

## Introduction to the IMET 201 Modules

The IMET 201 modules provide an additional level of guidance for teams who are beginning a full review of materials using the IMET. While review teams can learn about the specific meaning of each criterion and metric in the IMET 101 modules, there is more nuance involved when completing a full review of instructional materials. There are certain metrics that require a quick perusal of the materials, while others require an in-depth look at many different components of the materials. This module can be used as a companion guide for the facilitator of the IMET review team.

This module will provide teams, and specifically the team leader, with additional support for using the IMET. For each metric, some of the following support is provided:

- The purpose statement of each of the indicators describing why the metrics in this module are important.
- “Pro Tips” that give guidance on effective ways to approach the metric, including guidance based on feedback from users of the IMET. This also includes additional guidance for the leader of the evaluation team. In many cases, this guidance provides a suggested systematic approach to evaluating the metric.
- Discussion questions for the team leader to engage the team in meaningful conversation around the materials and how well they address the metric.
- Additional resources, including strong and weak examples of materials related to the metric as well as articles that provide background information or research.

### Essential Questions:

- How do reviewers apply their understanding of the IMET metrics to complete a high-quality, accurate review of a full set of instructional materials?
- What support do educators and leaders need in order to calibrate their judgements as they review using the IMET?

### Goals:

- Understand how aligned materials embody the shifts inherent in the Common Core State Standards
- Apply each metric of the IMET to a full set of instructional materials
- Calibrate among reviewers to ensure accurate ratings and high-quality evidence of instructional materials’ alignment.

## IMET 201: Conducting a Full Review Using the IMET: Math Facilitator Companion Guide

As many districts begin to use the IMET to review materials, they find that they need to break up the evaluation process into smaller chunks. The suggested order below allows reviewers to split up the metrics in a methodical way. Each section of the IMET may take about 1-2 hours to evaluate, including time for discussion among the review team. This guide is meant to be embedded in the IMET (see top of each page for corresponding IMET page). The suggested order to evaluate IMET metrics is as follows:

### Section 1: Focus on the Major Work

- Metric NN 1A
- Metric NN 2A
- Metric NN 2B

### Section 2: Progressions and Coherence Across Grades

- Metric NN 2F
- Metric NN 2C
- Metric NN 2E

### Section 3: Coherence that Supports Bigger Mathematical Ideas

- Metric NN 2G
- Metric NN 2H
- Metric NN 2D

### Section 4: Conceptual Understanding

- Metric AC 1A

### Section 5: Procedural Skill and Fluency

- Metric AC 1B

### Section 6: Application

- Metric AC 1C

### Section 7: Standards for Mathematical Practice

- Metric AC 2B
- Metric AC 2A
- Metric AC 2C

### Section 8: Access for All Learners

- Metric AC 3A
- Metric AC 3B
- Metric AC 3C

## Section 1: Focus on the Major Work of the Grade

This document corresponds with pages 5-9 of the IMET.

**Purpose of these indicators:** A major goal of CCSS-M is to address the “mile wide, inch deep” problem (CCSS-M, p. 3). This necessarily implies that some long-traditional topics are no longer part of intended content, while other topics such as functions, congruence, statistics and probability move from elementary to middle grades where they are treated in more depth. Metric NN 1A flags instructional materials that fail to follow this basic content architecture of the standards. NN Metric 1A asks reviewers to look for “frequent offenders” to focus (topics that have traditionally been present in every grade band of many previous states’ standards.) This metric only looks at assessments in order to make this a quick metric to evaluate.

### Metric NN1A:

Materials reflect the basic architecture of the Standards by not assessing the topics listed below\* before the grade level indicated.

### Pro Tips:

- Read the “How to Find Evidence” column on page 5 of the IMET.
- *Since this is the first metric, reviewers often want to record ALL the topics that are off-grade level. That is not necessary at this stage of the review. Metric NN 1A is intentionally limited to a few specific topics that help to expose materials that are still built on pre-CCSS content models. Rest assured that later metrics and criteria will allow reviewers to analyze topics fully.*
- Use the table of contents to identify any chapters/units that may have assessment questions on listed topics. (e.g. a 2nd grade chapter called “Shapes and their Uses”)
- Look at chapter/unit level assessments (tests, quizzes, performance tasks, etc.) to see whether there are assessment questions that assess the listed topics.
- Make sure not to overthink this metric, it is meant to be quick to evaluate. A more in-depth look at alignment to grade-level standards will come up in NN Metric 2A and NN Metric 2C.

