 2\sinx + 1$  as  $u^2 + 2u + 1$ .
- Analyze a problem and look for more than one approach.

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- Provide tasks/problems with patterns.
- Prompt students to look for structure and patterns.
- Prompt students to describe what they see in the structure/pattern.  
E.g. Ask a student to explain how his/her expression “ $4n + 1$ ” can be seen in the tile pattern.
- Provide a variety of examples that explicitly focus on patterns and repeated reasoning.

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where an MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If you found that the MP is only located in a specific part of the teacher’s manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified in the materials, but also look at places where it is not identified.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is MP7 identified and connected to series-level mathematical content?
- In what ways do the students use the MP to its full intent across the series?
- In what ways, if any, do the materials provided for teachers enable students to engage with the MP?

# Gateway 2: Rigor & Mathematical Practices

<b>Criterion 2.2</b>	Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice (MPs).
<b>Indicator 2I</b>	Materials support the intentional development of MP8: Look for and express regularity in repeated reasoning, for students, in connection to the high school content standards, as required by the mathematical practice standards.

<b>Scoring:</b>	
<b>1 point</b> <ul style="list-style-type: none"> <li>There is intentional development of MP8 to meet its full intent in connection to course-level content across the series.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>There is not intentional development of MP8 to meet its full intent in connection to course-level content across the series.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator, along with 2e, 2f, 2g, 2h, 2i, 2j, and 2k, determines the adherence to the Standards for Mathematical Practice. This indicator specifically looks at MP 8 which supports the intentional development looking for and expressing regularity in repeated reasoning. It assesses whether the provided opportunities for student engagement with the math practices are a) used to enrich the mathematics content of the courses and b) fully developed across the series to meet the level of expectation of high school mathematical study.

Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)
- [High School Publishers' Criteria for the CCSSM \(Spring 2013\)](#)
- [Student Achievement Partners \(SAP\) Instructional Materials Evaluation Tool for High School Mathematics](#)
- [Achieve EQulP Rubric for Lessons & Units](#)
- [CCSS Mathematics Curriculum Materials Analysis Project](#)

Resources:

- [SAP Coherence Map](#)
- [Institute for Mathematics Education Progressions Documents](#)
- [MP8: Look for and express regularity in repeated reasoning](#)
- [This compilation document](#)

## Indicator 2I Guiding Question:

Across the series, is MP8 used to enrich the mathematical content?

Across the series, is there intentional development of MP8 that reaches the full intent of the MPs?

## Evidence Collection

Look at all lessons in teacher’s manuals and in the student materials to ensure that MP8 is occurring throughout the courses.

Look in unit overviews, scope and sequence charts, and/or other instructional guides to ensure that MP8 is occurring throughout the courses of the series.

Record any instances where MP8 is misidentified in the curricular materials (e.g. a lesson is marked as aligned to an MP when only a small part addresses that, or vice versa).

To check that MP8 is being used to enrich the mathematics content and are fully developed to meet the level of expectation for high school:

Look at lessons, assessments and any examples/descriptions of anticipated student work. Look for places that require students to:

- Look for shortcuts and general methods when calculations/processes are repeated
- Describe a general formula, process, or algorithm
- Evaluate the reasonableness of their answers and thinking.
- 

Look at teacher directions and how teachers are guided to carry out the lessons. In particular, look for places where teachers are expected to:

- Provide time for students to look for patterns, structure, shortcuts, generalizations, etc.
- Ask probing questions like “Does that always work?” or “Why does that work?”
- Provide situations in which students can use a strategy to develop understanding of a concept
- Prompt students to make generalizations

Check to see if any materials focus only on the Standards for Mathematical Practice (therefore, they are not being used to enrich the mathematical content). Record any instances where the Standards for Mathematical Practice are not being used to enrich course-level, mathematics content.

Verify that student engagement with the lessons and assessments would require use of the Standards for Mathematical Practice so that across the series students will develop their use of the MP to the full intent of the standards.

Record any instances where an MP was identified, however, engagement with the lesson or task would only require minimal or trivial use of the indicated MP.

If you found that the MP is only located in a specific part of the teacher’s manuals (e.g. the teacher-led portion of the lesson), you will need to look at other sections (e.g. independent work, homework, assessments) to ensure that the MP is intentionally used to enrich the content. Look not only where the MP is identified in the materials, but also look at places where it is not identified.

## Cluster Meeting

Consider the following question(s) as evidence is synthesized:

- When is MP8 identified and connected to series-level mathematical content?

- In what ways do the students use the MP to its full intent across the series?
- In what ways, if any, do the materials provided for teachers enable students to engage with the MP?

# Gateway 3: Teacher and Student Supports

## Criterion 3.1

### Teacher Supports

Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.

### What is the purpose of this Criterion?

This criterion examines how the materials support teachers in several key areas: delivering student and ancillary materials, with a particular focus on students' mathematical development, understanding the instructional approaches of the program and the research-based strategies employed, and improving their own knowledge of mathematics beyond the grade level. It also aids teachers in understanding the role of standards in the context of the overall series, and in planning effective instruction by providing appropriate materials and offering guidance on how caregivers can support student progress and achievement. Lastly, the materials provide support for interpreting and evaluating student performance throughout the assessment system, ensuring teachers have the tools they need to assess and respond to student learning needs effectively.

### Scoring:

#### Meets Expectations

- 9-10 points

#### Partially Meets Expectations

- 5-8 points

#### Does Not Meet Expectations

- <5 points

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.1</b>	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
<b>Indicator 3a</b>	Materials provide teacher guidance with useful annotations and suggestions for how to enact the student materials and ancillary materials, with specific attention to engaging students in engaging students to guide their mathematical development.

Scoring:		
<p>2 points</p> <ul style="list-style-type: none"> <li>Materials provide comprehensive guidance that will assist teachers in presenting the student and ancillary materials.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials include sufficient and useful annotations and suggestions that are presented within the context of the specific learning objectives.</li> </ul>	<p>1 point</p> <ul style="list-style-type: none"> <li>Materials provide comprehensive guidance that will assist teachers in presenting the student and ancillary materials.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>Materials include sufficient and useful annotations and suggestions that are presented within the context of the specific learning objectives.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Materials do not provide comprehensive guidance that will assist them in presenting the student and ancillary materials.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials do not include sufficient and useful annotations and suggestions that are presented within the context of the specific learning objectives.</li> </ul>

## About this indicator:

### What is the purpose of this Indicator?

This indicator examines whether materials offer comprehensive guidance for teachers, including annotations and practical suggestions, to effectively implement both the core student materials and any supplementary resources. This support aims to enhance teachers' ability to facilitate student mathematical development by providing strategies and insights on how to engage with the materials. Such guidance can include tips for differentiating instruction, addressing diverse learning needs, and integrating ancillary materials to reinforce learning. Ultimately, it helps teachers optimize the use of the provided resources to improve student mathematical outcomes.

## Indicator 3a Guiding Question:

Do the materials provide teacher guidance with useful annotations and suggestions for how to enact the student and ancillary materials to support students' mathematical development?

### Evidence Collection

In the instructional materials being reviewed:

- Check that the guidance for teachers is clear and detailed, providing explicit instructions on how to use both the student and ancillary materials effectively.
- Ensure that annotations and suggestions are directly linked to the specific learning objectives. They should provide context for how instructional strategies support students in achieving these objectives.
- Confirm that the guidance includes ways to integrate ancillary materials seamlessly within lessons to enhance learning. This might involve cross-referencing with core materials or suggested supplementary activities.
- Identify practical tips and real-world examples that help teachers implement the materials effectively. This could include classroom management suggestions, timing considerations, or engagement techniques.
- Review whether the materials offer ways to adapt lessons to different classroom settings or student populations.
- Look for references to additional resources or professional development opportunities that could further support teachers in using the materials effectively.

### Cluster Meeting

Preparing for the cluster meeting:

- Is the guidance for teachers clear and detailed, providing explicit instructions on how to use both the student and ancillary materials effectively?
- Are the annotations and suggestions directly linked to the specific learning objectives, providing context for how instructional strategies support students in achieving these objectives?
- Does the guidance include ways to integrate ancillary materials seamlessly within lessons to enhance learning, such as cross-referencing with core materials or suggesting supplementary activities?
- Are there practical tips and real-world examples that help teachers implement the materials effectively, including classroom management suggestions, timing considerations, or engagement techniques?
- Do the materials offer ways to adapt lessons to different classroom settings or student populations?
- Are there references to additional resources or professional development opportunities that could further support teachers in using the materials effectively?

During the cluster meeting:

- Discuss whether the guidance for teachers is clear and detailed, providing explicit instructions on how to use both the student and ancillary materials effectively.
- Discuss whether the annotations and suggestions are directly linked to the specific learning objectives, providing context for how instructional strategies support students in achieving these objectives.

- Discuss whether the guidance includes ways to integrate ancillary materials seamlessly within lessons to enhance learning, such as cross-referencing with core materials or suggesting supplementary activities.
- Discuss whether there are practical tips and real-world examples that help teachers implement the materials effectively, including classroom management suggestions, timing considerations, or engagement techniques.
- Discuss whether the materials offer ways to adapt lessons to different classroom settings or student populations.
- Discuss whether there are references to additional resources or professional development opportunities that could further support teachers in using the materials effectively.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.1</b>	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
<b>Indicator 3b</b>	Materials contain explanations and examples of grade-level/course-level concepts and/or standards and how the concepts and/or standards align to other grade/course levels so that teachers can improve their own knowledge of the subject.

Scoring:		
<p>2 points</p> <ul style="list-style-type: none"> <li>Materials contain explanations and examples of grade/course-level concepts and/or standards so that teachers can improve their own knowledge of the subject.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials contain explanations and examples of how the concepts and/or standards align to other grade/course levels so that teachers can improve their own knowledge of the subject.</li> </ul>	<p>1 point</p> <ul style="list-style-type: none"> <li>Materials contain explanations and examples of grade/course-level concepts and/or standards so that teachers can improve their own knowledge of the subject.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>Materials contain explanations and examples of how the concepts and/or standards align to other grade/course levels so that teachers can improve their own knowledge of the subject.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Materials do not contain explanations and examples of grade/course-level concepts and/or standards so that teachers can improve their own knowledge of the subject.</li> </ul> <p style="text-align: center;">AND</p> <ul style="list-style-type: none"> <li>Materials do not contain explanations and examples of how the concepts and/or standards align to other grade/course levels so that teachers can improve their own knowledge of the subject.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether materials deepen teacher understanding of mathematics standards and concepts that are specific to each grade level. It also aims to show how these concepts and standards align with those taught in other grades or courses. By offering this information, the materials support teachers in deepening their understanding of the subject matter they are teaching, facilitating more effective instruction. This alignment helps educators see the progression of learning objectives and how current content builds on prior knowledge while preparing students for future learning. Ultimately, it aids teachers in delivering more cohesive and informed instruction, benefiting student learning outcomes.

