



Tri-State Quality Review Rubric & Rating Process Mathematics Lessons/Units

Tri-State Quality Review Rubric



The Tri-State Collaborative (comprised of educational leaders from Massachusetts, New York, and Rhode Island and facilitated by Achieve) has developed criterion-based rubrics and review processes to evaluate the quality of lessons and units intended to address the Common Core State Standards for Mathematics and ELA/Literacy.

The following presentation is designed to introduce the Quality Review Rubric for Mathematics.



Quality Review Rubric & Process



The Quality Review Rubric and Process are designed to serve a variety of purposes:

- 1) Provide clear, descriptive standards for CCSS lessons/units and thus guide educators who are engaged in teaching to the Common Core.**
- 2) Identify exemplary lessons/units that serve as models of CCSS instruction.**
- 3) Guide collegial review and jurying processes.**
- 4) Provide meaningful, constructive feedback to developers of lessons/units.**





Quality Review Rubric

Understand the Organization for Mathematics

Criteria that define the rubric are organized as a checklist describing quality in four dimensions.

I. Alignment to the Rigor of the CCSS	II. Key Areas of Focus in the CCSS	III. Instructional Supports for Student Needs	IV. Assessment
<p><i>The lesson/unit aligns with the letter and spirit of the CCSS:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Focuses teaching and learning on a targeted set of grade level content mathematics standard(s) at the level of rigor in the CCSS.** <input type="checkbox"/> Identifies, addresses, and integrates into the lesson/unit the relevant Standards for Mathematical Practice.** <input type="checkbox"/> Addresses both the particulars (e.g., mathematical procedures) and the deeper structures (e.g., mathematical understandings) inherent in the CCSS. <p>Rating: 3 2 1 0</p>	<p><i>The lesson/unit reflects evidence of key shifts that are reflected in the CCSS:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Focus: Centers on the concepts, foundational knowledge, and level of rigor that are prioritized in the standards.** <input type="checkbox"/> Coherence: Makes connections and provides opportunities for students to transfer knowledge and skills within and across domains and learning progressions. <p>Rigor: Requires students to engage with challenging mathematics and to demonstrate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Fluency: Expects, encourages, and provides guidelines for core calculations and mathematical procedures to be performed quickly and accurately. <input type="checkbox"/> Application: Provides opportunities for students to independently apply mathematical concepts in real-world situations, choosing and applying an appropriate model or strategy to new situations. <input type="checkbox"/> Deep Understanding: Requires students to demonstrate deep conceptual understanding through complex problem solving, in addition to writing and speaking about their understanding. <p>Rating: 3 2 1 0</p>	<p><i>The lesson/unit is responsive to varied student learning needs:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Includes clear and sufficient guidance to support teaching and learning of the targeted standards, including, when appropriate, the use of technology and media.** <input type="checkbox"/> Uses and encourages precise and accurate mathematics, academic language, terminology, and representations for the discipline.** <input type="checkbox"/> Engages students through relevant, thought-provoking questions that stimulate interest and elicit mathematical thinking. <p>Provides appropriate level and type of scaffolding, differentiation, intervention, and support for a broad range of learners.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Supports diverse cultural and linguistic backgrounds, interests, and styles. <input type="checkbox"/> Provides extra supports for students working below grade level. <input type="checkbox"/> Provides extensions for students with high interest or working above grade level. <p><u><i>A unit or longer lesson should:</i></u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Recommend and facilitate a mix of instructional approaches for a variety of learners, including such strategies as modeling, using a range of questions, checking for understanding, flexible grouping, pair-share, etc. <input type="checkbox"/> Gradually remove supports, requiring students to demonstrate their mathematical understanding independently. <input type="checkbox"/> Demonstrate an effective sequence and a progression of learning where the concepts or skills advance and deepen over time. <p>Rating: 3 2 1 0</p>	<p><i>The lesson/unit regularly assesses whether students are mastering standards-based content and skills:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Is designed to elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted CCSS.** <input type="checkbox"/> Includes aligned rubrics, answer keys, and scoring guidelines that provide sufficient guidance for interpreting student performance.** <input type="checkbox"/> Assesses student proficiency using methods that are accessible and unbiased, including the use of grade level language in student prompts.** <p><u><i>A unit or longer lesson should:</i></u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Use varied modes of curriculum embedded assessments that may include pre-, formative, summative and self-assessment measures. <p>Rating: 3 2 1 0</p>

**The most critical criteria are considered to be "must have's" for a quality CCSS lesson/unit.



Understand the Quality Review Rubric

The Rating Process



Rating Scale for Each Dimension:

- 3:** Meets all “must have” criteria (**) and most of the other criteria in the dimension.
- 2:** Meets many of the “must have” criteria and many of the other criteria in the dimension.
- 1:** Meets some of the criteria in the dimension.
- 0:** Does not meet the criteria in the dimension.

