**FRACTIONS**

Subject: *Fractions on a Number Line* Grade: *3*

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| Common Core Standards |
| **3.NF.2a**: Represent a fraction on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size and that the endpoint of the part based at 0 locates the number on the number line. |
| Objectives |
| Understand that a unit fraction - represented as *-* is one fractional part of a whole number divided into *b* equal parts. If *0 < b < 1*, then is between those two intervals, exclusively. Student should familiarize themselves with unit fractions and be able to represent them on a number line. |
| Launch Questions |
| **Q.** For what positive integer b will the unit fraction equal 1? Is there a unit fraction that greater than 1?  **Q.** On different number lines, represent , , , and on a number line. |
| Definition/Properties To Know |
| **Unit Fraction:** A fraction in the form of - where *b* is a positive integer - which represents one part of a whole of size *b*.  **Adjective-Noun Theme:** A form of fractional representation in which the numerator is the adjective and the denominator is the noun. *Ex.* is one (adj) third (noun). |

*Warm-Up Activity:* See “WU 2”

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| Lesson (Introduction to Problem) |
| For lunch, you decide to go to a vending machine to buy 4 giant chocolate bars of equal size. Upon opening the first chocolate bar, 3 of your friends walk up to you and ask for a piece. Because you are a friendly person, you give each person an equally sized piece. Later, when you opened the second bar, 5 more friends appear and ask for a piece. Again, you decide to give each person an equally sized piece. For the last two chocolate bars, 8 and 10 of your friends walk up and, before they know it, you already are dividing the pieces into equal sizes.  **Q.** For each chocolate bar, what fraction of the entire bar did you give to each friend? Represent fractions using the adjective-noun theme, and plot each fraction on a separate number line.   * Using a pencil, draw a number line using the edges of the chocolate bar. Label the endpoint 0 and 1 in order to show a “whole”. * For each problem, mark the number of pieces that will be distributed to all friends and yourself. * Find the unit fraction of that number line and write answer using adjective-noun theme. |
| Materials (If Needed) |
| * Paper and Pencil * Ruler (if necessary) |

*Main Project:* See “MP 2”

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| Closure/Expectations |
| Students learn that a fractional unit of a whole number or object represents one part (section) of a whole. They should see a unit relative to size of the object. With whole numbers, *b* sections of should equal a whole of size *b.* This lesson will eventually lead students to representing proper fractions (other than unit fractions) on a number line. |