## Indicator 3b Guiding Question:

Do the materials contain adult-level explanations and examples of the more complex grade/course-level concepts and concepts beyond the current course so that teachers can improve their own knowledge of the subject?

### Evidence Collection

In the instructional materials being reviewed:

- Ensure that explanations of grade-or course-level concepts and standards are thorough, clear, and accessible. This helps teachers deepen their understanding of the subject matter and facilitates better teaching.
- Look for relevant, concrete examples that illustrate the concepts and standards. Examples should be practical and applicable to classroom instruction, helping teachers visualize how to teach the material effectively.
- Check for explanations of how concepts and standards align with those taught in previous and subsequent grade or course levels. This can help teachers understand the progression and continuity of learning objectives.
- Look for clear descriptions of how skills and knowledge build upon each other from one grade or course to the next. This can guide teachers in ensuring they are preparing students for future learning challenges.
- Identify whether the materials include visual aids, such as charts, diagrams, or flowcharts, to help illustrate how concepts and standards are connected across grade levels.
- Consider whether materials highlight connections between the subject's concepts and standards and those of other subjects, fostering interdisciplinary learning.
- Look for insights or annotations aimed explicitly at teachers, which explain the rationale behind the concepts and standards and how they fit into the broader curriculum.
- Check if there are suggestions or links to professional development resources that can further enhance teachers' understanding of subject matter progression.

### Cluster Meeting

Preparing for the cluster meeting:

- Are the explanations of grade-or course-level concepts and standards thorough, clear, and accessible to help teachers deepen their understanding of the subject matter and facilitate better teaching?
- Are there relevant, concrete examples that illustrate the concepts and standards, which are practical and applicable to classroom instruction to help teachers visualize how to teach the material effectively?
- Do the materials include explanations of how concepts and standards align with those taught in previous and subsequent grade or course levels to help teachers understand the progression and continuity of learning objectives?
- Are there clear descriptions of how skills and knowledge build upon each other from one grade or course to the next, guiding teachers in preparing students for future learning challenges?
- Do the materials include visual aids, such as charts, diagrams, or flowcharts, to help illustrate how concepts and standards are connected across grade levels?
- Do the materials highlight connections between the subject's concepts and standards and those of other subjects, fostering interdisciplinary learning?
- Are there insights or annotations aimed explicitly at teachers that explain the rationale behind the concepts and standards and how they fit into the broader curriculum?

- Are there suggestions or links to professional development resources that can further enhance teachers' understanding of subject matter progression?

During the cluster meeting:

- Discuss whether the explanations of grade-or course-level concepts and standards are thorough, clear, and accessible to help teachers deepen their understanding of the subject matter and facilitate better teaching.
- Discuss whether there are relevant, concrete examples that illustrate the concepts and standards, which are practical and applicable to classroom instruction to help teachers visualize how to teach the material effectively.
- Discuss whether the materials include explanations of how concepts and standards align with those taught in previous and subsequent grade or course levels to help teachers understand the progression and continuity of learning objectives.
- Discuss whether there are clear descriptions of how skills and knowledge build upon each other from one grade or course to the next, guiding teachers in preparing students for future learning challenges.
- Discuss whether the materials include visual aids, such as charts, diagrams, or flowcharts, to help illustrate how concepts and standards are connected across grade levels.
- Discuss whether the materials highlight connections between the subject's concepts and standards and those of other subjects, fostering interdisciplinary learning.
- Discuss whether there are insights or annotations aimed explicitly at teachers that explain the rationale behind the concepts and standards and how they fit into the broader curriculum.
- Discuss whether there are suggestions or links to professional development resources that can further enhance teachers' understanding of subject matter progression.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.1</b>	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
<b>Indicator 3c</b>	Materials include a year-long scope and sequence with standards correlation information.

## Scoring:

### 1 point

- Materials include a year-long scope and sequence with standard correlation information.

### 0 points

- Materials do not include a year-long scope and sequence with standard correlation information.

## About this indicator:

### What is the purpose of this Indicator?

This indicator examines whether materials contain a standards correlation information document, which maps or aligns the content and activities within the materials to specific Mathematics Common Core State Standards. This document serves as a resource for teachers to quickly identify how and where the material addresses particular standards, enabling better planning and instruction. It helps ensure that teaching is aligned with required educational benchmarks and offers transparency on how the materials support meeting those standards.

### Research or Standards connection:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)

## Indicator 3c Guiding Question:

Do the materials include a year-long scope and sequence with standards correlation information?

## Evidence Collection

In the instructional materials being reviewed:

- Consider how teacher materials provide documentation that addresses how individual units, lessons, or activities throughout the series are aligned to mathematical concepts and practices (Common Core Mathematics Standards), as applicable.
- Ensure that the correlation document covers all relevant mathematics standards for the entire grade level or series, including content and practice standards.
- Check if there is a clear and direct alignment between the material's content and the specific mathematics standards. The correlation should specify which parts of the materials address each standard.
- Confirm that the document provides specific references, such as page numbers, lesson numbers, or activities that correlate to each standard.

- Ensure the document cross-references where multiple standards might be addressed simultaneously in broader activities or projects, emphasizing an integrated approach.

Note:

- if standards correlation is inconsistent between levels (i.e., from the overview to a module or a lesson).
- if standards correlation is inaccurate.

## Cluster Meeting

Preparing for the cluster meeting:

- How do teacher materials provide documentation that addresses how individual units, lessons, or activities throughout the series are aligned to mathematical concepts and practices (Common Core Mathematics Standards), as applicable?
- Does the correlation document cover all relevant mathematics standards for the entire grade level or series, including both content and practice standards?
- Is there a clear and direct alignment between the material's content and the specific mathematics standards, specifying which parts of the materials address each standard?
- Does the document provide specific references, such as page numbers, lesson numbers, or activities that correlate to each standard?
- Does the document cross-reference where multiple standards might be addressed simultaneously in broader activities or projects, emphasizing an integrated approach?

During the cluster meeting:

- Discuss how teacher materials provide documentation that addresses how individual units, lessons, or activities throughout the series are aligned to mathematical concepts and practices (Common Core Mathematics Standards), as applicable.
- Discuss whether the correlation document covers all relevant mathematics standards for the entire grade level or series, including both content and practice standards.
- Discuss whether there is a clear and direct alignment between the material's content and the specific mathematics standards, specifying which parts of the materials address each standard.
- Discuss whether the document provides specific references, such as page numbers, lesson numbers, or activities that correlate to each standard.
- Discuss whether the document cross-references where multiple standards might be addressed simultaneously in broader activities or projects, emphasizing an integrated approach.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.1</b>	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
<b>Indicator 3d</b>	Materials provide strategies for informing all stakeholders, including students, parents, or caregivers about the program and suggestions for how they can help support student progress and achievement.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

Materials contain strategies for informing students, parents, or caregivers about the mathematical program.

Materials contain suggestions for how parents or caregivers can help support student progress and achievement.

Materials for parents (like letters home) have been translated into languages other than English.

## About this indicator:

What is the purpose of this Indicator?

This indicator examines if the materials include strategies for effectively communicating with all stakeholders, such as students, parents, and caregivers, about the program. This involves offering clear information on the goals, structure, and expectations of the program, as well as practical suggestions on how these stakeholders can actively support student learning and achievement at home and in other settings. By engaging stakeholders, the materials foster a collaborative approach to education, enhancing student support systems and increasing the likelihood of student success through consistent reinforcement and involvement beyond the classroom.

### Indicator 3d Guiding Question:

Do the materials provide strategies for informing all stakeholders, including students, parents, or caregivers about the program and suggestions for how they can help support student progress and achievement?

### Evidence Collection

In the instructional materials being reviewed:

- Ensure that information about the mathematical program is presented clearly and in a manner that is easy for all stakeholders to understand. This includes avoiding jargon and using straightforward language.
- Look for comprehensive explanations of the mathematical program, including its objectives, the skills students will develop, and the types of activities they will engage in. This helps parents and caregivers understand the educational goals and expectations.
- Check if the materials offer multiple ways to communicate with parents and caregivers, such as newsletters, emails, meetings, or digital platforms. Diverse methods can reach different stakeholders more effectively.

- Ensure the materials provide actionable suggestions for how parents and caregivers can support student learning at home, such as practicing math problems together, exploring real-world math applications, or playing math-related games.
- Confirm that materials for parents have been translated into languages commonly spoken in the community to ensure inclusivity and accessibility for non-English speaking families.
- Look for strategies that include regular updates on student progress and opportunities for parents and caregivers to provide feedback or ask questions, fostering ongoing communication and engagement.
- Check if the materials offer tailored support or resources for parents and caregivers based on various student needs, recognizing that each child may require different levels of support.
- Assess whether the materials direct parents and caregivers to additional resources, support, or community programs that can further assist student learning and development.

## Cluster Meeting

### Preparing for the cluster meeting:

- Is information about the mathematics program presented clearly and in a manner that is easy for all stakeholders to understand, avoiding jargon and using straightforward language?
- Are there comprehensive explanations of the mathematics program, including its objectives, the skills students will develop, and the types of activities they will engage in, to help parents and caregivers understand the educational goals and expectations?
- Do the materials offer multiple ways to communicate with parents and caregivers, such as newsletters, emails, meetings, or digital platforms, to reach different stakeholders more effectively?
- Do the materials provide actionable suggestions for how parents and caregivers can support student learning at home, such as practicing math problems together, exploring real-world math applications, or engaging in math-related games?
- Have the materials for parents been translated into languages commonly spoken in the community to ensure inclusivity and accessibility for non-English speaking families?
- Do the strategies include regular updates on student progress and opportunities for parents and caregivers to provide feedback or ask questions, fostering ongoing communication and engagement?
- Do the materials offer tailored support or resources for parents and caregivers based on various student needs, recognizing that each child may require different levels of support?
- Do the materials direct parents and caregivers to additional resources, support, or community programs that can further assist student learning and development?

### During the cluster meeting:

- Discuss whether information about the mathematics program is presented clearly and in a manner that is easy for all stakeholders to understand, avoiding jargon and using straightforward language.
- Discuss whether there are comprehensive explanations of the mathematics program, including its objectives, the skills students will develop, and the types of activities they will engage in, to help parents and caregivers understand the educational goals and expectations.
- Discuss whether the materials offer multiple ways to communicate with parents and caregivers, such as newsletters, emails, meetings, or digital platforms, to reach different stakeholders more effectively.
- Discuss whether the materials provide actionable suggestions for how parents and caregivers can support student learning at home, such as practicing math problems together, exploring real-world math applications, or engaging in math-related games.
- Discuss whether the materials for parents have been translated into languages commonly spoken in the community to ensure inclusivity and accessibility for non-English speaking families.
- Discuss whether the strategies include regular updates on student progress and opportunities for

parents and caregivers to provide feedback or ask questions, fostering ongoing communication and engagement.

