

Chapter 9 Planning Chart: Fraction Operations

Cross-Curricular Competency: Exercises critical judgment. Use Lesson 7 as a context for discussing using judgment about when an exact answer is needed and when an approximate answer will suffice.

Broad Area of Learning: Health and Well-Being. Lesson 5, Questions 14, 15, 17, the introduction to Lesson 6, and the Communicate about the Math portion of Lesson 7 provide several opportunities to focus discussion on eating a health, well-balanced diet.

Content	QEP Concepts	QEP Processes	Addressing Concepts and Processes
Getting Started: Missing Measuring Cups, pp. 304–305			Assessment Opportunity
Lesson 1: Adding Fractions with Pattern Blocks, pp. 306–307	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Simplification and reduction 	
Mental Math: Multiplying a Decimal Close to a Whole Number, p. 307	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Mental computation: the four operations, especially with numbers written in decimal notation, using equivalent ways of writing numbers and the properties of operations 	
Lesson 2: Adding Fractions with Models, pp. 308–311	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Comparing • Using a variety of representations (e.g. numerical, graphic) • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Locating numbers on a number line, abscissa (x-coordinate) of a point <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Estimating and rounding numbers in different situations • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	

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<p>Lesson 3: Multiplying a Whole Number by a Fraction, pp. 312–315</p>	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Simplification and reduction • Locating numbers on a number line, abscissa (x-coordinate) of a point <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	
<p>Lesson 4: Subtracting Fractions with Models, pp. 316–319</p>	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Locating numbers on a number line, abscissa (x-coordinate) of a point <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Estimating and rounding numbers in different situations • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	
<p>Mid-Chapter Review: pp. 320–321</p>			Assessment Opportunity
<p>Lesson 5: Subtracting Fractions with Grids, pp. 322–325</p>	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Simplification and reduction <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	

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<p>Lesson 6: Adding and Subtracting Mixed Numbers, pp. 326–329</p>	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Simplification and reduction • Locating numbers on a number line, abscissa (x-coordinate) of a point <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	
<p>Lesson 7: Communicating about Estimation Strategies, pp. 330–333</p>	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Estimating and rounding numbers in different situations • Approximating the result of an operation 	
<p>Curious Math: Egyptian Fractions, p. 333</p>	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Using a variety of representations (e.g. numerical, graphic) • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Decomposition of numbers (e.g. additive, multiplicative) 	Optional
<p>Lesson 8: Adding and Subtracting Using Equivalent Fractions, pp. 334–336</p>	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Simplification and reduction <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	

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Math Game: Fraction Bingo, p. 337	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Different Ways of Writing and Representing Numbers</i></p> <ul style="list-style-type: none"> • Recognizing and using equivalent ways of writing numbers: <ul style="list-style-type: none"> • Equivalent fractions • Simplification and reduction <p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Mental computation: the four operations, especially with numbers written in decimal notation, using equivalent ways of writing numbers and the properties of operations • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	Optional
Chapter Self-Test: p. 338			Self-Assessment Opportunity
Chapter Review: pp. 339–341			Assessment Opportunity
Chapter Task: New Car Dealership, p. 342	<p><i>Arithmetic: Number Sense With Regard to Decimal and Fractional Notation and Operation Sense</i></p> <ul style="list-style-type: none"> • Reading, writing, various representations, patterns, properties • Fractional, decimal and exponential (integral exponent) notation; percentage, square root 	<p><i>Arithmetic: Operations Involving Numbers Written in Decimal and Fractional Notation</i></p> <ul style="list-style-type: none"> • Mental computation: the four operations, especially with numbers written in decimal notation, using equivalent ways of writing numbers and the properties of operations • Written computation: the four operations involving numbers that are easy to work with (including large numbers) and sequences of simple operations performed in the proper order (numbers written in decimal notation), using equivalent ways of writing numbers and the properties of operations 	Assessment Opportunity
Chapters 7–9 Cumulative Review: pp. 343–344			Assessment Opportunity