### Discussion Questions:

- (If reviewers identify assessment questions aligned to the topics listed in the metric) Is this question actually assessing the topics listed or is it introducing related topics that lay the groundwork for future grade-level concepts?

### Additional Resources:

- [Metric NN1A: 7th Grade - Strong and Weak Example](#): There are two examples here. The first shows a question with similarity that is appropriate for 7th grade, as it aligns to 7.G.A.1. The second example is not appropriate for 7th grade, as it asks students to consider transformations on the coordinate plane.
- [Metric NN1A: 2nd Grade - Weak Example](#): This is a fairly typical question from pre-Common Core that asks students to think about transformations. This type of question should not be on assessments in K-5 in Common Core-aligned instructional materials.

### Metric NN2A:

In each grade K–8, students and teachers using the materials as designed devote the large majority of time to the Major Work of the grade.

#### Pro Tips:

- Read the “How to Find Evidence” column on page 8 of the IMET.
- *In this metric, reviewers may want to evaluate HOW WELL the Major work standards are addressed. Rest assured that the quality of how well the standards are addressed will be evaluated in NN Metric 2C and AC 1.*
- Look at the [Major Work](#) clusters for the grade under review.
- This metric requires reviewers to give a qualitative answer to the question of whether the large majority of time is spent on major work of the grade. Although evidence may include quantitative comments (e.g., naming the number of chapters that target major work of the grade), there is no specific threshold that should be set to say the materials pass this metric or not.
- Begin by looking at the table of contents and pacing guide provided by the publisher to get a sense of the amount of time spent on Major Work of the grade. This should raise some questions for reviewers about places where they want to gather more evidence.
- Dig into some of the units/chapters that focus on major work. Read any front matter about the content of the unit to get a sense of how the publisher is approaching the focus of the unit. Read lessons in the unit and, if necessary, analyze the unit assessment to ensure that the materials align to the major work of the grade where they claim to.
- Consider units/chapters that target supporting work standards. Consider whether supporting work standards are used to support major work of the grade and include this consideration in the overall rating. **Note:** this metric intentionally overlaps with NN Metric 2B, since materials that spend a large majority of the time on major work will most likely spend some of that time connecting supporting work to major work. Advise reviewers to avoid rating this metric until they have gathered evidence on both NN 2B and NN 2A.

#### Discussion Questions:

- Is the standards alignment, as explained by the publisher, generally accurate? If not, which chapters/units will you need to look at more closely to determine actual alignment? *Note: the answer to this question does not relate to the rating of the metric, just how the reviewer will analyze the material.*
- How many chapters are entirely about the major work of the grade? How many chapters spend some time on major work of the grade?
- Which units/chapters do you want to look at more closely? Why?
- (For participants who gathered quantitative data): Were any chapters/units/lessons difficult to classify as major or not-major? Why? How did you account for chapters/units/lessons that touched on major work but weren’t listed as major work topics?

#### Additional Resources:

- [Focus Activity in Deep-Dive Professional Development](#)

### Metric NN2B:

Supporting Work enhances focus and coherence simultaneously by also engaging students in the Major Work of the grade.

#### Pro Tips:

- Read the “How to Find Evidence” column on page 9 of the IMET.
- *This metric does NOT require that the publisher label the connections or point them out. The metric can be met even if publishers don’t explicitly show how lessons support major work.*
- Look at the supporting work standards for the grade under review. Identify places where the standards call for connecting to major work. (e.g., 7.SP.C.6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times connects to 7.RP.A Analyze proportional relationships and use them to solve real-world and mathematical problems.)
- Look at units that are named as aligning to the Supporting Work of the grade. Read any front matter about the content of the unit to get a sense of whether the materials are making connections between Major and Supporting Work. Look at individual lessons to see whether students are making the connection.