- Discuss whether the materials offer tailored support or resources for parents and caregivers based on various student needs, recognizing that each child may require different levels of support.
- Discuss whether the materials direct parents and caregivers to additional resources, support, or community programs that can further assist student learning and development.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.1</b>	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
<b>Indicator 3e</b>	Materials explain the program’s instructional approaches, identify research-based strategies, and explain the role of the standards.

Scoring:		
<p><b>2 points</b></p> <ul style="list-style-type: none"> <li>Materials explain the instructional approaches of the program. AND</li> <li>Materials include and reference research-based strategies. AND</li> <li>Materials include and reference the role of the standards in the program.</li> </ul>	<p><b>1 point</b></p> <ul style="list-style-type: none"> <li>Materials explain the instructional approaches of the program. OR</li> <li>Materials include and reference research-based strategies. OR</li> <li>Materials include and reference the role of the standards in the program.</li> </ul>	<p><b>0 points</b></p> <ul style="list-style-type: none"> <li>Materials do not explain the instructional approaches of the program. AND</li> <li>Materials do not include and reference research-based strategies. AND</li> <li>Materials do not include and reference the role of the standards in the program.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether materials provide a clear and comprehensive explanation of the instructional approaches used within the program. It emphasizes the identification and justification of research-based strategies employed in the curriculum, demonstrating how these methods are grounded in educational research to enhance teaching effectiveness and student learning. Additionally, the indicator highlights the role of the standards, explaining how the program aligns with and supports these benchmarks to meet educational goals and ensure consistency across different instructional settings. This transparency helps educators understand the rationale behind the teaching methods and how they contribute to achieving desired learning outcomes, thereby enhancing instructional fidelity and effectiveness.

### Indicator 3e Guiding Question:

Do the materials provide explanations of the instructional approaches of the program, identification of the research-based strategies, and reference the role of the standards in the program?

### Evidence Collection

In the instructional materials being reviewed:

- Ensure that the materials clearly outline the instructional approaches used within the program, providing a comprehensive overview of how these methods guide teaching and learning activities.
- Check for detailed descriptions of how these approaches are implemented in various lessons and activities, helping educators visualize their practical application.
- Look for explicit references to research-based strategies, including citations of studies or educational research that support the effectiveness of the strategies employed.
- Assess whether the materials explain the reasoning behind choosing specific strategies, illustrating how they are designed to enhance learning outcomes and support evidence-based teaching practices.
- Confirm that the materials clearly explain how the program aligns with educational standards, such as state, national, or Common Core standards, highlighting their role in shaping the curriculum.

## Cluster Meeting

### Preparing for the cluster meeting:

- Do the materials clearly outline the instructional approaches used within the program, providing a comprehensive overview of how these methods guide teaching and learning activities?
- Are there detailed descriptions of how these instructional approaches are implemented in various lessons and activities to help educators visualize their practical application?
- Do the materials include explicit references to research-based strategies, along with citations of studies or educational research that support the effectiveness of the strategies employed?
- Do the materials explain the reasoning behind choosing specific strategies, illustrating how they are designed to enhance learning outcomes and support evidence-based teaching practices?
- Do the materials clearly explain how the program aligns with educational standards, such as state, national, or Common Core standards, highlighting their role in shaping the curriculum?

### During the cluster meeting:

- Discuss whether the materials clearly outline the instructional approaches used within the program, providing a comprehensive overview of how these methods guide teaching and learning activities.
- Discuss whether there are detailed descriptions of how these instructional approaches are implemented in various lessons and activities to help educators visualize their practical application.
- Discuss whether the materials include explicit references to research-based strategies, along with citations of studies or educational research that support the effectiveness of the strategies employed.
- Discuss whether the materials explain the reasoning behind choosing specific strategies, illustrating how they are designed to enhance learning outcomes and support evidence-based teaching practices.
- Discuss whether the materials clearly explain how the program aligns with educational standards, such as state, national, or Common Core standards, highlighting their role in shaping the curriculum.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.1</b>	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
<b>Indicator 3f</b>	Materials provide a comprehensive list of supplies needed to support instructional activities.

<b>Scoring:</b>	
<b>1 point</b> <ul style="list-style-type: none"> <li>Materials include a comprehensive list of supplies needed to support the instructional activities.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Materials do not include a comprehensive list of supplies needed to support instructional activities.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator examines if the materials include a thorough and detailed list of all supplies and resources required to support the instructional activities in a program. This comprehensive list allows teachers to effectively plan and prepare for lessons by ensuring they have all necessary materials available for successful implementation. By clearly identifying what is needed, educators can minimize disruptions, manage their time efficiently, and create a conducive learning environment. Ultimately, this clarity supports smoother lesson delivery and enhances the overall effectiveness of the instructional activities.

**Indicator 3f Guiding Question:**  
Do the materials provide a comprehensive list of supplies needed to support instructional activities?

**Evidence Collection**

In the instructional materials being reviewed:

- Ensure that the list covers all materials and supplies needed for each activity within the program. The list should leave no essential item unmentioned to prevent any disruptions during the actual implementation of lessons.
- Look for an organized and easy-to-navigate list, possibly categorized by lesson, unit, or type of activity, so teachers can quickly find and gather materials.
- Identify which materials are consumable (need to be replaced after use) and which are reusable (can be used across multiple lessons or years), supporting teachers in planning for future lessons.
- Ensure that both digital resources (software, online tools) and physical supplies are included, with clear indications of what is required for digital learning environments, if applicable.
- Look for suggested alternatives or substitutions for the materials listed to accommodate different teaching environments or available resources, adding flexibility for teachers.

- Verify that each item in the supply list directly aligns with and supports specific instructional objectives and activities, ensuring relevance and purpose.

## Cluster Meeting

### Preparing for the cluster meeting:

- Does the list cover all materials and supplies needed for each activity within the program, leaving no essential item unmentioned to prevent any disruptions during the actual implementation of lessons?
- Is the list organized and easy to navigate, possibly categorized by lesson, unit, or type of activity, so that teachers can quickly find and gather materials?
- Can you identify which materials are consumable (need to be replaced after use) and which are reusable (can be used across multiple lessons or years), to support teachers in planning for future lessons?
- Are both digital resources (software, online tools) and physical supplies included, with clear indications of what is required for digital learning environments, if applicable?
- Are there suggested alternatives or substitutions for the materials listed to accommodate different teaching environments or available resources, adding flexibility for teachers?
- Does each item in the supply list directly align with and support specific instructional objectives and activities, ensuring relevance and purpose?

### During the cluster meeting:

- Discuss whether the list covers all materials and supplies needed for each activity within the program, leaving no essential item unmentioned to prevent any disruptions during the actual implementation of lessons.
- Discuss whether the list is organized and easy to navigate, possibly categorized by lesson, unit, or type of activity, so that teachers can quickly find and gather materials.
- Discuss whether you can identify which materials are consumable (need to be replaced after use) and which are reusable (can be used across multiple lessons or years), to support teachers in planning for future lessons.
- Discuss whether both digital resources (software, online tools) and physical supplies are included, with clear indications of what is required for digital learning environments, if applicable.
- Discuss whether there are suggested alternatives or substitutions for the materials listed to accommodate different teaching environments or available resources, adding flexibility for teachers.
- Discuss whether each item in the supply list directly aligns with and support specific instructional objectives and activities, ensuring relevance and purpose.

# Gateway 3: Teacher and Student Supports

<p><b>Criterion 3.1</b></p>	<p>Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.</p>
<p><b>Indicator 3g</b></p>	<p>The assessment system provides consistent opportunities to determine student learning throughout the school year. The assessment system provides sufficient teacher guidance for evaluating student performance and determining instructional next steps.</p>

## Scoring:

<p><b>2 points</b></p> <ul style="list-style-type: none"> <li>The assessment system provides opportunities to determine student learning throughout the school year. AND</li> <li>The assessment system provides sufficient teacher guidance for evaluating student performance. AND</li> <li>The assessment system provides sufficient teacher guidance for interpreting student performance and determining next instructional steps.</li> </ul>	<p><b>1 point</b></p> <ul style="list-style-type: none"> <li>The assessment system provides opportunities to determine student learning throughout the school year, but not consistently. OR</li> <li>The assessment system provides sufficient teacher guidance for evaluating student performance, but not consistently. OR</li> <li>The assessment system provides sufficient teacher guidance for interpreting student performance and determining next instructional steps, but not consistently.</li> </ul>	<p><b>0 points</b></p> <ul style="list-style-type: none"> <li>The assessment system does not provide opportunities to determine student learning throughout the school year. AND</li> <li>The assessment system does not provide sufficient teacher guidance for evaluating student performance. AND</li> <li>The assessment system does not provide sufficient teacher guidance for interpreting student performance and determining next instructional steps.</li> </ul>
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## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether the assessment system within materials offers regular and consistent opportunities to evaluate student learning progress throughout the school year. It emphasizes the importance of a well-structured assessment system that not only tracks student performance consistently over time but also provides teachers with clear guidance on how to interpret assessment results. This includes offering insights on evaluating student understanding and making informed decisions about instructional next steps. By doing so, teachers identify areas where students may need additional support or enrichment, allowing for timely interventions and personalized learning pathways that enhance student growth and achievement.

## Indicator 3g Guiding Question:

Does the assessment system provide consistent opportunities to determine student learning throughout the school year, sufficient teacher guidance for evaluating student performance, and sufficient teacher guidance for determining instructional next steps?

### Evidence Collection

Note: this indicator looks at the assessment system as a whole and how all of the types of assessments in a program work together to show student progress toward mastery and provide guidance to teachers about how to adjust instruction. Information specific to formative and summative assessments is looked at in Gateway 1).

In the instructional materials being reviewed:

- Ensure the assessment system provides regular and structured opportunities throughout the school year to measure student learning. This should include formative assessments that offer ongoing insights and summative assessments that evaluate cumulative learning.
- Look for a variety of assessment types (e.g., quizzes, performance tasks, summative assessments, standardized tests) to capture different aspects of student learning and demonstrate a comprehensive view of progress.
- Ensure that there is comprehensive guidance for teachers on how to administer the system of assessments, including instructions, rubrics, and criteria for consistent and fair evaluation of student performance.
- Confirm that the materials include clear guidance on how to interpret the results of student assessments throughout all assessments.
- Across the assessment system as a whole, look for specific recommendations or strategies for teachers on how to use assessment data to inform instructional decisions, adjust teaching plans, and provide targeted interventions or enrichment activities based on student needs.
- Assess whether the system includes mechanisms for providing timely and constructive feedback to students, helping them understand their progress and areas for improvement.
- Determine if the assessment system allows for flexibility to accommodate diverse learning environments, student populations, and instructional methods.

