

NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics	GRADE: 6	UNIT #: 1	UNIT NAME: Operations and Statistical Variability
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#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS
1	Compute quotients of fractions.	6.NS.1
2	Construct visual fraction models to represent quotients and explain the relationship between multiplication and division of fractions.	6.NS.1
3	Solve real-world problems involving quotients of fractions and interpret the solutions in the context given.	6.NS.1
4	Fluently add, subtract, multiply and divide multi-digit decimals and whole numbers using standard algorithms.	6.NS.2; 6.NS.3
5	Use positive and negative numbers to describe quantities in real-world situations.	6.NS.5
6	Calculate, compare, and interpret measures of center and variability in a data set to answer a statistical question. (Including median, mean, interquartile range, mean absolute deviation and overall pattern).	6.SP.1; 6.SP.2; 6.SP.3; 6.SP.5c,d

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 Connections to Mathematical Practices

- 1. Make sense of problems and persevere in solving them.**
SLO #3 Involve problems that include several givens or those that must be carefully deconstructed before they can be solved.
- 2. Reason abstractly and quantitatively.**
- 3. Construct viable arguments and critique the reasoning of others.**
- 4. Model with mathematics.**
SLO #2 Visual fraction models are required.

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- 5. Use appropriate tools strategically.**
SLO #2 Tools will include diagrams, words, and equations.
- 6. Attend to precision.**
SLO #6 The use of precise language is needed when answering statistical questions.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.
- All content presented at this grade level has connections to the standards for mathematical practices.*

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

CODE #	Common Core State Standards
6.NS.1	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, create a story context for $(2/3) \div (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) \div (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. In general, $(a/b) \div (c/d) = (ad/bc)$ How much chocolate will each person get if 3 people share $1\ 1/2$ lb of chocolate equally? How many $3/4$-cup servings are in $2/3$ of a cup of yogurt? How wide is a rectangular strip of land with length $3/4$ mi and area $1/2$ square mi.?</i>
6.NS.2	Fluently divide multi-digit numbers using the standard algorithm.
6.NS.3	Fluently add, subtract, multiply, and divide multi-digit decimals using the standards algorithm for each operation.
6.NS.5	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts explaining the meaning of 0 in each situation.
6.SP.1	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. <i>For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.</i>
6.SP.2	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
6.SP.3	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of

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	variation describes how its values vary with a single number.
6.SP.5	<p>Summarize numerical data sets in relation to their context, such as by:</p> <ul style="list-style-type: none"> c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviation from the overall pattern with reference to the context in which the data were gathered. d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

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

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