Understand the Quality Review Rubric

The Rating Process



The Overall Rating Scale:

- E:** Exemplar Lesson/Unit - meets all the “must have” criteria (**) and most of the other criteria in all four dimensions (mainly 3’s).
- E/I:** Exemplar if Improved - needs some improvement in one or more dimensions (mainly 3’s and 2’s).
- R:** Needs Revision - is a “work in progress” and requires significant revision in one or more dimensions (mainly 2’s and 1’s).
- N:** Not Recommended - does not meet the criteria in the dimensions (mainly 1’s and 0’s).



The Rubric's Criteria Describe an Exemplary CCSS Lesson/Unit



- The descriptive criteria listed in each dimension of the rubric represent a high standard of quality – describing characteristics that one would find in an exemplary CCSS lesson/unit.
- Critical criteria have been designated with a double asterisk (**) as essential or “must have” characteristics of CCSS quality. To be judged exemplary, a lesson/unit must at least meet all of these “must have” criteria.
- A criterion is checked when a reviewer believes that the lesson or unit contains clear, substantial evidence of the criterion’s descriptor – that it exemplifies the qualities suggested by the criterion.
- Many “in progress” lessons/units, while representing good instruction, may not currently meet the standard implied by a particular criterion, and thus may not be fully aligned with the Common Core State Standards.
- The pattern of checks in a column should indicate both the strengths of the lesson/unit and areas for possible improvement.



Dimensions of the Rubric

I. Alignment to the Rigor of the CCSS



The unit/lesson aligns with the letter and the spirit of the CCSS:

- Focuses teaching and learning on a targeted set of grade level content mathematics standard(s) at the level of rigor in the CCSS. **
- Identifies, addresses, and integrates into the lesson/unit the relevant Standards for Mathematical Practice. **
- Addresses both the particulars (e.g., mathematical procedures) and the deeper structures (e.g., mathematical understandings) inherent in the CCSS.

** Indicates “must have” criteria - necessary for a 3-rating.



Dimensions of the Rubric

II. Focus on Key CCSS Shifts



The lesson/unit reflects key shifts that are reflected in the CCSS:

- ❑ **Focus:** Centers on the concepts, foundational knowledge, and level of rigor that are prioritized in the standards.**
- ❑ **Coherence:** Makes connections and provides opportunities for students to transfer knowledge and skills within and across domains and learning progressions.

Rigor: Requires students to engage with challenging mathematics and to demonstrate:

- ❑ **Fluency:** Expects, encourages, and provides guidelines for core calculations and mathematical procedures to be performed quickly and accurately.
- ❑ **Application:** Provides opportunities for students to independently apply mathematical concepts in real-world situations, choosing and applying an appropriate model or strategy to new situations.
- ❑ **Deep Understanding:** Requires students to demonstrate deep conceptual understanding through complex problem solving, in addition to writing and speaking about their understanding.



Dimensions of the Rubric

III. Instructional Supports for Student Needs



The lesson/unit is responsive to varied student learning needs:

- ❑ Includes clear and sufficient guidance to support teaching and learning of the targeted standards, including, when appropriate, the use of technology and media. **
- ❑ Uses and encourages precise and accurate mathematics, academic language, terminology, and representations for the discipline. **
- ❑ Engages students through relevant, thought-provoking questions that stimulate interest and elicit mathematical thinking.

Provides appropriate level and type of scaffolding, differentiation, intervention, and support for a broad range of learners.

- ❑ Supports diverse cultural and linguistic backgrounds, interests, and styles.
- ❑ Provides extra supports for students working below grade level.
- ❑ Provides extensions for students with high interest or working above grade level. 