#### Discussion Questions:

- What connections between supporting work and major work do you think are required in this grade? Are there any other necessary connections?
- Are there chapters/units that are entirely about Supporting Work standards? Do you see connections to major work in those chapters/units?
- Do any of the chapters/units focused on Major Work include connections to Supporting Work standards? *Note: These may not be called out in the alignment documents or teacher-facing materials but reviewers should look for this in lessons, problems, etc.*

#### Additional Resources:

- [Metric NN 2B: 7th Grade - Strong Example](#): This example is from a chapter on data and statistics, which is supporting work of grade 7. Since the numbers in the problem include a wider range of numbers, this work reinforces the work of the NS domain.
- [PARCC framework connecting major and supporting work](#)

## Section 2: Progressions and Coherence across Grades

This document corresponds with pages 10, 12-13 of the IMET.

**Purpose of these indicators:** This set of metrics ensure that materials reflect the coherence required by the progressions that are included in the Standards. These metrics require that materials are faithful to the progressions of the Standards, addressing all of the clusters in a given grade-level and connecting that work to previous understandings that students have developed. These metrics ask reviewers to consider whether off-grade level content interferes with grade-level and learning and whether review content is noted as such. It is suggested that reviewers start this section of the review with metric 2F, as it is easiest to review of the three metrics.

- NN 2F: Makes it clear that if materials are choosing to include review, it is not being passed off as grade-level content.
- NN 2C: Asks reviewers to determine whether the materials follow the content progression set out by the Standards (i.e., do the materials address all the clusters of the Standards for the grade-level?) This included looking at whether off-grade level content unduly interferes with the work of the grade.
- NN 2E: Asks reviewers to ensure that materials are attending to the coherent connections between grades in the Standards.

### Metric NN2F:

Review of material from previous grades is clearly identified as such to the teacher, and teacher and students can see what their specific responsibility is for the current year.

### Pro Tips:

- Read the “How to Find Evidence” column on page 13 of the IMET.
- *The quantity of review is irrelevant for NN 2F. The metric on only requires that review be clearly labeled as such so that teacher and students can see what their specific responsibility is for the year. Rest assured that the quantity of review is addressed in NN 2C.*
- NN Metric 2F is a good starting point for this section, because it is the easiest of the three metrics to review. It leads well into NN Metric 2C because reviewers may find off-grade level materials in this metric and then can will decide whether it unduly interferes with grade-level content as they gather evidence for NN Metric 2C.
- Look at any units or lessons that may include topics from the prior grade-level. If units or lessons are review, note whether these topics are indicated as such.
- If there is no content that is review, reviewers should note that in the evidence section and rate the materials as passing this metric.
- Connections must be made explicit for teachers in the Teacher's Guide. If the information provided to teachers enables them to make these connections explicit to students, then materials may pass this metric.

### Discussion Questions:

- What lessons/units/chapters address content from previous grades?
- How are they identified as review?

### Metric NN2C:

Materials base content progressions on the grade-by-grade progressions in the Standards.  
Content from previous or future grades does not unduly interfere with or displace on-grade level content.

#### Pro Tips:

- Review the “How to Find Evidence” column on page 10 of the IMET.
- *The wording of metric 2C does not require complete topic match between the grade levels in the standards and in the materials; for example, as noted in the IMET, “a curriculum author might purposefully explore adding fractions with unlike denominators in a way appropriate to grade 4, recognizing that this is not really required until grade 5.” Another example might be making an early investment in multiplication during grade 2, or building toward fluency with the standard addition algorithm during grades 1-3 in recognition of the culminating grade 4 standard. The criterion is that any such discrepancies not unduly interfere with or displace grade-level content.*
- Look at the table of contents and pacing guide to identify topics from off grade-level standards that may be included in the materials. If such topics are identified, review the lessons and assessments in those chapters to see whether off-grade level content unduly interferes with grade-level content. (See the discussion questions below to see factors that can help determine whether content “unduly interferes.”)
- Review the chapters/units to ensure that all of the grade-level clusters are addressed. Materials must address every cluster (whether it is major, supporting or additional work) in the grade-level to be considered aligned.
- Look at important topics within the major work of the grade that the Standards expect to be treated differently than in previous standards (e.g., understanding the meaning of the equal sign in grade 1, defining multiplication as  $a$  groups of  $b$  objects in grade 3, multiplicative comparison in grade 4, division and fractions in grade 5, relating slope to similar triangles in grade 8.) Analyze lessons related to these topics to ensure that materials are addressing the topics as required in the Standards.