### Cluster Meeting

Preparing for the cluster meeting:

- Does the assessment system provide regular and structured opportunities throughout the school year to measure student learning, including both formative assessments that offer ongoing insights and summative assessments that evaluate cumulative learning?
- Is there a variety of assessment types (e.g., quizzes, performance tasks, summative assessments, standardized tests) to capture different aspects of student learning and demonstrate a comprehensive view of progress?
- Is there comprehensive guidance for teachers on how to administer the assessment system, including instructions, rubrics, and criteria for consistent and fair evaluation of student performance?
- Do the materials include clear guidance on how to interpret the results of student assessments across all assessments?
- Are there specific recommendations or strategies for teachers on how to use assessment data to inform instructional decisions, adjust teaching plans, and provide targeted interventions or enrichment activities based on student needs?

- Does the system include mechanisms for providing timely and constructive feedback to students, helping them understand their progress and areas for improvement?
- Does the assessment system allow for flexibility to accommodate diverse learning environments, student populations, and instructional methods?

During the cluster meeting:

- Discuss whether the assessment system provides regular and structured opportunities throughout the school year to measure student learning, including both formative assessments that offer ongoing insights and summative assessments that evaluate cumulative learning.
- Discuss whether there are a variety of assessment types (e.g., quizzes, performance tasks, summative assessments, standardized tests) to capture different aspects of student learning and demonstrate a comprehensive view of progress?
- Discuss whether there is comprehensive guidance for teachers on how to administer the assessment system, including instructions, rubrics, and criteria for consistent and fair evaluation of student performance.
- Discuss whether the materials include clear guidance on how to interpret the results of student assessments across all assessments.
- Discuss whether there are specific recommendations or strategies for teachers on how to use assessment data to inform instructional decisions, adjust teaching plans, and provide targeted interventions or enrichment activities based on student needs.
- Discuss whether the system includes mechanisms for providing timely and constructive feedback to students, helping them understand their progress and areas for improvement.
- Discuss whether the assessment system allows for flexibility to accommodate diverse learning environments, student populations, and instructional methods.

## Gateway 3: Teacher and Student Supports

Criterion 3.1	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
Indicator 3h	<i>*This is not an assessed indicator in Mathematics.</i>

## Gateway 3: Teacher and Student Supports

Criterion 3.1	Materials include opportunities for teachers to effectively plan and utilize materials with integrity and to further develop their own understanding of the content.
Indicator 3i	<i>*This is not an assessed indicator in Mathematics.</i>

# Gateway 3: Teacher and Student Supports

## Criterion 3.2

### Student Supports

Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.

### What is the purpose of this Criterion?

This criterion examines how materials provide student supports throughout the program. It considers how the materials are designed to provide appropriate support and accommodations for students with diverse learning needs, ensuring their regular and active participation in learning mathematics. It also examines whether materials should offer extensions for advanced students, allowing them to engage with mathematical concepts at a greater depth. Additionally, this criterion looks at whether materials provide opportunities for teachers to employ a variety of grouping strategies and include varied opportunities for students to share their thinking. Furthermore, this criterion considers whether materials ensure a range of representation of people, leveraging the diverse cultural and social backgrounds of students to enrich the educational experience and foster an inclusive learning environment.

### Scoring:

#### Meets Expectations

- 6 points

#### Partially Meets Expectations

- 4-5 points

#### Does Not Meet Expectations

- <4 points

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.2</b>	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
<b>Indicator 3j</b>	Materials provide strategies and support for students in special populations to work with grade-level content and meet or exceed grade-level standards, which support their regular and active participation in learning.

Scoring:		
<b>2 points</b> <ul style="list-style-type: none"> <li>Materials provide strategies, supports, and resources for students in special populations to ensure their regular and active participation in grade-level mathematical tasks and problem-solving activities.</li> </ul>	<b>1 point</b> <ul style="list-style-type: none"> <li>Materials provide strategies, supports, and resources for students in special populations to support their regular and active participation in grade-level mathematical tasks and problem-solving activities. but not consistently.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Materials do not provide strategies, supports, and resources for students in special populations to support their regular and active participation in grade-level mathematical tasks and problem-solving activities.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator considers whether materials include strategies and support designed to help students in special populations, such as students with exceptional needs and those requiring additional learning support, to access and engage with grade-level content. This indicator aims to promote equity by ensuring that materials enable all students to meet or exceed grade-level standards. By providing targeted support and resources, the materials facilitate regular and active participation in learning for all students, helping them to overcome barriers and achieve success alongside their peers. This approach fosters an inclusive learning environment that recognizes and accommodates diverse learning needs and styles.

Resources:

- [Supporting Special Populations, Office of Elementary and Secondary Education](#)

### Indicator 3j Guiding Question:

Do materials provide strategies, supports, and resources for students in special populations to support their active participation in grade-level mathematics work?

### Evidence Collection

- Ensure the materials include specific strategies for differentiating instruction to meet the diverse needs of students in special populations. These strategies should be adaptable to individual learning styles and needs.
- Check if the materials provide scaffolding strategies, such as breaking down mathematical tasks into manageable steps, using visual models or manipulatives, or offering guiding questions and prompts to support students in building their understanding and skills.
- Check if the materials incorporate strategies to support the social-emotional needs of students in special populations, fostering a positive learning environment and encouraging participation.
- Assess whether there are opportunities for cooperative learning where students can work in diverse groups to enhance peer support and learning through interaction.
- Confirm that the materials include comprehensive guidance for teachers on how to implement these strategies effectively, including professional development resources if applicable.
- Ensure there are tools and resources for monitoring the progress of students in special populations, allowing teachers to assess effectiveness and adjust strategies as needed.

## Cluster Meeting

### Preparing for the cluster meeting:

- Do the materials include specific strategies for differentiating instruction to meet the diverse needs of students in special populations, adaptable to individual learning styles and needs?
- Do the materials provide scaffolding strategies, such as breaking down mathematical tasks into manageable steps, using visual models or manipulatives, or offering guiding questions and prompts to support students in building their understanding and skills?
- Do the materials incorporate strategies to support the social-emotional needs of students in special populations, fostering a positive learning environment and encouraging participation?
- Are there opportunities for cooperative learning where students can work in diverse groups to enhance peer support and learning through interaction?
- Do the materials include comprehensive guidance for teachers on how to implement these strategies effectively, including professional development resources if applicable?
- Are there tools and resources for monitoring the progress of students in special populations, allowing teachers to assess effectiveness and adjust strategies as needed?

### During the cluster meeting:

- Discuss whether the materials include specific strategies for differentiating instruction to meet the diverse needs of students in special populations, adaptable to individual learning styles and needs.
- Discuss whether the materials provide scaffolding strategies, such as breaking down mathematical tasks into manageable steps, using visual models or manipulatives, or offering guiding questions and prompts to support students in building their understanding and skills.
- Discuss whether the materials incorporate strategies to support the social-emotional needs of students in special populations, fostering a positive learning environment and encouraging participation.
- Discuss whether there are opportunities for cooperative learning where students can work in diverse groups to enhance peer support and learning through interaction.
- Discuss whether the materials include comprehensive guidance for teachers on how to implement these strategies effectively, including professional development resources if applicable.
- Discuss whether there are tools and resources for monitoring the progress of students in special populations, allowing teachers to assess effectiveness and adjust strategies as needed.

# Gateway 3: Teacher and Student Supports

Criterion 3.2	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
Indicator 3k	Materials regularly provide extensions and/or opportunities for advanced students to engage with grade-level/course-level mathematics at greater depth.

Scoring:		
<p>2 points</p> <ul style="list-style-type: none"> <li>Materials regularly provide multiple extensions and/or opportunities for advanced students to engage with grade-level/course-level mathematics at greater depth.</li> <li>AND</li> <li>There are no instances of advanced students doing more assignments than their classmates.</li> </ul>	<p>1 point</p> <ul style="list-style-type: none"> <li>Materials regularly provide multiple extensions and/or opportunities for advanced students to engage with grade-level/course-level mathematics at greater depth.</li> <li>OR</li> <li>There are some instances of advanced students doing more assignments than their classmates.</li> </ul>	<p>0 points</p> <ul style="list-style-type: none"> <li>Materials provide few, if any, opportunities for advanced students to engage with grade-level/course-level mathematics at greater depth.</li> <li>AND</li> <li>There are instances of advanced students doing more assignments than their classmates.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator considers whether materials include strategies and support designed to help students in special populations, such as students with exceptional needs and those requiring additional learning support, to access and engage with grade-level content. This indicator aims to promote equity by ensuring that materials enable all students to meet or exceed grade-level standards. By providing targeted support and resources, the materials facilitate regular and active participation in learning for all students, helping them to overcome barriers and achieve success alongside their peers. This approach fosters an inclusive learning environment that recognizes and accommodates diverse learning needs and styles.

Resources:

[Supporting Special Populations, Office of Elementary and Secondary Education](#)

## Indicator 3k Guiding Question:

Do the materials regularly provide extensions for students who are above grade level to engage with mathematical content and concepts at greater depth?

### Evidence Collection

In the instructional materials being reviewed:

- Ensure there are activities that allow advanced students to explore grade-level content at a deeper level, encouraging higher-order thinking skills such as analysis, synthesis, and evaluation.
- Look for tasks that are more complex rather than just more of the same work.
- Check for enrichment activities that extend mathematical content in meaningful ways without simply adding to the workload. These could include complex problem-solving tasks, thematic projects, or interdisciplinary connections that integrate math with other subjects.
- Ensure materials offer differentiated pathways that cater to the needs of advanced learners, providing challenges that match their capability without increasing the volume of assignments.
- Look for opportunities within the materials that focus on skill enrichment, such as critical thinking, problem-solving, or creative expression that align with students' strengths and interests.
- Verify that advanced learners are given choices in how they explore topics or demonstrate understanding, allowing for greater autonomy and personalized learning experiences.
- Ensure that the advanced materials remain connected to the core curriculum, maintaining relevance and ensuring coherence with overall learning objectives.
- Check for ways the materials provide opportunities for advanced learners to reflect on their learning processes and outcomes, enabling them to set personal learning goals and seek further opportunities for growth.
- Ensure that there are no instances of advanced students doing more assignments than their classmates.

