

NJDOE MODEL CURRICULUM

CONTENT AREA: Mathematics	GRADE: 3	UNIT: # 4	UNIT NAME: Build Equivalent Fractions & Compare Fractions and Apply to Measurement Qualities
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#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Locate equivalent (equal) fractions on a number line (with dominators 2, 3, 4, 6, 8).	3.NF.3a
2	Generate and explain equivalent fractions using visual fraction models, e.g., interpret 1/4 of a group of 12 pennies as 3 pennies:  (see the 4 equal sub-groups as fourths).	3.NF.3b
3	Generate and explain whole numbers as fractions, and locate them as fractions on a number line.	3.NF.3c
4	Compare two fractions with the same numerator or the same denominator using the symbols $>$, $=$, $<$.	3.NF.3d
5	Create and interpret scaled picture (or bar) graph to represent data in 1- and 2-step word problems.	3.MD.3
6	Depict data measured in fourths and halves of an inch with a line plot with scales marked with appropriate units.	3.MD.4
7	Find the area of a plane figure understanding that unit squares are used to measure area of a rectilinear drawing.	3.MD.5a
8	Fluently multiply and divide within 50, using the relationship between multiplication and division.	3.OA.7

Major Content **Supporting Content** **Additional Content** (Identified by PARCC Model Content Frameworks).

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks).

Selected Opportunities for Connection to Mathematical Practices

1. Make sense of problems and persevere in solving them.

SLO #3 Analyze the relationship between whole numbers and whole numbers as fractions.

SLO #4 Analyze the relationship among two fractions with the same numerator or denominator in order to compare them.

SLO #5 Interpret graphed data represented in 1- or 2-step word problems.

SLO #5 Use concrete pictures to help conceptualize data represented by a 1- or 2-step word problem.

SLO #6 Graph and plot data to depict measurements in fourths and halves of inches.

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SLO #7 Understand and make sense of quantities and their relationship to the area of a plane figure.

2. Reason abstractly and quantitatively.

SLO #2 Understand and make sense of fraction quantities in order to use and interpret visual fraction models.

SLO #3 Understand and make sense of whole numbers as fractions and the quantities they represent in order to place them on a number line.

SLO # 4 Understand and make sense of fraction quantities with either the same denominator or numerator in order to compare them.

SLO #6 Make sense of quantities measured in fractions of an inch and understand the relationship to data on a line plot.

3. Construct viable arguments and critique the reasoning of others.

SLO #3 Justify and explain conclusions regarding whole numbers as fractions and where they are located on the number line.

4. Model with mathematics.

SLO #5 Apply previously learned concepts about representing data to create and interpret data represented in word problems.

SLO #6 Apply previously learned concepts about fractions to depict data measured in fractions and plotted on a line.

5. Use appropriate tools strategically.

SLO #1 Consider and use appropriate tools, such as drawings and the number line, when solving problems involving fractions equivalents and the number line.

SLO #2 Consider and use appropriate tools, such as visual models, diagrams, and drawings, when solving problems involving visual fraction models and equivalent fractions.

SLO #3 Consider and use appropriate tools, such as drawings and the number line, when generating and locating whole numbers as fraction on the number line.

6. Attend to precision.

SLO #2 Communicate and explain precisely equivalent fractions using visual fraction models.

SLO #4 State and understand the meaning of the symbols $<$, $>$, $=$ symbols when comparing two fractions.

SLO #5 Communicate and precisely explain whole numbers as fractions and where they are located on the number line.

SLO # 6 Specify units of measure on a plotted line and clarify the correspondence of the depicted data with quantities.

7. Look for and make use of structure.

SLO #8 Look for and discern patterns between multiplication and division.

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

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Code #	Common Core State Standards
3.NF.3a	Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
3.NF.3b	Recognize and generate simple equivalent fractions, (e.g., $1/2 = 2/4$, $4/6 = 2/3$). Explain why the fractions are equivalent, e.g., by using a visual fraction model.
3.NF.3c	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.
3.NF.3d	Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, $<$, and justify the conclusions, e.g., by using a visual fraction model.
3.MD.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i>
3.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters.
3.MD.5a	Recognize area as an attribute of plane figures and understand concepts of area measurement. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.
3.MD.5b	A plane figure can be covered without gaps or overlaps by n squares is said to have an area of n square units.
3.OA.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations.

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