#### Discussion Questions:

- What topics have you identified that are off-grade level?
- To consider whether content unduly interferes, reviewers should consider:
  - How many lessons are on off-grade level content?
  - Are these topics assessed on unit/chapter assessments?
  - Are topics setting the stage for work that will start in the next grade?
  - Are off-grade level topics included in only the earlier and latter units of the grade?
  - Are off-grade level topics in features of the materials that can easily be skipped?
- What topics are treated differently by the Standards than they have in the past in this grade? (e.g., *multiplicative comparison in grade 4, connecting slope and similarity in grade 8*) How are they addressed in the instructional materials?
- Are any topics/clusters for the grade not addressed in these materials?

#### Additional Resources:

- [Metric NN2C: Grade 3 - Example](#): This example comes from the end of grade 3 materials and is designed to extend students’ understanding of multiplication and place value to prepare for grade 4. Although this chapter covers content outside of the grade 3 standards, it may be appropriate to include at the end of the year. However, it would not meet the metric if this chapter consisted of the majority of the work on multiplication in a set of grade 3 materials.
- [Article: When the standard algorithm is the only algorithm taught](#) by Jason Zimba

**Metric NN2E:**

Materials relate on-grade-level concepts explicitly to prior knowledge from earlier grades.

**Pro Tips:**

- Review the “How to Find Evidence” column on page 12 of the IMET.
- Begin with units that focus on Major Work; read any front matter to the unit to see if the materials name connections to previous grades.
- Closely examine several lessons in these units, looking for evidence of explicit connections to previous grade-level work. In selecting lessons, focus on clusters of standards that include “Apply and extend previous understandings to....”

**Discussion Questions:**

- Which topics/clusters/standards in this grade particularly require explicit connections to previous grade-level content, as required by the Standards? How are these topics addressed in these materials?
- Are connections made clear in teacher-facing content?
- Is there clear support for teachers to make connections to previous content explicit to students?



### Section 3: Coherence That Supports Bigger Mathematical Ideas

This document corresponds with pages 11, 14-15 of the IMET.

**Purpose of these indicators:** The metrics in this section ask reviewers to look for whether ideas of a larger grain size than individual standards are addressed in the materials, where natural and important. Both cluster-level understandings and the connections between clusters and domains serve to deepen students' understanding of the coherence required by the Standards. NN Metric 2D asks that all students have the opportunity to work on grade-level problems to ensure that all students are building these understandings.

- NN 2G: Materials include learning objectives that are visibly shaped by CCSSM cluster headings.
- NN 2H: Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important.
- NN 2D: Materials are designed to support all students in doing grade-level mathematics.

#### Metric NN2G:

Materials include learning objectives that are visibly shaped by CCSSM cluster headings.

#### Pro Tips:

- Read the “How to Find Evidence” column on page 14 of the IMET.
- *This metric only requires that objectives reflect the language of the cluster heading. Reviewers do not need to look for evidence of cluster-level language in specific lessons or student-facing materials beyond the stated objectives.*
- Begin by looking at the publisher provided alignment document to see whether any lessons are aligned to cluster headings. If these exist, look at the objectives for those lessons.
- If no lessons are aligned to cluster headings, examine the objectives in several units that should contain cluster-level understandings.
- If materials do not list learning objectives, reviewers should identify how the materials are identifying learning goals for students and analyze those for evidence of the language of cluster headings.

#### Discussion Questions:

- Where are objectives (or the equivalent) listed in these materials?
- Does the publisher identify any lessons that align to cluster headings?
- Where do you see the language of cluster headings in the objectives (or equivalent statements)?

#### Additional Resources:

- [Article: The Structure is the Standards](#) by Phil Daro, William McCallum, and Jason Zimba

**Metric NN2H:**

Materials include problems and activities that serve to connect two or more clusters in a domain, or two or more domains in a grade, in cases where these connections are natural and important.

**Pro Tips:**

- Review the “How to Find Evidence” column on page 15 of the IMET.
- *This metric is closely related to NN Metric 2B, as they are both asking for connections between standards. While 2B just focused on connections between major and supporting work, this metric requires looking at connections that may occur within major work standards or clusters or within supporting or additional standards or clusters.*
- Begin by identifying natural and mathematically important opportunities for connections between standards across clusters and domains in the grade being reviewed.
- If these exist, closely examine the problems and activities in any lessons identified to see whether connections are being made within the lesson.
- Closely examine the problems and activities in any other lessons or units that, based on content, have opportunities to make natural and important connections across clusters or domains.