### Cluster Meeting

Preparing for the cluster meeting:

- Are there activities that allow advanced students to explore grade-level content at a deeper level, encouraging higher-order thinking skills such as analysis, synthesis, and evaluation?
- Do the tasks offer complexity rather than just more of the same work?
- Are there enrichment activities that extend the mathematical content in meaningful ways without simply adding to the workload, such as complex problem-solving tasks, thematic projects, or interdisciplinary connections that integrate math with other subjects?
- Do the materials offer differentiated pathways that cater to the needs of advanced learners, providing challenges that match their capability without increasing the volume of assignments?
- Are there opportunities within the materials that focus on skill enrichment, such as critical thinking, problem-solving, or creative expression that align with students' strengths and interests?
- Are advanced learners given choices in how they explore topics or demonstrate understanding, allowing for greater autonomy and personalized learning experiences?
- Do the advanced materials remain connected to the core curriculum, maintaining relevance and ensuring coherence with overall learning objectives?
- Do the materials provide opportunities for advanced learners to reflect on their learning processes and outcomes, enabling them to set personal learning goals and seek further opportunities for growth?
- Are there any instances of advanced students doing more assignments than their classmates?

During the cluster meeting:

- Discuss whether there are activities that allow advanced students to explore grade-level content at a deeper level, encouraging higher-order thinking skills such as analysis, synthesis, and evaluation.
- Discuss whether the mathematical tasks offer complexity rather than just more of the same practice, potentially involving open-ended projects, independent research, or inquiry-based learning opportunities that challenge students to think critically, explore concepts deeply, and apply their knowledge creatively.
- Discuss whether there are enrichment activities that extend the content in meaningful ways without simply adding to the workload, such as complex problem-solving tasks, thematic projects, or interdisciplinary connections that integrate math with other subjects.
- Discuss whether the materials offer differentiated pathways that cater to the needs of advanced learners, providing challenges that match their capability without increasing the volume of assignments.
- Discuss whether there are opportunities within the materials that focus on skill enrichment, such as critical thinking, problem-solving, or creative expression that align with students' strengths and interests.
- Discuss whether advanced learners are given choices in how they explore topics or demonstrate understanding, allowing for greater autonomy and personalized learning experiences.
- Discuss whether the advanced materials remain connected to the core curriculum, maintaining relevance and ensuring coherence with overall learning objectives.
- Discuss whether the materials provide opportunities for advanced learners to reflect on their learning processes and outcomes, enabling them to set personal learning goals and seek further opportunities for growth.
- Discuss whether there are any instances of advanced students doing more assignments than their classmates.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.2</b>	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
<b>Indicator 3I</b>	Materials provide varied approaches to learning tasks over time and variety in how students are expected to demonstrate their learning with opportunities for students to monitor their learning.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Materials provide varied tasks for students to show their thinking and make meaning.
- Students have opportunities to share their thinking, to demonstrate changes in their thinking over time, and to apply their understanding in new contexts.
- Materials leverage the use of a variety of formats over time to deepen student understanding and ability to explain and apply mathematical ideas.
- Materials provide for ongoing review, practice, self-reflection, and feedback.
- Materials provide multiple strategies, such as oral and/or written feedback, peer or teacher feedback, and self-reflection.
- Materials provide a clear path for students to monitor and move their own learning.

## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether materials offer diverse and dynamic approaches to learning tasks, thereby catering to different learning styles and preferences over time. By providing variety in how students are expected to demonstrate their mathematical understanding, the materials promote engagement and allow students to showcase their learning in multiple ways, such as through problem-solving tasks, presentations of mathematical reasoning, written explanations, or group discussions. This approach recognizes the individual strengths and interests of students, encouraging more personalized and effective learning experiences. Additionally, by including opportunities for students to monitor their own learning, the materials foster self-assessment skills and help students become more aware of their progress, strengths, and areas needing improvement. This self-monitoring aspect supports the development of independent learners who are equipped to take responsibility for their educational journeys.

### Indicator 3I Guiding Question:

Do the materials provide varied approaches to learning tasks over time and variety in how students are expected to demonstrate their learning with opportunities for students to monitor their learning?

### Evidence Collection

In the instructional materials being reviewed:

- Ensure that the materials include a wide range of tasks that allow students to express their mathematical thinking and make meaning. These tasks could include problem-solving projects, presentations of mathematical reasoning, written explanations of solutions, group discussions of strategies, and creative representations of mathematical concepts.
- Look for opportunities where students can share their initial thinking, demonstrate how their thinking evolves over time, and apply their understanding in new and varied contexts.
- Ensure there are built-in opportunities for ongoing review and practice. Materials should support repeated engagement with concepts to reinforce learning and solidify skills over time.
- Confirm that materials provide strategies for self-reflection and feedback. This should include oral and written feedback from teachers and peers, as well as opportunities for students to assess their own work and progress.
- Look for clear structures or tools within the materials that help students monitor their own learning. This could include progress tracking systems, self-assessment checklists, or goal-setting frameworks.
- Review how the materials guide students in reflecting on their learning process, offering scaffolding that supports students in moving from one level of understanding to the next.
- Verify that there are tasks requiring students to apply their learning to new situations or problems, fostering transfer of knowledge and skills beyond the original context.

## Cluster Meeting

### Preparing for the cluster meeting:

- Do the materials include a wide range of tasks that allow students to express their thinking and make meaning, such as problem-solving projects, presentations of mathematical reasoning, written explanations of solutions, group discussions of strategies, and creative representations of mathematical concepts?
- Are there opportunities for students to share their initial thinking, demonstrate how their thinking evolves over time, and apply their understanding in new and varied contexts?
- Are there built-in opportunities for ongoing review and practice, supporting repeated engagement with concepts to reinforce learning and solidify skills over time?
- Do the materials provide strategies for self-reflection and feedback, including oral and written feedback from teachers and peers, as well as opportunities for students to assess their own work and progress?
- Are there clear structures or tools within the materials to help students monitor their own learning, such as progress tracking systems, self-assessment checklists, or goal-setting frameworks?
- How do the materials guide students in reflecting on their learning process, offering scaffolding that supports students in moving from one level of understanding to the next?
- Are there tasks that require students to apply their learning to new situations or problems, fostering the transfer of knowledge and skills beyond the original context?

### During the cluster meeting:

- Discuss whether the materials include a wide range of tasks that allow students to express their thinking and make meaning, such as problem-solving projects, presentations of mathematical reasoning, written explanations of solutions, group discussions of strategies, and creative representations of mathematical concepts.
- Discuss whether there are opportunities for students to share their initial thinking, demonstrate how their thinking evolves over time, and apply their understanding in new and varied contexts.
- Discuss whether there are built-in opportunities for ongoing review and practice, supporting repeated engagement with concepts to reinforce learning and solidify skills over time.

- Discuss whether the materials provide strategies for self-reflection and feedback, including oral and written feedback from teachers and peers, as well as opportunities for students to assess their own work and progress.
- Discuss whether there are clear structures or tools within the materials to help students monitor their own learning, such as progress tracking systems, self-assessment checklists, or goal-setting frameworks.
- Discuss how the materials guide students in reflecting on their learning process, offering scaffolding that supports students in moving from one level of understanding to the next.
- Discuss whether there are tasks that require students to apply their learning to new situations or problems, fostering the transfer of knowledge and skills beyond the original context.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.2</b>	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
<b>Indicator 3m</b>	Materials provide opportunities for teachers to use a variety of grouping strategies.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Materials provide grouping strategies for students.
- Materials provide guidance for varied types of interaction among students.
- Materials provide guidance for the teacher on grouping students in a variety of grouping formats.

## About this indicator:

What is the purpose of this Indicator?

This indicator looks at whether materials offer teachers diverse strategies for grouping students during instruction. By providing opportunities for various grouping methods, such as whole-class, small group, pair, or individual work, teachers can effectively address different instructional goals, engage students with varied learning styles, and meet diverse student needs. These strategies can enhance collaboration, communication, and peer learning while also allowing for targeted instruction and differentiated support. Ultimately, the indicator aims to create a more dynamic and interactive learning environment that supports student engagement and maximizes learning outcomes.

## Indicator 3m Guiding Question:

Do the materials provide opportunities for teachers to use a variety of grouping strategies?

## Evidence Collection

In the instructional materials being reviewed:

- Ensure the materials suggest a variety of grouping strategies such as whole-class, small groups, pairs, and individual work. These should cater to different instructional objectives and student needs.
- Look for guidance on how to align grouping strategies with specific instructional goals, such as fostering collaboration, enhancing understanding, or providing differentiated instruction.
- Check if the materials offer recommendations for flexible grouping, allowing teachers to adjust groups based on student progress, skill levels, or specific learning activities.
- Ensure that there are explicit instructions or criteria for teachers on how to form groups, taking into account factors like student ability, learning preferences, or interpersonal dynamics.
- Confirm that the materials provide guidance on facilitating different types of student interactions, such as cooperative learning, peer review, discussions, and problem-solving activities.
- Look for embedded support and scaffolding suggestions to help teachers manage and support student interactions effectively within various group settings.

- Assess whether the grouping strategies are designed to promote active student engagement and participation, ensuring all students have the opportunity to contribute and learn.
- Verify whether the materials include opportunities for feedback and reflection on group interactions, helping students to improve their collaborative skills and self-awareness.

Note: If you identify grouping strategies specifically targeted to differentiated populations, please assign that evidence to the associated indicators (special populations will be in 3j; advanced students in 3k)

## Cluster Meeting

Preparing for the cluster meeting:

- Do the materials suggest a variety of grouping strategies such as whole-class, small groups, pairs, and individual work that cater to different instructional objectives and student needs?
- Is there guidance on how to align grouping strategies with specific instructional goals, such as fostering collaboration, enhancing understanding, or providing differentiated instruction?
- Do the materials offer recommendations for flexible grouping, allowing teachers to adjust groups based on student progress, skill levels, or specific learning activities?
- Are there explicit instructions or criteria for teachers on how to form groups, considering factors like student ability, learning preferences, or interpersonal dynamics?
- Do the materials provide guidance on facilitating different types of student interactions, such as cooperative learning, peer review, discussions, and problem-solving activities?
- Are there embedded support and scaffolding suggestions to help teachers manage and support student interactions effectively within various group settings?
- Are the grouping strategies designed to promote active student engagement and participation, ensuring all students have the opportunity to contribute and learn?
- Do the materials include opportunities for feedback and reflection on group interactions, helping students to improve their collaborative skills and self-awareness?

