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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?$$\frac{1}{2} ; \frac{2}{3} ; 5 ; \frac{6}{1}$$Find an equivalent fraction for each of the following given fractions:$$\frac{1}{2} ; \frac{2}{3} ; 5 ; \frac{6}{1}$$ | **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.
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| 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:÷, xKey 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
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| 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)
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| Closure:  | * Let students have the candy bars after they share something they learned or have a better understanding of.
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| 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
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