**Discussion Questions:**

- What are some natural and important connections between and among domains and clusters in this grade level? Which of those are connections within major work or within supporting work?
- What problems and activities can you find that connect across domains or clusters?

**Additional Resources:**

- [PARCC Model Content Framework](#)
- [Article: The Structure is the Standards](#) by Phil Daro, William McCallum, and Jason Zimba

### Metric NN2D:

Materials are designed to support all students in doing grade-level mathematics.

#### Pro Tips:

- Review the “How to Find Evidence” column on page 11 of the IMET.
- *This metric only requires reviewers to look at differentiation through the lens of whether all students are doing grade-level work. Reviewers will relate the quality of teacher-facing support given for working with students who struggle or advanced learners in AC 3.*
- Read the front matter of the materials to understand the approach the instructional materials take to addressing the needs of varied learners.
- Look at any differentiated worksheets or activities provided for leveled-learners. Compare these to the main worksheets or activities provided and consider whether all learners will engage with grade-level mathematics over the course of the year.
- If no differentiated worksheets or activities are included in the materials, this metric can be rated as met.

#### Discussion Questions:

- Are there alternative worksheets or activities provided for students who struggle or advanced materials?
- If students are engaging in these alternative worksheets and activities, will they still have the opportunity to do grade-level mathematics?
  - Do materials provided for struggling students enable students to meet grade-level expectations?
  - Do materials provided for advanced learners enable students to engage more deeply with grade-level content?

#### Additional Resources:

- [Metric NN2D: 6th Grade - Strong and Weak Example](#): These resources from grade 6 materials include differentiated worksheets. The first page is recommended for on-grade level students, with the second page recommended for above-grade level and the last page for below-grade level students. For this metric, it is useful to compare the standard worksheet to any other work provided for above- or below-grade level students. The second page is an “Enrichment” worksheet designed to be given to students in the same lesson. It does not represent students engaging more deeply with grade-level content. However, the third page, designed as a “Re-teach” page would give students who are below-level the ability to engage with grade-level content. Although students are doing fewer problems, they are still getting to all of the problem types on the “Practice” sheet.
- [Article: Smart Balances in Smart Blends](#) by Jasonimba

## Section 4: Conceptual Understanding

This document corresponds with pages 18-19 of the IMET.

**A note about Alignment Criterion 1: Rigor and Balance: Materials must reflect the balances in the Standards and help students meet the Standards' rigorous expectations.**

Each individual metric of this criterion asks reviewers to evaluate the treatment of each of the aspects of rigor. However, there is a significance that the title of the criterion references the importance of balancing these three aspects. As the Publisher's Criteria state:

*To help students meet the expectations of the Standards, educators will need to pursue, with equal intensity, three aspects of rigor in the major work of each grade: conceptual understanding, procedural skill and fluency, and applications. The word "understand" is used in the Standards to set explicit expectations for conceptual understanding, the word "fluently" is used to set explicit expectations for fluency, and the phrase "real-world problems" ... is used to set expectations and flag opportunities for applications and modeling.*

This idea is important for reviewers of instructional materials to keep in mind as they look at each of the metrics associated with this criterion.

**Purpose of these indicators:** This metric, the first of the three that comprise AC 1A, ensures that instructional materials develop conceptual understanding as required by the Standards.

### Metric AC 1A:

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

### Pro Tips:

- Read the "How to Find Evidence" column on page 18 of the IMET.
- *The language of the metric does not require that conceptual understanding should be addressed in every lesson. As the Publisher's Criteria states "The three aspects of rigor are not always separate in materials...Nor are the three aspects of rigor always together in materials." p.11.*
- *Curriculum authors may develop students' understanding in different ways, even ways that contrast with reviewers' favored approach. The phrase "development of students' conceptual understanding" does not necessarily equate to a specific pedagogical philosophy. It is important that reviewers really look into the conceptual understanding required of students to engage in the materials. This may mean reviewers should solve problems themselves to get a sense of what is being required of students.*
- Look at the grade-level standards and identify clusters and standards or parts of clusters and standards that specifically call for conceptual understanding. **Note:** This may include identifying parts of standards that call for conceptual understanding. Although the IMET provides suggested clusters or standards to look for, those should not be the only topics evaluated for this metric.
- Be sure to find evidence related to each of the questions associated with the metric.

