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| Date: | | | Duration of Lesson: 30 minutes | |
| Title of Unit: Math Talks | | | Title of Lesson: Understanding Division with Fractions | |
| Lesson Objectives: Student will explore multiple ways of showing conceptual understanding of dividing with fractions. | | | | |
| Groupings (e.g., whole class, small groups, co-teaching): whole class | | | | |
| Skills & Standards:  [CCSS.MATH.CONTENT.7.NS.A.2](http://www.corestandards.org/Math/Content/7/NS/A/2/) Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.  [CCSS.MATH.CONTENT.7.NS.A.2.B](http://www.corestandards.org/Math/Content/7/NS/A/2/b/) Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If *p* and *q* are integers, then -(*p*/*q*) = (-*p*)/*q* = *p*/(-*q*). Interpret quotients of rational numbers by describing real-world contexts.  [CCSS.MATH.CONTENT.7.NS.A.2.C](http://www.corestandards.org/Math/Content/7/NS/A/2/c/) Apply properties of operations as strategies to multiply and divide rational numbers. | | | | |
| **Progression of Learning & Teaching** | | | | |
| Opener: | * Students pick up materials, including a Hershey bar. Each bar is coded on the back to set up groups of 3 or 4. * Students sit together in their groups. Leave candy bars in wrappers until told to open.   Opener Activity: What is the reciprocal of the following fraction?  Find an equivalent fraction for each of the following given fractions: | | | **Points to Remember**   * Most students already know how to divide with fractions by multiplying the reciprocal. This is to see that they actually understand the concept involved. |
| Activities & Tasks: | **Instructional Lesson**   * Ask--What is the answer to 3 ÷ ¼?   **Activities/Tasks:**   * What is one way to find the answer? * Get as many answers as possible. * Explain what each answer means. (Is there understanding of the concept?) * Check to see if anyone drew a picture. * Use candy bars in group to demonstrate the problem * Extra problems-- 2 ÷ ¾ 1 ÷ 2/6 | | | Resources:   * <https://www.youtube.com/watch?v=vxHXJsBEFGM> * <https://www.youtube.com/watch?v=UNLhQA88PV8>   Materials: Hershey bars that are divided into 12ths, individual white boards, markers, erasers  [Why Use Math Talks?](https://howweteach.com/mathtalks/)  Video: [Can you divide fractions without a reciprocal?](https://www.youtube.com/watch?v=hgQ3uorRKsA)  Symbolism/Notation:  ÷, x      Key Vocabulary:   * Division - a method of distributing a group of things into equal parts. * Multiplication - a method of finding the product of two or more numbers. * Dividend - the number that is being divided. * Divisor - the number that it is being divided by. * Quotient - a result obtained by dividing one quantity by another. * Numerator - the part of a fraction that is above the line and signifies the number to be divided by the denominator. * Denominator - the part of a fraction that is below the line and that functions as the divisor of the numerator. * Decimal - one of the types of numbers, which has a whole number and the fractional part separated by a decimal point. * Decimal point - a point or dot we use to separate the whole number part from the fractional part of a decimal number. * Model - a system by a set of variables and a set of equations that establish relationships between the variables * Reciprocal - means “equality” * Inverse - means “opposite.” * Math Talk - a 10-minute activity designed to elicit multiple strategies and provide opportunities for students to reason about the relationships in the numbers and make connections in mathematics.     Monitoring/Scaffolding/Differentiation/SDI:   * Be sure to check on each student for understanding |
| Level of Cognitive Complexity: | ☐ Creating  ☐ Evaluating  ☐ Analyzing | ☐ Applying  ☐ Understanding  ☐ Remembering | |
| Key questions: | * What does it mean when you divide with fractions? (Written on the board) | | |
| Closure: | * Let students have the candy bars after they share something they learned or have a better understanding of. | | |
| Next Steps: | Continue use Math Talks to increase number sense. | | | **Formative Assessment Criteria for Success:**   * Students are able to demonstrate understanding of dividing with fractions in their daily work with at least 80% accuracy |