

EQuIP Review Feedback



Lesson/Unit Name: Fractions, Equivalence, and Operations

Content Area: Mathematics

Grade Level: 4

Overall Rating:

E/I

Exemplar if Improved

Dimension I – Alignment to the Depth of the CCSS

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

- ✓ Targets a set of grade-level CCSS mathematics standard(s) to the full depth of the standards for teaching and learning.
- ✓ Standards for Mathematical Practice that are central to the lesson are identified, handled in a grade-appropriate way, and well connected to the content being addressed.
- ✓ Presents a balance of mathematical procedures and deeper conceptual understanding inherent in the CCSS.

Standards:

The Decomposing Fractions lesson within the Fractions: Equivalence and Operations Unit targets standard 4.NF.3: Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. This lesson completely addresses 4.NF.3.b: Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition as an equation. However, 4.NF.3.a is not addressed in this lesson, even though it is listed as a targeted content standard. In addition, Segments 4-6 begin to address 4.NF.3.c because of the focus on converting between mixed numbers and fractions. Please adjust the Targeted Content Standards box to reflect the correct standard alignment. The content provided, however, does address 4.NF.3.b to the full depth of the standard and presents strong foundational understanding to support 4.NF.3.c in later lessons.

Mathematical Practices:

Standards for Mathematical Practice are listed in the unit plan and also for the individual lesson. In addition, "Mathematical Practice Look Fors" are provided for each lesson segment. Consider adding in a little more direction for teachers on how to make these practices a focus within the lesson where appropriate.

Balance:

There is an appropriate and intentional balance of mathematical procedures and deeper conceptual understanding. The unit assessment plan calls out when procedural skill & fluency, conceptual understanding, or application is being assessed. The lesson content balances the conceptual understanding behind decomposition and moves toward being able to fluently decompose. In addition, there are explicit notes to the teacher when the focus should be purely conceptual, to hopefully avoid the inclination to rush straight to the procedure.

Rating: 3 – Meets most to all of the criteria in the dimension

Dimension II – Key Shifts the CCSS

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

- ✓ **Focus:** Lessons and units targeting the major work of the grade provide an especially in-depth treatment, with especially high expectations. Lessons and units targeting supporting work of the grade have visible connection to the major work of the grade and are sufficiently brief. Lessons and units do not hold students responsible for material from later grades.

Focus: This lesson addresses major work of the grade and provides an especially in-depth and conceptually focused treatment.

Coherence: The unit plan lays out connections to previous and subsequent learning, and also connections across domains to Measurement and Data. Within the lesson that was reviewed, the lesson segments build on each other and are preparing students for upcoming standards. Consider including language that explains where this lesson comes within the context of the unit.

Rigor: The assessment plan shows intentional planning for assessment of

<ul style="list-style-type: none"> ✓ Coherence: The content develops through reasoning about the new concepts on the basis of previous understandings. Where appropriate, provides opportunities for students to connect knowledge and skills within or across clusters, domains and learning progressions. ✓ Rigor: Requires students to engage with and demonstrate challenging mathematics with appropriate balance among the following: <ul style="list-style-type: none"> – Application: Provides opportunities for students to independently apply mathematical concepts in real-world situations and solve challenging problems with persistence, choosing and applying an appropriate model or strategy to new situations. – Conceptual Understanding: Develops students' conceptual understanding through tasks, brief problems, questions, multiple representations and opportunities for students to write and speak about their understanding. – Procedural Skill and Fluency: Expects, supports and provides guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately. 	<p>conceptual understanding, procedural skill and fluency, and application. The lesson focuses mostly on conceptual understanding and procedural skill and fluency, which is appropriate for the scope of this lesson.</p>
<p>Rating: 3 – Meets most to all of the criteria in the dimension</p>	