### Discussion Questions:

- Which standards in the grade specifically call for conceptual understanding?
- What units or lessons focus on developing students' conceptual understanding?
- When multiple representations are used, are students required to make sense of the connections between representations?

**Additional Resources:**

- [Metric AC 1A: 2nd Grade - Strong Example](#): This annotated worksheet from grade 2 provides an example of high-quality conceptual problems that are formatted as fill-in-the-blank questions.
- [NCTM Mathematical Teaching Principle Number 6 \(excerpt\)](#)

## Section 5: Procedural Skill and Fluency

This document corresponds with pages 20-21 of the IMET.

**Purpose of these indicators:** This metric, the second of the three that comprise the Alignment Criteria 1: Rigor and Balance ensures that instructional materials develop procedural skill and fluency as required by the Standards. Note that the word *fluently* is used in the Standards to mean “accurately and reasonably quickly.”

### Metric AC 1B:

The materials are designed so that students attain the fluencies and procedural skills required by the Standards.

### Pro Tips:

- Read the “How to Find Evidence” column on page 20 of the IMET.
- *The language of the metric does not require that procedural skill and/or fluency should be addressed in every lesson. As the Publisher’s Criteria states “The three aspects of rigor are not always separate in materials...Nor are the three aspects of rigor always together in materials.” p.11.*
- *A question associated with this metric asks whether the materials provide “repeated practice toward attainment of fluency.” Therefore, it is important that reviewers look for more than a few lessons that focus on building fluency.*
- Look at the grade-level standards and identify any required fluencies for the grade. (K-6 only.)
- Look at the grade-level standards and identify clusters and standards that specifically call for procedural skill and fluency. **Note:** This may include identifying parts of standards that call for procedural skill. Although the IMET provides suggested clusters or standards to look for, those should not be the only topics evaluated for this metric.
- Be sure to find evidence related to each of the questions associated with the metric.
- Read front matter of the materials to see if the publisher provides any information on their approach to developing fluency.
- It may be necessary to look back at work in previous grades to much the materials interweave conceptual understanding and procedural skill.

### Discussion Questions:

- Which standards in the grade specifically call for fluency? Procedural skill?

### Additional Resources:

- [Metric AC 1B: Grade 6 - Strong Example](#): This lesson is focused on the procedural skill of solving equations. It provides an example of how that work is interwoven with developing students’ understanding of the conceptual understanding required for the Expressions and Equations domain.
- [Metric AC 1B: Grade 1 - Strong Example](#): This lesson is a snapshot of an approach to developing fluency with addition and subtraction within 10 in grade 1. This lesson interweaves work to develop students’ understanding of the meaning of addition into work to develop fluency.
- [Operations and Algebraic Thinking, Fluency Progression \(excerpt\)](#)

## Section 6: Application

*This document corresponds with pages 22-23 of the IMET.*

**Purpose of these indicators:** This metric, the third of the three that comprise the Alignment Criteria 1: Rigor and Balance ensures that instructional materials provide opportunities for students to engage with Application.

### **Metric AC 1C:**

The materials are designed so that teachers and students spend sufficient time working with applications, without losing focus on the Major Work of each grade.

### **Pro Tips:**

- Read the “How to Find Evidence” column on page 22 of the IMET.
- *The language of the metric does not require that application should be addressed in every lesson. As the Publisher’s Criteria states “The three aspects of rigor are not always separate in materials...Nor are the three aspects of rigor always together in materials.” p.11.*
- *This metric require students to work with application problems, but it does not specify that the context of problems must be exciting to students. Although student interest is one factor in the design of problems, it is not a requirement for this metric as it is very hard to define what may make a problem exciting to a student.*
- Look at the grade-level standards and identify clusters and standards that specifically call for application. **Note:** This may include identifying parts of standards that call for procedural skill. Although the IMET provides suggested clusters or standards to look for, those should not be the only topics evaluated for this metric.
- Be sure to find evidence related to each of the questions associated with the metric.

