

Grade 5

Unit 4.1	Unit Title Representing & Interpreting Data Using Fractions	Lesson 1	Day 1 - 5
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Lesson Focus

1. Standards Addressed	2. Content to be Learned	3. Mathematical Practices	4. Essential Question
<p>5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers (found in the line plot), find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i></p>	<ul style="list-style-type: none"> •Make a line plot to display a data set of measurements in fractions of ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). •Use operations on fractions for this grade (add & sub fractions with unlike denominators, including mixed numbers; multiply fractions, divide unit fractions by whole number, divide whole number by unit fractions) to solve problems involving information presented in line plots. •(Investigations Lesson only) Understand how to find the range and median of a set of data using a line plot. 	<p>SMP1 Make sense of problems and persevere in solving them.</p> <p>SMP2 Reason abstractly and quantitatively.</p> <p>SMP6 Attend to precision.</p>	<ul style="list-style-type: none"> •How can a line plot help you find the average with data given in fractions? •How is finding the average and distributing equally the same or different? •What is the range (median) of this set of data? (Investigations Snap-in) •Which is longer? Shorter? •How many times longer is..? •What is the combined weight of... ? •What are (1-3) comparative statements you can write about the data in the line plot?
5. Prerequisite Knowledge	6. Essential Vocabulary	7. Possible Misconceptions	8. Necessary Materials
<ul style="list-style-type: none"> •Solve problems using all four operations on fractions. •Understand how to read data on a graph or chart. 	<p>Data Line plot Equally Average Range & Median (Investigations Snap-ins only)</p>	<ul style="list-style-type: none"> •Inappropriate use of the operations. Incorrectly reading the line plot: •Key may state that the “x” means more than one. •Confusing the numbers on the horizontal line with the value of the “x”. For example, Which grade read the most books? Students may choose 5 because that is the greatest number they see along the horizontal line, but the third grade may have the most “x’s”, meaning the third grade read the most. 	<p>Oncore Lesson 85 Student pages 169 – 170</p> <p>K-5 Math Resources Fractions on a Line Plot Sacks of Flour</p> <p>Measurement and Data www.CommonCoreSheets.com Line Plots: Pencils, Keys ($\frac{1}{2}$ and $\frac{1}{4}$ only; no $\frac{1}{8}$)</p> <p>Investigations Snap-in</p>

Instruction**9. Instruction Practices (What are the teachers doing)**

Teachers will guide students to make a line plot to display a data set of measurements in fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Teachers will provide practice using the operations on fractions for this grade to solve problems involving information presented in line plots. Please note that the Measurement and Data worksheets (Pencils and Keys) only use the fractions $\frac{1}{2}$ and $\frac{1}{4}$ AND the Investigations Snap-ins includes questions with the vocabulary terms range and median. If time allows, the teacher may choose to use these materials and teach this vocabulary along with how to find the range and median using a line plot. Remember that when finding the median using a line plot, the data is already in order from least to greatest and the students can cross out data from lowest then highest, etc. until they are left with one or two numbers in the center. With two numbers, students then calculate the average of the two. The OnCore materials ask for the “average”. In this case they refer to the (mean) without using that vocabulary term. They expect the student to add all the pieces of data (example #1 = $\frac{20}{4} = 5$) and then divide the total by the number of seed (9) for an answer of $\frac{5}{9}$ inch. Remembering that the / in a fraction represents division.

10. Learning Practices (What are the students doing)

Students will make a line plot to display a set data set of measurements in fractions of unit $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$. They will use the operations that are relevant to their grade level to solve problems involving information presented in the line plots. Students will practice this standards using various materials. They will learn how to find the average of a set of data (mean) like the teacher uses to determine their grades. Finding the average by adding all the pieces of collected data together and dividing the total by the number of pieces of data. If time allows, students will be introduced to the terms range and median and how to find the range and median using a line plot. Students will be careful of possible misconceptions, like not using a key if one is provided or incorrectly reading the data in the line plot.