During the cluster meeting:

- Discuss whether the materials suggest a variety of grouping strategies such as whole-class, small groups, pairs, and individual work that cater to different instructional objectives and student needs.
- Discuss whether there is guidance on how to align grouping strategies with specific instructional goals, such as fostering collaboration, enhancing understanding, or providing differentiated instruction.
- Discuss whether the materials offer recommendations for flexible grouping, allowing teachers to adjust groups based on student progress, skill levels, or specific learning activities.
- Discuss whether there are explicit instructions or criteria for teachers on how to form groups, considering factors like student ability, learning preferences, or interpersonal dynamics.
- Discuss whether the materials provide guidance on facilitating different types of student interactions, such as cooperative learning, peer review, discussions, and problem-solving activities.
- Discuss whether there are embedded support and scaffolding suggestions to help teachers manage and support student interactions effectively within various group settings.
- Discuss whether the grouping strategies are designed to promote active student engagement and participation, ensuring all students have the opportunity to contribute and learn.
- Discuss whether the materials include opportunities for feedback and reflection on group interactions, helping students to improve their collaborative skills and self-awareness.



# Gateway 3: Teacher and Student Supports

<b>Criterion 3.2</b>	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
<b>Indicator 3n</b>	Assessments offer accommodations that allow students to demonstrate their knowledge and skills without changing the content of the assessment.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Materials offer accommodations that ensure all students can access the assessment (e.g., text-to-speech, increased font size) without changing its content.
- Materials include guidance for teachers on the use of provided accommodations.
- Materials include guidance for teachers about who can benefit from these accommodations.
- Materials do not include modifications to assessments that alter grade level/expectations.

## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether the materials ensure that assessments include accommodations that enable all students, especially those with diverse learning needs or disabilities, to demonstrate their knowledge and skills effectively without altering the core content or objectives of the assessment. These accommodations are designed to provide equitable access to the assessment process, ensuring that the results are a true reflection of a student's understanding and abilities rather than their ability to navigate barriers unrelated to the content. This can include changes in the assessment environment, format, timing, or presentation that help level the playing field while maintaining the integrity and rigor of the assessment content.

## Indicator 3n Guiding Question:

Do assessments offer accommodations that allow students to demonstrate their knowledge and skills without changing the content of the assessment?

## Evidence Collection

In the instructional materials being reviewed:

- Ensure the materials provide a variety of accommodations, such as text-to-speech, increased font size, alternative formats (e.g., Braille, large print), and extended time, ensuring accessibility for students with different needs.
- Check that there is clear and comprehensive guidance for teachers on how to implement these accommodations effectively during assessments, including step-by-step instructions if necessary.
- Ensure that the materials offer guidance on which students can benefit from specific accommodations, helping teachers to make informed decisions based on individual student needs and educational plans.

- Confirm that the accommodations provided do not change the content or expectations of the assessments, ensuring that grade-level standards and rigor are maintained.
- Look for flexibility in how accommodations can be implemented, allowing teachers to tailor them to the specific needs of their students while adhering to the assessment's core objectives.
- Look for whether the materials include tools or templates for documenting accommodations used during assessments, supporting accountability and planning for future assessments.
- Assess whether there are suggestions or best practices for modifying the testing environment to support the implementation of accommodations, such as minimizing distractions or providing a separate testing area.

## Cluster Meeting

### Preparing for the cluster meeting:

- Do the materials provide a variety of accommodations, such as text-to-speech, increased font size, alternative formats (e.g., Braille, large print), and extended time, ensuring accessibility for students with different needs?
- Is there clear and comprehensive guidance for teachers on how to implement these accommodations effectively during assessments, including step-by-step instructions if necessary?
- Do the materials offer guidance on which students can benefit from specific accommodations, helping teachers make informed decisions based on individual student needs and educational plans?
- Do the accommodations provided ensure that the content or expectations of the assessments are not changed, maintaining grade-level standards and rigor?
- Is there flexibility in how accommodations can be implemented, allowing teachers to tailor them to the specific needs of their students while adhering to the assessment's core objectives?
- Do the materials include tools or templates for documenting accommodations used during assessments, supporting accountability and planning for future assessments?
- Are there suggestions or best practices for modifying the testing environment to support the implementation of accommodations, such as minimizing distractions or providing a separate testing area?

### During the cluster meeting:

- Discuss whether the materials provide a variety of accommodations, such as text-to-speech, increased font size, alternative formats (e.g., Braille, large print), and extended time, ensuring accessibility for students with different needs.
- Discuss whether there is clear and comprehensive guidance for teachers on how to implement these accommodations effectively during assessments, including step-by-step instructions if necessary.
- Discuss whether the materials offer guidance on which students can benefit from specific accommodations, helping teachers make informed decisions based on individual student needs and educational plans.
- Discuss whether the accommodations provided ensure that the content or expectations of the assessments are not changed, maintaining grade-level standards and rigor.
- Discuss whether there is flexibility in how accommodations can be implemented, allowing teachers to tailor them to the specific needs of their students while adhering to the assessment's core objectives.
- Discuss whether the materials include tools or templates for documenting accommodations used during assessments, supporting accountability and planning for future assessments.
- Discuss if there are suggestions or best practices for modifying the testing environment to support the implementation of accommodations, such as minimizing distractions or providing a separate testing area.



# Gateway 3: Teacher and Student Supports

<b>Criterion 3.2</b>	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
<b>Indicator 3o</b>	Materials provide a range of representation of people and include detailed instructions and support for educators to effectively incorporate and draw upon students’ different cultural, social, and community backgrounds to enrich learning experiences.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Materials provide a range of representation of people, ensuring a broad range of cultural, racial, gender, and ability backgrounds are accurately and authentically represented.
- Materials provide detailed instructions and support for teachers on incorporating and drawing upon students’ different cultural, social, and community backgrounds to enrich learning experiences.

## About this indicator:

What is the purpose of this Indicator?

In 2022, EdReports conducted a [landscape analysis](#) of 15 different resources to help educators understand trends and best practices in culturally responsive education, highlighting ongoing efforts and areas for improvement in providing adequate support for culturally relevant instruction. This indicator examines whether materials reflect diverse identities, connect learning to real-world and culturally relevant contexts, and promote student student engagement through authentic representation, high expectations, and community involvement. In doing so, the indicator supports communities in engaging in deep discourse and aligning educational practices with their local contexts.

### Research or Standards Connection:

In “[Mirrors, Windows, and Sliding Glass Doors](#),” Bishop (2015) argues that children's literature should reflect the diversity of our society, acting as both mirrors (for children to see themselves) and windows (for children to learn about others). Bishop points out that for many years, non-white children have been underrepresented in literature, leading to a lack of mirrors for them and a sense of being devalued in society. She emphasizes the importance of providing children with books that celebrate both our differences and similarities, ultimately helping us to understand and accept each other. Bishop uses examples of diverse voices and authors in children's literature to illustrate the power of stories to reflect authentic cultural experiences and traditions. She argues that when children are exposed to a variety of voices and perspectives, they are better able to understand and appreciate the richness and diversity of our world.

In “[Culturally Responsive Education: A Primer for Policy and Practice](#),” Johnston, Montalbano, and Kirkland (2017) explores the significance and implementation of culturally responsive education (CRE). The primer highlights the need to move beyond simply including culture as a token in the curriculum and emphasizes the importance of designing curricula that truly reflect the diverse cultural experiences of students. The authors raise questions about how to create curricula that are not only inclusive of diverse backgrounds but also address issues of

historical oppression, and how to foster a true understanding of the dynamic and evolving nature of culture, going beyond static representations. The primer also points to the need to develop culturally responsive standards that can be implemented within the current standards-based educational framework, ensuring that cultural responsiveness is not merely a superficial add-on but a fundamental element of the educational system. The authors argue that a truly culturally responsive curriculum should go beyond simply including diverse cultures as a token or a one-day event. It should reflect a deep understanding of the complexities of culture and address historical injustices and current inequalities. Furthermore, it should foster a sense of agency and empowerment for all students, enabling them to see their own cultural backgrounds as valuable assets and empowering them to engage in meaningful learning experiences.

### Indicator 3o Guiding Question:

Do the materials provide guidance and a range of representation of people that supports educators in leveraging students' cultural, social, and community backgrounds to enhance learning?

#### Evidence Collection

In the instructional materials being reviewed:

- Describe how the materials reflect and affirm the diverse identities of students, ensuring a broad range of cultural, racial, gender, and ability backgrounds are accurately and authentically represented.
- Describe images and representations that depict students actively participating in learning experiences that are connected to real-world contexts.
  - These should include diverse students collaborating, problem-solving, or exploring concepts in ways that highlight their cultural and personal identities. Explicitly note if these images show students of different backgrounds in leadership roles, working together in a variety of group settings, and utilizing culturally relevant tools or methods.
- Describe specific examples where instructional content is linked to students' cultural experiences, interests, or community knowledge, fostering a deeper engagement and understanding of mathematics.
- Identify instructional guidance that encourages high expectations for all students, including those that differentiate learning to meet diverse cultural needs while maintaining academic rigor.
- Identify prompts that invite students to draw from their cultural backgrounds and personal experiences, enhancing their connection to the material and fostering a deeper sense of identity within the learning environment.
- Describe any other teacher materials that include guidance on how to actively involve community and family perspectives, drawing on local knowledge and cultural practices to enrich the learning experiences and promote students' role as contributors to their communities.

#### Cluster Meeting

Preparing for the cluster meeting:

- Do the materials include a wide range of student identities represented, reflecting the diversity of the classroom and broader society?
  - Do these portrayals challenge stereotypes and offer diverse narratives that contribute to an inclusive learning environment?
- How and where does instructional guidance actively connect to students' cultural knowledge and lived experiences, promoting meaningful learning?
- How and where do materials include specific strategies to ensure that all students have the opportunity to engage deeply with the content, regardless of their cultural background?
  - Do these strategies enhance the relevance of classroom content by drawing on the experiences,

values, and resources of students' families and communities?

- How often do materials include adaptable approaches that cater to different cultural contexts?

During the cluster meeting:

- Discuss whether the materials include a wide range of student identities represented, reflecting the diversity of the classroom and broader society.
  - Discuss whether these portrayals challenge stereotypes and offer diverse narratives that contribute to an inclusive learning environment.
- Discuss how and where instructional guidance actively connects to students' cultural knowledge and lived experiences, promoting meaningful learning.
- Discuss how and where materials include specific strategies to ensure that all students have the opportunity to engage deeply with the content, regardless of their cultural background?
  - Discuss whether these strategies enhance the relevance of classroom content by drawing on the experiences, values, and resources of students' families and communities.
- Discuss how often do materials include adaptable approaches that cater to different cultural contexts.

# Gateway 3: Teacher and Student Supports

Criterion 3.2	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
Indicator 3p	Materials provide supports for different reading levels to ensure accessibility for students.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Materials identify strategies to engage students in reading and accessing grade-level mathematics.
- Materials identify multiple entry points to help struggling readers access and engage in grade-level mathematics.

## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether materials provide supports for different reading levels to ensure accessibility for all students. It evaluates the inclusion of strategies that engage students in reading and accessing grade-level mathematics, as well as the identification of multiple entry points that help struggling readers engage with and understand mathematical concepts. The indicator ensures that materials promote equitable access and support diverse learners in achieving success in mathematics.