Dimension III – Instructional Supports

<p><i>The lesson/unit is responsive to varied student learning needs:</i></p> <ul style="list-style-type: none"> ✓ 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 concrete or abstract representations (e.g., pictures, symbols, expressions, equations, graphics, models) in the discipline. ✓ Engages students in productive struggle through relevant, thought-provoking questions, problems and tasks that stimulate interest and elicit mathematical thinking. ✓ Addresses instructional expectations and is easy to understand and use. <input type="checkbox"/> Provides appropriate level and type of scaffolding, differentiation, intervention and support for a broad range of learners. <ul style="list-style-type: none"> – Supports diverse cultural and linguistic backgrounds, interests and styles. – Provides extra supports for students 	<p>Clear and sufficient guidance: The directions within this lesson are clear and all necessary materials are provided. The visuals are especially helpful in making clear the intended teaching and learning. Potential pitfalls tell teachers what mistakes students might make.</p> <p>Precise and accurate mathematics: While vocabulary words are listed at the beginning of the lesson, there is not an obvious attention provided to vocabulary throughout. There are not many clear opportunities for students to speak and use this vocabulary and it is not clear where the teachers is introducing this vocabulary. In addition, the term "improper fraction" is no longer in use. All fractions are just fractions, not matter if their numerators are smaller or larger than their denominators. Please revise all references to "improper fractions", which you will notice has been purposely left out of the language of the standard.</p> <p>Productive struggle: Students are expected to decompose fractions in multiple ways. The game that is played only rewards students points for decomposition equations that are not listed by any other group, which will motivate them to push themselves.</p> <p>Ease of use: The materials are easy to understand and clearly organized.</p> <p>Scaffolding and differentiation: For some lesson segments, suggestions are given for remediation, enrichment, and differentiation for ELLs. However,</p>
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<p>working below grade level.</p> <ul style="list-style-type: none"> – Provides extensions for students with high interest or working above grade level. <p><u>A unit or longer lesson should:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Recommend and facilitate a mix of instructional approaches for a variety of learners such as using multiple representations (e.g., including models, using a range of questions, checking for understanding, flexible grouping, pair-share). <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. <input type="checkbox"/> Expect, support and provide guidelines for procedural skill and fluency with core calculations and mathematical procedures (when called for in the standards for the grade) to be performed quickly and accurately. 	<p>most of the recommendations are to provide manipulatives or give more challenging problems. Consider adding in further recommendations for meeting all students' needs.</p>
<p>Rating: 2 – Meets many of the criteria in the dimension</p>	

Dimension IV – Assessment

<p><i>The lesson/unit regularly assesses whether students are mastering standards-based content and skills:</i></p> <ul style="list-style-type: none"> ✓ Is designed to elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted CCSS. ✓ Assesses student proficiency using methods that are accessible and unbiased, including the use of grade-level language in student prompts. <input type="checkbox"/> Includes aligned rubrics, answer keys and scoring guidelines that provide sufficient guidance for interpreting student performance. <p><u>A unit or longer lesson should:</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>Direct, observable evidence of independent mastery: The lesson summative assessment is called "Compose and Decompose Fractions" but it only requires students to decompose. Consider renaming the assessment to reflect the actual content. The assessment itself contains a performance task for students to complete and an observational checklist for the teacher to use to assess students.</p> <p>Accessible and unbiased: The assessments relied on visuals and would be accessible to all students.</p> <p>Scoring Guidelines: Answer keys for the within lesson materials are provided, but no answer key for the summative assessment is given. Because the teacher is expected to be circulating and using an observational checklist, having the answer key will streamline the process significantly.</p>
<p>Rating: 2 – Meets many of the criteria in the dimension</p>	

Summary Comments

<p>Dimensions I and II are a real strength of this lesson. Standard 4.NF.3.b is fully addressed in a rigorous and focused way.</p> <p>To make this lesson fully exemplary, consider the following changes:</p> <ol style="list-style-type: none"> 1. A stronger focus on vocabulary, including removal of the term "improper fraction" from all materials. 2. More robust recommendations for scaffolding and differentiation to meet all students' needs. <p>In addition, there are a couple small changes to make:</p> <ol style="list-style-type: none"> 1. The lesson addresses 4.NF.3.b and begins to address 4.NF.3.c, but not 4.NF.3.a. Please adjust the standards listed at the top of this lesson.

2. The lesson assessment is called "Compose and Decompose Fractions" but the lesson and the assessment both only address decomposition (which is what is called for by the standard). Please adjust the name of the lesson and assessment to reflect the focus on decomposition only.

Rating Scales

Rating Scale for Dimensions I, II, III, IV:

- 3: Meets most to all of the criteria in the dimension
2: Meets many of the criteria in the dimension
1: Meets some of the criteria in the dimension
0: Does not meet the criteria in the dimension

Overall Rating for the Lesson/Unit:

- E: Exemplar – Aligned and meets most to all of the criteria in dimensions II, III, IV **(total 11 – 12)**
E/I: Exemplar *if* Improved – Aligned and needs some improvement in one or more dimensions **(total 8 – 10)**
R: Revision Needed – Aligned partially and needs significant revision in one or more dimensions **(total 3 – 7)**
N: Not Ready to Review – Not aligned and does not meet criteria **(total 0 – 2)**

Rating Descriptors

Descriptors for Dimensions I, II, III, IV:

- 3: **Exemplifies CCSS Quality** - meets the standard described by criteria in the dimension, as explained in criterion-based observations.
2: **Approaching CCSS Quality** - meets many criteria but will benefit from revision in others, as suggested in criterion-based observations.
1: **Developing toward CCSS Quality** - needs significant revision, as suggested in criterion-based observations.
0: **Not representing CCSS Quality** - does not address the criteria in the dimension.

Descriptor for Overall Ratings:

- E: **Exemplifies CCSS Quality** – Aligned and exemplifies the quality standard and exemplifies most of the criteria across Dimensions II, III, IV of the rubric.
E/I: **Approaching CCSS Quality** – Aligned and exemplifies the quality standard in some dimensions but will benefit from some revision in others.
R: **Developing toward CCSS Quality** – Aligned partially and approaches the quality standard in some dimensions and needs significant revision in others.
N: **Not representing CCSS Quality** – Not aligned and does not address criteria.