EQuIP Review Feedback

Lesson/Unit Name: Decomposing and Composing Fractions for Addition and Subtraction
Content Area: Mathematics
Grade Level: 4

Overall Rating:

E

Exemplar

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.	This eight lesson unit focuses on 4.NF.B.3 in an in depth way, with a cycle of building conceptual understanding first, then building in time to focus on the procedure, and ending with application. Standards for Mathematical Practice are identified for each lesson and called out in the "About this Lesson" section. These references could be easy to miss or forget during instruction since they do not appear within the lesson notes. This would be a helpful place to call out where the teacher might make an explicit connection to the appropriate mathematical practice or what they should be looking for from students to see that they are demonstrating this practice.
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. ✓ **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: – **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.	Focus: The unit focuses on major work for 4th grade and does not require students to work on anything from a later grade. Coherence: Each lesson builds on previous understandings to set students up to access prior knowledge that will help them in the lesson. In particular, there is a focus on addition and subtraction with whole numbers and explicit statements that the same rules apply to addition and subtraction with fractions and mixed numbers. Rigor: Students build conceptual understanding in early lessons, then demonstrate procedural fluency in middle lessons, and finally are asked to apply their learnings to solve larger problems in context.

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

Dimension III – Instructional Supports

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 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. ❒ 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. <u>*A unit or longer lesson should:*</u> ❒ 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). ❒ 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.	The guidance for teacher usage is very clear. Step-by-step instructions, along with pacing guidelines, implementation guides, answer keys, and calling out the most important connections to be made in discussion, all set up teachers to be able to use this unit effectively. There are lots of opportunities for students to use precise and accurate mathematics, as well as use mathematical terminology. Questions posed by the teacher are thought-provoking and relevant. Students are expected to demonstrate a progression of learning and they are expected to perform core calculations quickly and accurately. In a few instances, examples of extensions or supports for lower-performing students can be found. In addition, student answer keys show a common mistake and how to address it. There could be more guidance provided around scaffolding for a broad range of learners and what extra support to provide students who are working below grade level. In addition, the instructional approach is pretty standard across the unit. While it seems effective overall, it might be helpful to add in where flexible groupings, think-pair-share, and other engagement activities could help teachers reach more students effectively. There are several instances where discussion is supposed to happen, but less guidance on how to do that well.

✓ 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.	
Rating: **2 – Meets many of the criteria in the dimension**	

Dimension 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. ✓ Assesses student proficiency using methods that are accessible and unbiased, including the use of grade-level language in student prompts. ✓ Includes aligned rubrics, answer keys and scoring guidelines that provide sufficient guidance for interpreting student performance. *A unit or longer lesson should:* ✓ Use varied modes of curriculum-embedded assessments that may include pre-, formative, summative and self-assessment measures.	Answer keys are provided, however the answer keys for lessons 4 and 6-8 did not open. These answer keys also include suggestions for follow up, although the follow up is grouped into "correct" and "incorrect" answers only, which may not help teachers recognize the cause(s) behind different types of errors. However, providing follow up questions for teachers to use based on what they are seeing from student work is very strong. In-lesson assessments and guidance for that are provided, as are end of lesson formative assessments and a unit summative assessment. Our recommendation regarding the summative assessment would be to include another opportunity for students to demonstrate mastery of 3.NF.B.3.B where they are expected to decompose fractions in more than one way. However, there is only one application problem that addresses this idea. It would be good information to add to the expectation on the second set of problems on the first page that they decompose at least one of those fractions in two different ways.
Rating: **3 – Meets most to all of the criteria in the dimension**	

Summary Comments

This unit targets a set of grade-level CCSS standards to the full depth of the standards for teaching and learning. It presents a balance of mathematical procedures and deeper conceptual understanding inherent in the CCSS. It also represents the three shifts: focus, coherence, and rigor.

This unit also contains a lot of guidance for teachers, such that they should be well set up to execute this unit in a way that is aligned to the true spirit of the standards. The lesson materials, answer keys, and assessments all support the teaching of this unit.

We recognize this unit as an exemplar. A couple of suggestions for tightening up this unit even further are:
- Making a more explicit connection with the Standards for Mathematical Practice in the lesson notes so it's top of mind for teachers during the lesson.
-Incorporating more recommendations for reaching a broad range of learners.

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.