Research or Standards connection:

“Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense.” (Common Core State Standards for Mathematics, p. 6).

Resources:

- [Common Core State Standards for Mathematics \(CCSSM\)](#)

## Indicator 3p Guiding Question:

Do the materials provide supports for different reading levels to ensure accessibility for students?

## Evidence Collection

Review teacher and student materials across the series.

Look for and record evidence to:

- Identify strategies to engage students in reading and accessing grade-level mathematics. Note: strategies and supports for engaging students in MP1, Make sense and persevere in solving problems and MP6, Attending to precision in language can also be noted here.
- Identify multiple entry points that present a variety of representations to help struggling readers to access and engage in grade-level mathematics.

## Cluster Meeting

Discuss and answer the following questions to support consensus scoring conversations:

- How and where do the materials include specific supports or strategies to support students who read below grade level to engage with grade-level mathematics?
- How and where do the materials scaffold vocabulary or concepts to support readers below grade level?
- How and where do the materials use a variety of representations to engage students with grade-level content?
- Do materials include “just-right” pre-reading activities that offer visuals and other types of supports and scaffolds for building essential and pertinent background knowledge on new or unfamiliar themes/ topics?

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.2</b>	Materials are designed for each student’s regular and active participation in grade-level/grade-band/series content.
<b>Indicator 3q</b>	Manipulatives, both virtual and physical, are accurate representations of the mathematical objects they represent and, when appropriate, are connected to written methods.

Scoring:		
<b>2 points</b> <ul style="list-style-type: none"> <li>Manipulatives are accurate representations of mathematical objects and are connected to written methods.</li> </ul>	<b>1 point</b> <ul style="list-style-type: none"> <li>Manipulatives are accurate representations of mathematical objects.</li> <li style="text-align: center;">OR</li> <li>Manipulatives are connected to written methods.</li> </ul>	<b>0 points</b> <ul style="list-style-type: none"> <li>Manipulatives are not accurate representations of mathematical objects and are not connected to written methods.</li> </ul>

## About this indicator:

What is the purpose of this Indicator?

This indicator determines how materials include manipulatives to support and represent mathematical objects, and connect to grade-level written methods.

### Indicator 3q Guiding Question:

Are manipulatives, both virtual and physical, accurate representations of the mathematical objects they represent and, when appropriate, are connected to written methods?

### Evidence Collection

Review teacher and student materials across the series.

Look for and record evidence to:

- Identify the use of physical and/or virtual manipulatives. Examples of manipulatives (physical or virtual) could include: two-color counters, calculator, coins, number cubes, playing cards, string, square tiles, unit cubes, colored chips, algebra tiles, grid paper, index cards, anchor charts, ruler, compass, protractor, geometry software, bar diagrams, fraction strips, number lines, decimal grids, x-y tables, pie charts, etc.
- Identify situations where manipulatives help students develop understanding of a concept.
- Describe if and how manipulatives are used and who is using them. Look for routine use of manipulatives so students understand their purpose and can independently choose to use any tools helpful to them, both for learning and for explaining their understanding.

- Identify alignment with content where manipulatives help develop conceptual understanding, as well as instances where they could be beneficial but are not used.
- Describe if and how students connect, and eventually transition from, the use of manipulatives to written methods.

## Cluster Meeting

Discuss and answer the following questions to support consensus scoring conversations:

- How often are manipulatives used to develop understanding of content?
- Do students use manipulatives in a variety of situations so they understand their purpose and can use them effectively? Or do they just "check a box"?
- How are manipulatives used to build toward a written process?

# Gateway 3: Teacher and Student Supports

## Criterion 3.3

### Intentional Design

Materials include a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers.

### What is the purpose of this Criterion?

This criterion examines whether materials effectively integrate technology to enhance student engagement and learning. These technological integrations help students interact with grade-level content through interactive and diverse learning approaches, meeting diverse learning needs and preparing students for a tech-savvy world. The indicator evaluates whether materials provide opportunities and guidance for collaboration among teachers and students, leveraging digital tools to enhance communication and collaborative learning. It also assesses the visual design of materials to ensure they are engaging without being distracting and examines the consistency and clarity of layout across resources. Additionally, the indicator considers whether materials offer teacher guidance for embedding technology in teaching practices, aiming to improve lesson interactivity and accessibility. By including these elements, materials support critical skills development such as teamwork, communication, and digital literacy, while enhancing student understanding and engagement.

### Scoring: Narrative Evidence Only

Note: No score is given for this criterion. Only qualitative evidence is provided.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.3</b>	Materials include a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers.
<b>Indicator 3r</b>	Materials integrate technology such as interactive tools, virtual manipulatives/objects, and/or dynamic software in ways that engage students in the grade-level/series standards, when applicable.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Digital technology and interactive tools, such as data collection tools and/or modeling tools are available to students.
- Digital tools support student engagement in mathematics..
- Digital materials can be customized for local use (i.e., student and/or community interests).

## About this indicator:

What is the purpose of this Indicator?

The purpose of this indicator is to ensure that materials incorporate technology effectively to enhance student engagement and learning. Such technological integrations can help students better understand and interact with grade-level standards by providing interactive and diverse approaches to learning. This use of technology not only helps to meet diverse learning needs and styles but also prepares students for a tech-savvy world by familiarizing them with digital tools important for their future academic and career pursuits.

## Indicator 3r Guiding Question:

Do the materials integrate interactive tools and/or dynamic software in ways that support student engagement in mathematics, when applicable?

## Evidence Collection

In the instructional materials being reviewed (when applicable):

- Consider if the digital materials include a range of technology and interactive tools, such as data collection and modeling tools, that are accessible to students. These tools should facilitate hands-on learning and exploration.
- Check that the digital tools align with and support engagement in mathematics by enhancing mathematical skills, such as problem-solving, reasoning, and communication, through interactive and multimedia content.
- Check that the digital tools align with course-level content standards and Mathematical Practices, enhancing student engagement with coherent and meaningful activities that foster a deeper grasp of mathematical principles.

- Verify that the digital materials can be customized or adapted for local use, allowing teachers to tailor content to reflect student interests and community contexts, thereby making learning more relevant and engaging.
- Assess whether the digital tools are easy to use for both teachers and students, with clear instructions and intuitive interfaces that facilitate seamless integration into the classroom.
- Look for interactive features that promote student engagement, such as quizzes, games, simulations, or virtual reality experiences, that encourage active participation and deeper learning.
- Confirm that the digital tools are integrated with core curriculum content, providing a cohesive learning experience that enhances rather than distracts from the main educational objectives.

## Cluster Meeting

### Preparing for the cluster meeting:

- Do the digital materials include a range of technology and interactive tools, such as data collection tools, simulations, virtual manipulatives, and modeling tools, that are accessible to students and facilitate hands-on exploration and deeper understanding of mathematical concepts?
- Do the digital tools align with and support engagement in mathematics by enhancing mathematical skills, such as problem-solving, reasoning, and communication, through interactive and multimedia content?
- Do the digital tools align with course-level content standards and Mathematical Practices, enhancing student engagement with coherent and meaningful activities that foster a deeper grasp of mathematical principles?
- Can the digital materials be customized or adapted for local use, allowing teachers to tailor mathematical content to reflect student interests and community contexts, thereby making learning more relevant and engaging?
- Are the digital tools easy to use for both teachers and students, with clear instructions and intuitive interfaces that facilitate seamless integration into math instruction?
- Do the digital tools include interactive features that promote student engagement, such as math-focused games, simulations, quizzes, or virtual manipulatives that encourage active participation and deeper mathematical learning?
- Are the digital tools integrated with core math curriculum content, providing a cohesive learning experience that enhances mathematical understanding rather than distracting from the main educational objectives?

### During the cluster meeting:

- Discuss whether the digital materials include a range of technology and interactive tools, such as data collection tools, simulations, virtual manipulatives, and modeling tools, that are accessible to students and facilitate hands-on exploration and a deeper understanding of mathematical concepts.
- Discuss whether the digital tools align with and support engagement in mathematics by enhancing mathematical skills, such as problem-solving, reasoning, and critical thinking, through interactive and multimedia content.
- Discuss whether the digital tools align with course-level content standards and the Standards for Mathematical Practice, enhancing student engagement through coherent and meaningful activities that foster a deeper grasp of mathematical principles, reasoning, and problem-solving.
- Discuss whether the digital materials can be customized or adapted for local use, allowing teachers to tailor mathematical content to reflect student interests and community contexts, thereby making learning more relevant and engaging.
- Discuss whether the digital tools are easy to use for both teachers and students, with clear instructions and intuitive interfaces that facilitate seamless integration into mathematics instruction.

- Discuss whether the digital tools include interactive features that promote student engagement, such as math-focused quizzes, games, simulations, or virtual manipulatives that encourage active participation and deeper learning in mathematics.
- Discuss whether the digital tools are integrated with core mathematics curriculum content, providing a cohesive learning experience that enhances, rather than distracts from, the main mathematical objectives and standards.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.3</b>	Materials include a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers.
<b>Indicator 3s</b>	Materials include or reference digital technology that provides opportunities for teachers and/or students to collaborate with each other, when applicable.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Materials include or reference digital technology that provides opportunities for teachers and/or students to collaborate with each other, when applicable.
- Describe which stakeholders the materials support collaboration between: teacher to teacher, teacher to student, or student to student.

## About this indicator:

What is the purpose of this Indicator?

This indicator considers if the materials provide opportunities and guidance for teachers and/or students to collaborate with each other and is applicable to materials with digital components only. By providing these tools, the materials aim to enhance communication and collaborative learning experiences, allowing participants to engage in mathematical tasks, collaborate on problem-solving, share strategies, and contribute to collective understanding and solutions. This collaboration supports the development of critical skills such as teamwork, communication, and digital literacy, which are increasingly important in today's interconnected and technology-driven world.

## Indicator 3s Guiding Question:

Do the materials include or reference digital technology that provides opportunities for teachers and/or students to collaborate with each other, when applicable?

## Evidence Collection

In the instructional materials being reviewed (when applicable):

- Check to see if the materials specify who is supported by the collaborative digital technology. This could include delineating features that facilitate collaboration between teacher to teacher, teacher to student, or student to student.
- Look for a diverse range of digital tools that support different types of mathematical collaboration, such as interactive problem-solving platforms, shared whiteboards for group work, virtual manipulatives for joint exploration, or forums for discussing mathematical strategies and solutions.
- Check for interactive features that promote real-time collaboration, such as live chat, video conferencing, or collaborative editing capabilities. These features should enable seamless interaction and cooperative work among participants.

