**FRACTIONS**

Subject: *Whole Numbers as Fractions*  Grade: *3*

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| Common Core Standards |
| **3.NF.3c**: Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form* $\frac{3}{1}$*; recognize that* $\frac{6}{1}$ *= 6; locate* $\frac{4}{4}$ *and 1 at the same point of a number line diagram.*  |
| Objectives |
| Understand that expressing a fraction as a whole number is done by multiplying the unit fraction with its denominator. The reverse process entails writing the whole number *x* over 1, $\frac{x}{1}$. By performing these procedures, we extend the upper interval of the number line to fit with the idea of having a whole number greater than 1.  |
| Launch Questions |
| **Q.** What makes whole numbers different from unit fractions? Is it possible to transform a unit fraction to a whole number?**Q.** How do you change a whole number into a fraction? How can you make the whole number equal 1? |
| Definition/Properties To Know |
| **Whole Numbers:** A set of nonnegative integers |

*Warm-Up Activity:* See “WU 6”

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| Lesson (Introduction to Problem) |
| For your birthday, your mom takes you on a tour of the Hubble Bubble Gum factory. At the end of the trip, the tour guide says that you are free to take as much bubble gum as you want, provided you pay the price per pack. A single pack consists of 12 bubble gums, and no pack can have less than 12 pieces. **Q.** How many packs can you create if you took 12 bubble gums? 24? 36? 48? 60? Express answers as individual equations *(Ex.* $\frac{20}{10}=\frac{2}{1}; 2 packs$ *)***Q.** Let's suppose you bought several packs of bubble gum. How many pieces of bubble gum are inside 6 packs? 7 packs? 8 packs? 9 packs? 10 packs? Express answers as individual equations *(Ex.* $\frac{3}{1}=\frac{9}{3}$*; 9 pieces in total )** Draw a long number line starting at 0 and ending at 10. **Note: Students should not write out 1,2,3..9. This will be done later.** For the meantime, have time draw 10 points/marks.
* On top of the number line, write “Fractional Representation”, and on the bottom write “Whole Number. ”
* For the first problem, have students write the fractions on top of each point on the number line. Write answers (whole numbers) on the bottom.
* For the second problem, have students write whole numbers on the bottom and answers (fractions) up top.
* Students should see clear connection between whole numbers and fractions on both sides of the number line.
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| Materials (If Needed) |
| * Paper and Pencil
* Ruler (if needed)
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*Main Project:* See “MP 6”

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| Close/Expectations |
| Students learn to apply multiplication and division properties to convert whole numbers to fractions, and vice versa. Students will then extend their knowledge of conversion to fractions whose denominators are neither 1 nor the numerator itself. |