VIDEO NOTES: ***6th Grade Mathematics Lesson on Dividing Fractions Word Problems***
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Video Links: http://www.teachingthecore.org/view/136
Compass Component and Rating Summary:

COMPASS TEACHER EFFECTIVENESS COMPONENTS	RATINGS
Setting Instructional Outcomes (1c)	**Highly Effective**
Managing Classroom Procedures (2c)	**Highly Effective**
Questioning and Using Discussion Techniques (3b)	**Highly Effective**
Engaging Students in Learning (3c)	**Highly Effective**
Using Assessment in Instruction (3d)	**Highly Effective**
Overall Rating	**Highly Effective**

Standard(s) and Lesson Objective(s)

Standards
6.NS.A.1: Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?

The Following Math Standards Will Prepare Them: 3.OA.B.6 • 5.NF.B.7

Lesson Objective(s)
Read and solve multiplication and division word problems, in small groups, using a variety of tools while assessing peer understanding of the topic.

Compass Component 1c: Setting Instructional Outcomes	
Indicators	**Evidence**
Effective: Proficient • Outcomes represent high expectations and rigor • Outcomes are related to the "big ideas" of the discipline. • Outcomes are written in terms of what students will learn rather than do. • Outcomes represent a range of outcomes: factual, conceptual understanding, reasoning, social, management, communication. • Outcomes are suitable to groups of students in the class, differentiated where necessary.	• *The teacher made the mathematics of the lesson explicit by using real-world word problem applications.* • *The lesson deliberately required students to pursue two aspects of rigor: conceptual understanding and application.* • *The standard addressed in the lesson was displayed in the classroom and discussed initially at the beginning of the lesson introduction.*
Highly Effective *In addition to the above,* • Teacher plans reference curricular frameworks or blueprints to ensure accurate sequencing. • Teacher connects outcomes to previous and future learning. • Outcomes are differentiated to encourage individual students to take educational risks.	• *The lesson focused on the mathematics within the grade-level standards and encompassed grade-level content from the previous year to connect the big idea of division back to multiplication. This allowed for intentional review of students' prior skills and knowledge to make connections to new concepts.* • *The lesson focused on grade-level cluster, grade-level content standards or parts.*

Compass Component 2c: Managing Classroom Procedures	
Indicators	**Evidence**
Effective: Proficient • The students are productively engaged during small group work. • Transitions between large and small group activities are smooth • Routines for distribution and collection of materials and supplies work efficiently. • Classroom routines function smoothly.	• *The teacher addressed a group's off-task behavior by asking if they were incorporating "accountable talks." That motivated the group to focus on engagement among members.* • *The teacher provides opportunities for students to work in small groups of 5 to 6 students and transitions quickly between activities.* • *Team captains are utilized as a routine during the lesson.* • *Math tools are placed in an area for easy access, as needed, (graph paper, colored pencils, sticky notes, linker cubes, lined paper, pencils, word problems)* • *Tables are numbered for ease in group work; students are also numbered within each group.*
Highly Effective *In addition to the above,* • Students take the initiative with their classmates to ensure that their time is used productively. • Students themselves ensure that transitions and other routines are accomplished smoothly. • Students take initiative in distributing and collecting materials efficiently.	• *Students supported smooth transitions when they changed word problems with other groups at 25min into the lesson* • *At 26min, 40sec a student took initiative when she discussed their responses to reach a consensus on the answer and drew a model to explain conceptually*

Compass Component 3b: Questioning and Using Discussion Techniques	
Indicators	**Evidence**
Effective: Proficient • Teacher uses open-ended questions, inviting students to think and/or have multiple possible answers. • The teacher makes effective use of wait time. • The teacher builds on student responses to questions effectively. • Discussions enable students to talk to one another, without ongoing mediation by the teacher. • The teacher calls on most students, even those who don't initially volunteer. • Many students actively engage in the discussion.	• *Students answer questions about on-grade level content.* • *In discussions, students share different approaches to answer questions and deepen each other's understanding.* • *The teacher is intentional in checking for understanding throughout the lesson to assess progress of all students and adjustments in instruction are made in responses, as needed.* • The teacher asks remedial questions aligned to the on-grade level skills being taught. • *Students present justifications (written or spoken) for how they arrived at the answer.* • *Discussion with the teacher stepping out of the central, mediating role.*
Highly Effective *In addition to the above,* • Students initiate higher-order questions. • Students extend the discussion, enriching it. • Students invite comments from their classmates during a discussion.	9:31-11:04 • Students are provided the opportunity to work in small groups to solve grade-level problems. • The teacher checks for understanding throughout the lesson using informal, but deliberate, questioning methods. • Groups are asked to think about what type of answer they would get during group discussions. "Should we check to see if it makes sense?"; "Should we check with algorithm?"

