

# CCSS Fraction Module 2: Implementing the Fraction Content Standards

## Facilitator's Notes:

### Goal:

To develop a deeper understanding of the mathematical content standards through an exploration of the learning progressions document *3-5 Number and Operations - Fractions*

### Distribute to Participants:

- Learning Progressions Document : *3-5 Number and Operations – Fractions*  
[http://commoncoretools.files.wordpress.com/2011/08/ccss\\_progression\\_nf\\_35\\_2011\\_08\\_12.pdf](http://commoncoretools.files.wordpress.com/2011/08/ccss_progression_nf_35_2011_08_12.pdf)
- [Protocol for Deconstructing a Standard](#) handout
- [Gagne and Briggs' Three Levels of Instruction](#) handout

### Supplementary Materials:

- [Grade Level Notes](#) page
  - Summarizes the key points from the progressions document for the Content, Skills, and Visual Representations at each grade level. This is intended as a resource for the facilitator but can be shared with participants after the completion of Step 6 if the group at large is comprised of a single grade level.
- [Personal Action Plan Template](#) handout
  - An optional template that can be distributed to each participant to facilitate personal reflection and planning with respect to fraction instruction based on the CCSS. It can be used as a supplementary closing activity for each of the six CCSS Fraction Modules. There are two versions of the template.
    - Initial Template – to be used after a participant completes his/her first module
    - Follow-Up Template – to be used after each subsequent module completed by a participants.

### Directions:

1. *Optional:* Distribute a follow-up [Personal Action Plan Template](#) to each participant. Provide the group with a few moments to independently complete the *Reflection on Progress* box and the opportunity to share their thoughts with colleagues.
2. Ask participants to find their grade level section of the learning progressions ***3-5 Number and Operations - Fractions***. Note for participants that the right hand column lists the relevant content standards (NF) and shows related visual representations and the left hand column explains the standards in more depth. For 3<sup>rd</sup> grade teachers, explain that their section also refers to some geometry and measurement/data standards from 2<sup>nd</sup> grade that are related to their fraction standards.
3. Direct participants to read their grade level section and then complete the [Protocol for Deconstructing a Standard](#) to examine each of the standards at their grade level. Encourage participants to divide the standards up amongst themselves to save time. Ensure that participants pay attention to concepts, skills, and visual representations that are emphasized at their grade level.

- Remind participants that examples of models can be found in the right hand column of the progressions document. They may refer to these or they can use examples from their own classrooms.
4. Reconvene as a whole group and ask each grade level to share key findings and models. Be sure to have groups share out the visual representations that are used/referred to at their grade level.
  5. Introduce [Gagne and Briggs' Three Levels of Instruction](#):
    - *Provide Developmental Activities* – when a skill/concept is first being introduced to students- you are building foundational knowledge
    - *Provide Reinforcement Activities* – when a skill/concept has been seen before -you are deepening understanding - don't go back to the beginning – review and extend knowledge
    - *Provide Drill and Practice Activities* – when a skill/concept is well known - you are fostering independent use and application of the knowledge

Direct participants to work in grade level groups to determine at which level(s) each concept and skill needs to be taught at their grade. Advise them to look at the grade level before and after for similar concepts and skills to inform their decisions. It will be important to note, that most concepts and skills will not be taught at all three levels in a single grade.

6. Reconvene as a whole group so that each grade level can share out their thinking. Grade levels may find that they need to modify their thinking based on the work done by other groups.
7. Close by asking participants to share out one new understanding they are taking away concerning fraction instruction at their grade level and/or asking participants to complete a [Personal Action Template](#).

## Activities and Tools to Extend Your Study:

1. **Exploring the PARCC Document:**
  - a. Arrange participants into grade level groups and distribute the section of the *PARCC Model Content Frameworks for Mathematics* (<http://www.parcconline.org/sites/parcc/files/PARCCMCFfor3-8MathematicsFall2011Release.pdf>) specific to their grade level. Encourage participants to independently read through the document and highlight the following information in regards to fraction instruction:
    - i. key advances from the previous grade
    - ii. opportunities for in-depth focus
    - iii. connections to the practice standards
    - iv. clusters that are characterized as “Major”
  - b. Encourage participants to share their key findings in their grade level groups.
  - c. Direct participants to add information to their [Protocol for Deconstructing a Standard](#) from the earlier session.
  - d. Close by gathering participants back together to discuss their findings and ask any lingering questions.
2. **Exploring *Doing What Works* Video Studies** [http://dww.ed.gov/Fractions/topic/index.cfm?T\\_ID=37](http://dww.ed.gov/Fractions/topic/index.cfm?T_ID=37)
  - a. Choose one of the videos/topics listed below:

- i. Initial Fraction Concepts [http://dww.ed.gov/Fractions/Initial-Fraction-Concepts/practice/?T\\_ID=37&P\\_ID=100](http://dww.ed.gov/Fractions/Initial-Fraction-Concepts/practice/?T_ID=37&P_ID=100): Build basic fraction concepts from students' informal understandings of sharing and proportion.
  - ii. Fractions as Number [http://dww.ed.gov/Fractions/Fractions-as-Numbers/practice/?T\\_ID=37&P\\_ID=101](http://dww.ed.gov/Fractions/Fractions-as-Numbers/practice/?T_ID=37&P_ID=101): Use number lines to develop student understanding of fractions as numbers.
  - iii. Operations with Fractions [http://dww.ed.gov/Fractions/Operations-With-Fractions/practice/?T\\_ID=37&P\\_ID=102](http://dww.ed.gov/Fractions/Operations-With-Fractions/practice/?T_ID=37&P_ID=102): Help students understand why computational procedures with fractions make sense.
- b. Ask participants to independently complete the "K" section of a [KWL Chart](#) for the chosen topic.
  - c. Play the selected video and have participants complete the other two columns of the chart (*What I Learned* and *Questions I Still Have*) together.
  - d. As a whole group, discuss the key ideas from the video and address any questions that participants may have.
  - e. Direct participants to look at the fraction standards for their grade level and/or the information in their [Protocol for Deconstructing a Standard](#) and make connections to what they saw in the video.
  - f. Replay the video and ask participant to look for further connections to the standards and/or clarification of questions they had after the first viewing. Alternatively, participants could explore other tabs for each topic (*Learn What Works*, *See How It Works*, *Do What Works*) to deepen their understanding.
  - g. Close by asking participants to share out one idea which they can bring back to their own classroom.

### 3. Exploring H. Wu's *Teaching Fractions According to the Common Core Standards*

- a. Arrange participants into grade level groups and distribute *Teaching Fractions According to the Common Core Standards* <http://math.berkeley.edu/~wu/CCSS-Fractions.pdf>
- b. Direct participants to read the Preface and discuss the key ideas together.
- c. Instruct participants to turn to their grade level section of the document. Inform them that they will be jig-sawing their grade level sections and using the **Focused Reading Notation** (+ means new to me; \* means already teaching; ? means clarification needed) to highlight important information. Share the fact that the first page of each section lists the standards for that grade level. Provide ample time for participants to complete their independent reading and share with their peers. During the grade level discussions, encourage participants to add any new information to their [Protocol for Deconstructing a Standard](#) from the earlier session. Close by asking grade level groups to address the following questions when sharing with the larger group:
  - What are the key concepts for students to understand at our grade level?
  - What pieces do we still need clarification on?