### **Discussion Questions:**

- Which standards in the grade specifically call for application?
- Are application problems given where students have to identify the mathematics they need to solve them?

## Section 7: Standards for Mathematical Practice

This document corresponds with pages 25-30 of the IMET.

**Purpose of these indicators:** The metrics in this section ask reviewers to look for how the Standards for Mathematical Practice are addressed within the materials. As required by the Standards, the SMPs should be presented in a way that enhances major work, focuses on mathematical reasoning and provides supports for teachers to develop student’s ability to engage in the SMPs in a grade-appropriate way.

- AC 2A: Materials address the practice standards in such a way as to enrich the Major Work of the grade; practice standards strengthen the focus on Major Work instead of detracting from it, in both teacher and student materials.
- AC 2B: Materials attend to the full meaning of each practice standard.
- AC 2C: Materials support the Standards’ emphasis on mathematical reasoning.

### Metric AC 2B:

Materials attend to the full meaning of each practice standard.

### Pro Tips:

- Read the “How to Find Evidence” column on page 27 of the IMET.
- *This metric requires that materials address the full meaning of each SMP over the course of the year. Sometimes reviewers expect to see that individual lessons meet the full meaning of a SMP. However, it is not realistic that a single lesson will meet the full meaning of any SMP. The full-depth must be addressed over the course of the year; therefore, it may be necessary to examine many lessons related to each SMP.*
- *The last set of questions associated with this metric require that SMPs be accurately labeled in teacher-facing materials. This metric does not require that SMPs are labeled or explained to students.*
- Evaluation of this criterion should start with NN Metric 2B, as it will allow reviewers to get a holistic picture of how the Standards for Mathematical Practice (SMP) are addressed in the instructional materials.
- Be sure to find evidence related to each of the questions associated with the metric.
- Look at any alignment documents provided by the publisher that align SMP to specific units or lessons.
- Read any teacher-facing material that describe the SMPs and the role they play in the classroom. This may be in the front matter of the materials, in chapter or units or in individual lessons.
- Choose 2-3 lessons for each SMP that align to the Major Work of the grade. Closely examine these lessons to see whether the lessons identified for each SMP get to the full meaning of the standard.

### Discussion Questions:

- What information is provided to teachers about the SMPs? Will this support, along with the design of the lessons, help teachers develop students’ ability to engage in the SMPs?
- How are lessons designated as being aligned to SMPs?
- Where did you find evidence of the materials fully developing each of the SMPs?

### Additional Resources:

- [Metric AC 2B: MP 7 - Strong Example](#): This example compares a single Standard for Mathematical Practice in one grade (K, 4, 7) in each band (K-2, ,3-5, and 6-8).



### Metric AC 2A:

Materials address the practice standards in such a way as to enrich the Major Work of the grade; practice standards strengthen the focus on Major Work instead of detracting from it, in both teacher and student materials.

#### Pro Tips:

- Read the “How to Find Evidence” column on page 26 of the IMET.
- *While Metric AC 2B requires accurate alignment between lessons and SMPs, this metric does not ask reviewers to consider whether SMPs are correctly aligned or even identified within materials. While instructional materials that are missing correct alignments may not meet AC Metric 2B, they should not be double-faulted for that in this metric, as well. Therefore, if SMPs are not tagged, reviewers should still look for their presence in student and teacher materials in order to gather evidence for this metric.*
- Using the lessons that were used in AC Metric 2B, reviewers should evaluate the extent to which the SMPs are used to enhance the major work of the grade.

#### Discussion Questions:

- Where are students engaging with the SMPs to develop a deeper understanding of the major work of the grade?

### Metric AC 2C:

Materials address the practice standards in such a way as to enrich the Major Work of the grade; practice standards strengthen the focus on Major Work instead of detracting from it, in both teacher and student materials.

#### Pro Tips:

- Read the “How to Find Evidence” column on page 29 of the IMET.
- Be sure to find evidence related to each of the questions associated with the metric.
- This metric requires reviewers to focus in on lessons that align to MP 3 and require students to develop mathematical arguments. It may also be helpful to look at lessons aligned to MP 6 and the types of responses students are being asked to create.