Compass Component 3c: Engaging Students in Learning	
Indicators	**Evidence**
Effective: Proficient • Most students are intellectually engaged in the lesson. • Learning tasks have multiple correct responses or approaches and/or demand higher order thinking. • Students have some choice in how they complete learning tasks. • There is a mix of different types of groupings, suitable to the lesson objectives. • Materials and resources support the learning goals and require intellectual engagement, as appropriate. • The pacing of the lesson provides students the time needed to be intellectually engaged.	• *Small group activity to solve word problems, gallery walk for students to respond to each group's answers utilizing sticky note comments. Then one student from each group decided on which comments to share from their specific problem. Small group activity to solve word problems, gallery walk for students to respond to each group's answers utilizing sticky note comments.* *33:51-35:27* • *one student from each group decided on which comments to share from their specific problem.* • *Word problems provide students to use various explanations, representations and examples.* • *The teacher provides opportunities for students to work with and practice on-grade level word problems in small groups.*
Highly Effective *In addition to the above,* • Virtually all students are highly engaged in the lesson. • Students take initiative to modify a learning task to make it more meaningful or relevant to their needs. • Students suggest modifications to the grouping patterns used. • Students have extensive choice in how they complete tasks. • Students suggest modifications or additions to the materials being used. • Students have an opportunity for reflection and closure on the lesson to consolidate their understanding.	9:31-11:04 *Virtually all students engaged in:* ◦ *challenging problems where they may jave struggle but still persevered.* ◦ *the word problems that required real life application and conceptual understanding* • *The Gallery Walk activity provided students with an opportunity for reflection and lesson closure.* • *Five word problems were managed via rotation method until all groups had access to each problem to solve and discuss. There is time within each allotted activity so that students are explaining their thinking to the teacher and to their teammates.*

Compass Component 3d: Using Assessment in Instruction	
Indicators	**Evidence**
Effective Proficient • Students indicate that they clearly understand the characteristics of high quality work. • The teacher elicits evidence of student understanding during the lesson. Students are invited to assess their own work and make improvements. • Feedback includes specific and timely guidance for at least groups of students. • The teacher attempts to engage students in self- or peer-assessment. • When necessary, the teacher makes adjustments to the lesson to enhance understanding by groups of students.	23:23-24:53 • Questions and word problems require students to demonstrate conceptual understanding, procedural skill and fluency, and application. • Mathematical practices are observed in students' actions and connect to assessment of student understanding. Math practice posters are displayed in the classroom. • Students were provided with opportunities to demonstrate mathematical practices while self-assessing their own work or peer assessments. "That is what we are trying to figure out—should we multiply or divide?" "Let's draw it out to model 3/4 of a mile." "We are separating it out." • Throughout the lesson, the teacher asks intentional questions that prompt students to discuss or demonstrate their developing thinking about content "What are they asking? How many miles apart not markers."
Highly Effective *In addition to the above,* • There is evidence that students have helped establish the evaluation criteria. • Teacher monitoring of student understanding is sophisticated and continuous: the teacher is constantly "taking the pulse" of the class. • Teacher makes frequent use of strategies to elicit information about individual student understanding. • Feedback to students is specific and timely, and is provided from many sources, including other students. • Students monitor their own understanding, either on their own initiative or as a result of tasks set by the teacher. • The teacher's adjustments to the lesson are designed to assist individual students.	9:31-11:04 • The teacher, while checking for understanding during the lesson (notetaking using paper/clipboard) adjusts the lesson to meet the condition of the student learning. 33:51-35:27 • The Gallery Walk provided extensive written student to student feedback. Then students were asked to discuss and elaborate on the feedback. • Teacher provided group and individual student feedback throughout the lesson.