Dimensions of the Rubric

III. Instructional Supports for Student Needs



 (Cont. from previous slide)

The lesson/unit is responsive to varied student learning needs:

*A unit or longer lesson should: **

- Recommend and facilitate a mix of instructional approaches for a variety of learners, including such strategies as modeling, using a range of questions, checking for understanding, flexible grouping, pair-share, etc.
- Gradually remove supports, requiring students to demonstrate their mathematical understanding independently.
- Demonstrate an effective sequence and a progression of learning where the concepts or skills advance and deepen over time.

* NOTE: These criteria apply specifically to pieces or collections of work that require longer periods of time to implement, units or longer lessons. A lesson/unit can still be considered “exemplary” (a 3-rating) relative to the criteria of a particular dimension without meeting all of the criteria, especially if the criteria are specifically identified for longer lessons and less applicable to a shorter lesson or instructional sequence.



Dimensions of the Rubric

IV. Assessment



The lesson/unit regularly assesses whether students are mastering standards-based content and skills:

- Is designed to elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted CCSS. **
- Includes aligned rubrics, answer keys, and scoring guidelines that provide sufficient guidance for interpreting student performance. **
- Assesses student proficiency using methods that are accessible and unbiased, including the use of grade level language in student prompts. **

A unit or longer lesson should: *

- Use varied modes of curriculum embedded assessments that may include pre-, formative, summative and self-assessment measures.



Reviewing a Lesson/Unit



1. **Record** the grade and title of the lesson/unit at the top of the Quality Review Rubric.
2. **Scan** the lesson/unit packet to see what it contains and how it is organized. Identify and review the grade-level CCSS that it targets. **Skim** key materials in the packet, particularly those related to its instructional focus and assessment. **Thoroughly work** the task(s) that serve as the centerpiece for the lesson/unit, making notes about the content addressed and performances required, as they relate to all possible strategies the student might use.
3. **Analyze** the lesson/unit for evidence of its Alignment to the Rigors of the CCSS (Dimension I).
4. **Check** the criteria in the first column for which you find evidence of meeting the descriptors.
5. **Rate** the lesson/unit for its alignment, by circling a 0-3 rating at the bottom of column I. Use the scale at the bottom of the rubric to determine your criterion-based summary evaluation.

Repeat this process for each of the other three dimensions: **II Key Areas of Focus in the CCSS; III Instructional Supports for Student Needs; IV Assessment.**



Using the Rubric to Rate a Lesson/Unit

I. Determine a Rating for Each Dimension



1. Closely examine the evidence presented within a lesson/unit packet through the “lens” of each criterion in each of the four dimensions.
2. If clear and substantial evidence is found, check the criterion; if not, include comments to explain why the lesson/unit does not yet meet the criterion’s standard.
3. Examine the pattern of checks in the column. If all applicable “must have” criteria have been met, as well as other criteria deemed important, the lesson/unit is considered “exemplary” and receives a “3” rating.
4. If all “must have” criteria are not met, determine where the lesson/unit currently sits along the rating scale for the dimension.
 - 3: Meets all “must have” criteria (**) and most of the other criteria in the dimension.
 - 2: Meets most of the criteria but not all of the “must haves.”
 - 1: Meets some criteria in the dimension.
 - 0: Does not meet the criteria in the dimension.
5. **Circle** the rating at the bottom of the dimension’s column.



Using the Rubric to Rate a Lesson/Unit

II. Determine an Overall Rating



The four dimensional ratings for a particular lesson or unit can tell a lot about its current status as an exemplar of CCSS instruction.

For example: A lesson rated **3-3-2-1** might be seen as well Aligned with the CCSS and its Areas of Focus, but need some additional thinking about Instructional Supports and some significant revision in its approach to Assessment.

When a single rating of a lesson is beneficial:

1. Review the patterns of the checked criteria and the ratings for each of the four dimensions.
2. Make a summary judgment about the overall quality of the lesson/unit, using the Overall Rating Scale:
 - E:** Exemplar Lesson/Unit - meets all the “must have” criteria (**) and most of the other criteria in all four dimensions (mainly 3’s).
 - E/I:** Exemplar if Improved - needs some improvement in one or more dimensions (mainly 3’s and 2’s).
 - R:** Needs Revision - is a “work in progress” and requires significant revision in one or more dimensions (mainly 2’s and 1’s).
 - N:** Not Recommended - does not meet the criteria in the dimensions (mainly 1’s and 0’s).
3. Record the Overall Rating on the top right of the Rubric.





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