- Assess whether the technology is user-friendly, with intuitive interfaces and clear instructions, ensuring that all intended users can easily navigate and utilize the collaborative features.
- Verify that the tools are accessible to users with diverse needs, providing features such as language support, assistive technology compatibility, and cross-platform functionality.
- Confirm that the collaborative tools are integrated with or complement the existing curriculum, aligning with learning objectives and enhancing educational outcomes through collaborative activities.
- Ensure that the digital tools offer opportunities for collaboration among students, such as shared math tasks, discussion forums, or group activities that support peer learning and mathematical communication skills.
- Check if the materials include or reference support resources or training opportunities for teachers and students to effectively use the collaborative digital tools.

## Cluster Meeting

### Preparing for the cluster meeting:

- Do the materials specify who is supported by the collaborative digital technology, such as detailing features that facilitate collaboration between teacher to teacher, teacher to student, or student to student?
- Is there a diverse range of digital tools that support different types of mathematical collaboration, including interactive problem-solving platforms, shared whiteboards for group work, virtual manipulatives for joint exploration, or forums for discussing mathematical strategies and solutions?
- Are there interactive features that promote real-time collaboration, such as live chat, video conferencing, or collaborative editing capabilities, enabling seamless interaction and cooperative work among participants?
- Is the technology user-friendly with intuitive interfaces and clear instructions, ensuring that all intended users can easily navigate and utilize the collaborative features?
- Are the tools accessible to users with diverse needs, providing features such as language support, assistive technology compatibility, and cross-platform functionality?
- Are the collaborative tools integrated with or do they complement the existing curriculum, aligning with learning objectives and enhancing educational outcomes through collaborative activities?
- Do the digital tools offer opportunities for collaboration among students, such as shared math tasks, discussion forums, or group projects that support peer learning and mathematical communication skills?
- Do the materials include or reference support resources or training opportunities for teachers and students to effectively use the collaborative digital tools?

### During the cluster meeting:

- Discuss whether the materials specify who is supported by the collaborative digital technology, such as detailing features that facilitate collaboration between teacher to teacher, teacher to student, or student to student.
- Discuss whether there are a diverse range of digital tools that support different types of mathematical collaboration, including interactive problem-solving platforms, shared whiteboards for group work, virtual manipulatives for joint exploration, or forums for discussing mathematical strategies and solutions.
- Discuss whether there are interactive features that promote real-time collaboration, such as live chat, video conferencing, or collaborative editing capabilities, enabling seamless interaction and cooperative work among participants.
- Discuss whether the technology is user-friendly with intuitive interfaces and clear instructions, ensuring that all intended users can easily navigate and utilize the collaborative features.
- Discuss whether the tools are accessible to users with diverse needs, providing features such as language support, assistive technology compatibility, and cross-platform functionality.

- Discuss whether the collaborative tools are integrated with or if they complement the existing curriculum, aligning with learning objectives and enhancing educational outcomes through collaborative activities.
- Discuss whether the digital tools offer opportunities for collaboration among students, such as shared math tasks, discussion forums, or group projects that support peer learning and the development of mathematical communication skills.
- Discuss whether the materials include or reference support resources or training opportunities for teachers and students to effectively use the collaborative digital tools.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.3</b>	Materials include a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers.
<b>Indicator 3t</b>	The visual design (whether in print or digital) supports students in engaging thoughtfully with the subject, and is neither distracting nor chaotic.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Images, graphics, and models support student learning and engagement without being visually distracting. They also clearly communicate information or support student understanding of topics, texts, or concepts.
- Teacher and student materials are consistent in layout and structure across lessons/modules/units.
- Materials' organizational features (table of contents, glossary, index, internal references, table headers, captions, etc.) are clear, accurate, and error-free.

## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether the visual design of materials effectively supports student engagement with the content without being distracting or chaotic. This indicator considers the consistency in layout of the teacher and student materials, examines whether resources clearly communicate information, and examines whether resources contain any errors as they relate to usability. A well-designed visual layout can enhance understanding by organizing information clearly, highlighting key concepts, and guiding students' attention to important concepts. By ensuring the design is clean, intuitive, and supportive of the subject matter, the materials can facilitate a more focused and meaningful learning experience, helping students to concentrate on and thoughtfully engage with the content.

## Indicator 3t Guiding Question:

Does the visual design (whether in print or digital) support students in engaging thoughtfully with the subject, and is neither distracting nor chaotic?

## Evidence Collection

In the instructional materials being reviewed:

- Ensure that images, graphics, and models used in the materials clearly support and enhance student learning and engagement. They should be directly related to the content, helping to clarify or illustrate key concepts without causing visual distraction.
- Check that the visuals contribute to a deeper understanding of topics, texts, or concepts by being clear, relevant, and appropriately detailed.
- Confirm that the layout and structure of both teacher and student materials are consistent across lessons, modules, or units. This consistency helps students and teachers familiarize themselves with the format, easily locate information, and understand how different sections connect.

- Ensure that organizational features such as the table of contents, glossary, index, and internal references are clear, accurate, and free from errors, facilitating easy navigation and comprehension.
- Assess whether the visual design, including text size, font, and color contrast, is readable and accessible to all students, including those with visual impairments or learning disabilities.
- Verify that the materials make balanced use of space, avoiding overcrowding or excessive whitespace, to maintain a tidy and organized appearance that aids focus and comprehension.
- Check for seamless integration of visuals with the content, ensuring that text and images complement each other and contribute to a cohesive learning experience.
- Look for clear and informative captions and labels on visuals that help explain and contextualize their content, making it easier for students to connect visuals with the written material.

## Cluster Meeting

### Preparing for the cluster meeting:

- Do images, graphics, and models used in the materials clearly support and enhance student learning and engagement by being directly related to the content, helping to clarify or illustrate key concepts without causing visual distraction?
- Do the visuals contribute to a deeper understanding of topics, texts, or concepts by being clear, relevant, and appropriately detailed?
- Is the layout and structure of both teacher and student materials consistent across lessons, modules, or units, helping students and teachers familiarize themselves with the format, easily locate information, and understand how different sections connect?
- Are organizational features such as the table of contents, glossary, index, and internal references clear, accurate, and free from errors, facilitating easy navigation and comprehension?
- Is the visual design, including text size, font, and color contrast, readable and accessible to all students, including those with visual impairments or learning disabilities?
- Do the materials make balanced use of space, avoiding overcrowding or excessive whitespace, to maintain a tidy and organized appearance that aids focus and comprehension?
- Is there seamless integration of visuals with the content, ensuring that text and images complement each other and contribute to a cohesive learning experience?
- Are there clear and informative captions and labels on visuals that help explain and contextualize their content, making it easier for students to connect visuals with the written material?

### During the cluster meeting:

- Discuss whether the images, graphics, and models used in the materials clearly support and enhance student learning and engagement by being directly related to the content, helping to clarify or illustrate key concepts without causing visual distraction.
- Discuss whether the visuals contribute to a deeper understanding of topics, texts, or concepts by being clear, relevant, and appropriately detailed.
- Discuss whether the layout and structure of both teacher and student materials are consistent across lessons, modules, or units, helping students and teachers familiarize themselves with the format, easily locate information, and understand how different sections connect.
- Discuss whether there are organizational features such as the table of contents, glossary, index, and internal references clear, accurate, and free from errors, facilitating easy navigation and comprehension.
- Discuss whether the visual design, including text size, font, and color contrast, is readable and accessible to all students, including those with visual impairments or learning disabilities.
- Discuss whether the materials make balanced use of space, avoiding overcrowding or excessive whitespace, to maintain a tidy and organized appearance that aids focus and comprehension.

- Discuss whether there is seamless integration of visuals with the content, ensuring that text and images complement each other and contribute to a cohesive learning experience.
- Discuss whether there are clear and informative captions and labels on visuals that help explain and contextualize their content, making it easier for students to connect visuals with the written material.

# Gateway 3: Teacher and Student Supports

<b>Criterion 3.3</b>	Materials include a visual design that is engaging and references or integrates digital technology, when applicable, with guidance for teachers.
<b>Indicator 3u</b>	Materials provide teacher guidance for the use of embedded technology to support and enhance student learning, when applicable.

## Scoring: Narrative Evidence Only

Note: No score is given for this indicator. Only qualitative evidence is provided.

- Teacher guidance is provided for the use of embedded technology to support and enhance student learning, when applicable.

## About this indicator:

What is the purpose of this Indicator?

This indicator examines whether the materials provide teacher guidance for the use of embedded technology to support and enhance student learning and is applicable to materials with digital components only. This guidance helps teachers integrate technology into their teaching practices seamlessly and effectively, maximizing the potential benefits of digital tools and resources. By doing so, materials can empower teachers to leverage technology to make lessons more interactive, engaging, and accessible, thus improving student understanding and engagement.

## Indicator 3u Guiding Question:

Do the materials provide teacher guidance for the use of embedded technology to support and enhance student learning, when applicable?

## Evidence Collection

In the instructional materials being reviewed (when applicable):

- Check to see that the materials provide clear and detailed instructions for teachers on how to use embedded technology in the classroom, including step-by-step guides or tutorials if necessary.
- Check for practical examples or case studies that illustrate how the technology can be effectively integrated into lessons to enhance student learning.
- Ensure there are resources or references for technical support and troubleshooting, helping teachers address any issues that may arise with technology use.
- Look for links or references to professional development opportunities or resources that can help teachers improve their proficiency in using technology for instructional purposes.
- Verify whether the guidance includes ways to use technology for assessing student progress and providing feedback, supporting ongoing learning and assessment

## Cluster Meeting

Preparing for the cluster meeting:

- Do the materials provide clear and detailed instructions for teachers on how to use embedded technology in the classroom, including step-by-step guides or tutorials if necessary?
- Are there practical examples or case studies that illustrate how the technology can be effectively integrated into lessons to enhance student learning?
- Are there resources or references for technical support and troubleshooting, helping teachers address any issues that may arise with technology use?
- Are there links or references to professional development opportunities or resources that can help teachers improve their proficiency in using technology for instructional purposes?
- Does the guidance include ways to use technology for assessing student progress and providing feedback, supporting ongoing learning and assessment?

During the cluster meeting:

- Discuss whether the materials provide clear and detailed instructions for teachers on how to use embedded technology in the classroom, including step-by-step guides or tutorials if necessary.
- Discuss whether there are practical examples or case studies that illustrate how the technology can be effectively integrated into lessons to enhance student learning.
- Discuss whether there are resources or references for technical support and troubleshooting, helping teachers address any issues that may arise with technology use.
- Discuss whether there are links or references to professional development opportunities or resources that can help teachers improve their proficiency in using technology for instructional purposes.
- Discuss whether the guidance includes ways to use technology for assessing student progress and providing feedback, supporting ongoing learning and assessment.