#### Discussion Questions:

- Where are students asked to construct arguments? What kind of support is provided to help them build this practice?
- What kind of language are students expected to use in explaining their reasoning? What kind of support is provided to help them build this language?
- What kind of representations are students expected to use in their arguments? What kind of support is provided to allow students to use these representations?

#### Additional Resources:

- [Metric AC 2C: 2nd Grade - Weak and Strong Example](#): The weak example is not an appropriate place to ask for an argument while the strong example shows a problem that is an appropriate place to ask for an argument.

## Section 8: Access for All Learners

This document corresponds with pages 32-36 of the IMET.

**Purpose of these indicators:** The metrics in this section ask reviewers to look for support for all types of learners. This section requires careful attention be paid to ensure that all students, including English Language Learners and those with different learning needs, have access to high-quality, aligned materials.

- AC 3A: Support for English Language Learners and other special populations is thoughtful and helps those students meet the same standards as all other students. The language in which problems are posed is carefully considered.
- AC 3B: Materials provide appropriate level and type of scaffolding, differentiation, intervention, and support for a broad range of learners with gradual removal of supports, when needed, to allow students to demonstrate their mathematical understanding independently.
- AC 3C: Design of lessons recommends and facilitates a mix of instructional approaches for a variety of learners (e.g., using multiple representations, asking a range of questions, checking for understanding, flexible grouping, pair-share, deconstructing/ reconstructing the language of problems).

### Metric AC 3A:

Support for English Language Learners and other special populations is thoughtful and helps those students meet the same Standards as all other students. The language in which problems are posed is carefully considered.

### Pro Tips:

- Read the “How to Find Evidence” column on page 33 of the IMET.
- *Evidence of meeting this metric may take a variety of forms including program-level, unit-level or lesson-level. Lesson design or questions types may be evidence of lesson-embedded support that is not always called out as intervention for ELLs or other special populations. Evidence of this metric should note whether teachers will be able to use the resources to make sound instructional decisions for special populations.*
- Read the front matter and any supplementary resources for descriptions of what support is provided for special populations in the materials. Analyze the supports provided in several lessons or units.
- Read through a sampling of student-facing worksheets to analyze the language requirements of the problems.

### Discussion Questions:

- How do the materials describe the support provided for special populations? Were you able to find that support in the units/chapters/lessons?
- What is the language demand of student-facing problems and worksheets?

### Additional Resources:

- [Assisting Students Struggling with Mathematics: Response to Intervention \(RtI\) for Elementary and Middle Schools](#)
- [Teaching Academic Content and Literacy to English Learners in Elementary and Middle School](#)
- [A Framework for Raising Expectations and Instructional Rigor for English Language Learners](#)
- [Stanford Guidance on Supporting ELLs in Mathematics](#)

**Metric AC 3B:**

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

**Pro Tips:**

- Read the “How to Find Evidence” column on page 26 of the IMET.
- *Reviewers should understand the difference between the requirements for this metric and NN 2D. In this metric, reviewers should be looking at teacher-facing materials about differentiation and intervention rather than just the students-facing materials reviewed in NN 2D.*
- Look closely over the course of a lesson and unit to see whether scaffolds and supports provided are gradually removed to allow all students to have access to the mathematics of the grade-level. *Note: Information about removing scaffolding may be provided in front matter or support for teachers on supporting all learners.*

**Discussion Questions:**

- Do teacher-facing materials make it clear that all students should be independently engaging with grade-level content?
- Where do teacher materials explain how to remove scaffolding and support provided for special populations?

**Additional Resources:** see Metric

- 3A resources

**Metric AC 3C:**

Materials address the practice standards in such a way as to enrich the Major Work of the grade; practice standards strengthen the focus on Major Work instead of detracting from it, in both teacher and student materials.

**Pro Tips:**

- Read the “How to Find Evidence” column on page 35 of the IMET.
- *The list of strategies in the parenthetical statement within the metric is not meant to be a checklist or comprehensive list of what needs to be included in materials. They are suggestions for the type of variety that is needed in materials.*
- Read any content in the front matter of the materials that relate to the instructional approaches provided in the materials.
- Look closely within a unit or chapter for evidence of whether a variety of approaches are suggested.

**Discussion Questions:**

- What instructional approaches are provided within the materials? How will they be helpful in meeting the needs of a range of learners?

**Additional Resources:**

- see Metric 3A resources