

Represent, Compare, Order and Operate Using Fractions

Overall Expectation

Students will:

- Represent, compare, and order numbers, including integers (7m8)
- Demonstrate an understanding of addition and subtraction of fractions and integers, and apply a variety of computational strategies to solve problems involving whole numbers and decimal numbers (7m9)

Specific Expectations

Students will:

- Represent, compare, and order decimals to hundredths and fractions, using a variety of tools (7m11)
- Divide whole numbers by simple fractions and by decimal numbers to hundredths, using concrete materials (7m18)
- Use a variety of mental strategies to solve problems involving the addition and subtraction of fractions and decimals (7m19)
- Add and subtract fractions with simple like and unlike denominators, using a variety of tools and algorithms (7m24)
- Demonstrate, using concrete materials, the relationship between the repeated addition of fractions and the multiplication of that fraction by a whole number (7m25)

Lesson	Learning Focus	Specific Expectations
Represent and Compare Fractions	<ul style="list-style-type: none"> • Represent fractions as part-whole relationships using area, set, measurement and linear models • Compare part-whole fractions using a variety of strategies (e.g., common unit, common numerator, benchmarks, using model representations) 	7m11
Order Fractions	<ul style="list-style-type: none"> • Order fractions 	7m11
Compose and Decompose Fractions	<ul style="list-style-type: none"> • Decompose fractions into unit fractions, and represent as: <ul style="list-style-type: none"> o repeated addition o multiplication of a fraction by a whole • Represent the composition and decomposition of fractions with like and unlike denominators, using a variety of tools • Estimate sums and differences of fractions to the nearest whole • Compare two addition expressions involving fractions, using models 	7m11 7m25
Addition and Subtraction of Fractions With Like Denominators	<ul style="list-style-type: none"> • Investigate addition and subtraction of fractions with like denominators using a variety of models (i.e., area, volume, and linear) to generalize that the unit remains the same, and the count increases or decreases • Commutative Property holds true for addition of fractions but not for subtraction 	7m11 7m19 7m24
Addition and Subtraction of Fractions Using an Area Model	<ul style="list-style-type: none"> • Add and subtract fractions with like and unlike denominators using an area model (e.g., rectangles) • To determine the sum or difference, like units are needed 	7m11 7m19 7m24

Represent, Compare, Order and Operate Using Fractions (continued)

Lesson	Learning Focus	Specific Expectations
Addition and Subtraction of Fractions Using a Volume Model	<ul style="list-style-type: none"> Add and subtract fractions with like and unlike denominators using a measurement model (e.g., pouring containers) To determine the sum or difference, like units are needed 	7m11 7m19 7m24
Addition and Subtraction of Fractions Using a Linear Model	<ul style="list-style-type: none"> Add and subtract fractions with like and unlike denominators using a linear model (e.g., number line) to determine the sum or difference, like units are needed 	7m11 7m19 7m24
Addition and Subtraction of Fractions Practice	<ul style="list-style-type: none"> Use mental strategies to add and subtract fractions Solve problems involving addition and subtraction of fractions 	7m11 7m19 7m24
Addition and Subtraction of Fractions Problems	<ul style="list-style-type: none"> Use mental strategies to add and subtract fractions Solve problems involving addition and subtraction of fractions 	7m11 7m19 7m24
Division of Whole Numbers by Simple Fractions	<ul style="list-style-type: none"> Division of whole numbers by simple fractions (including unit, proper and improper fractions with a variety of denominators) using concrete materials to model both partitive and quotative meanings of division 	7m18
Consolidation and Summative Tasks		

Represent and Compare Fractions

Specific Expectations: 7m11

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide OERB ID: ELO1471850 Unit 1 Activity 6: Addition and Subtraction of Fractions	TIPS4RM Grade 7 Unit 7: Fractions and Decimals <ul style="list-style-type: none"> Day 1: Fraction Puzzles Day 4: Exploring Fractions Using Relational Rods
Minds On	<ul style="list-style-type: none"> Identify real-world contexts that involve fractions Understanding fractions as quantities 		Fractions Learning Pathways <ul style="list-style-type: none"> Recipe Task Pretty Powerful Paper Folding
Action	<ul style="list-style-type: none"> Represent fractions as part-whole relationships using area, set, measurement and linear models Compare part-whole fractions using a variety of strategies (e.g., common unit, common numerator, benchmarks, using model representations) 	Unit 1 Activity 6: Minds On <ul style="list-style-type: none"> Introduction: Comparing Simple Fractions <ul style="list-style-type: none"> same denominator same numerator benchmarks some practice See Grade 6 Blended Learning: Unit 1 Activity 4 OERB ID : ELO1474790 See Grade 6 Blended Learning: Unit 1 Activity 5 OERB ID: ELO1474800 <p><i>Note:</i></p> <ul style="list-style-type: none"> <i>supplementation required for representing fractions using a variety of tools</i> <i>may need to review:</i> <ul style="list-style-type: none"> <i>the inequality symbols (< and >)</i> <i>relationship between a given fraction and its unit fraction</i> 	mathies <ul style="list-style-type: none"> Fraction Strips Pouring Containers Relational Rods Set Tool Colour Tiles Fractions Card Game Dominoes (Fractions) Dropball Fractions Pathway Challenge Representation Match (Fractions) <p>CLIPS</p> <ul style="list-style-type: none"> Representing Simple Fractions Forming and Naming Equivalent Fractions Comparing Simple Fractions Forming Equivalent Fractions by Splitting or Merging Parts Representing Improper Fractions as Mixed Numbers

Represent and Compare Fractions (continued)

Specific Expectations: 7m11

	Learning Focus	Blended Learning	Other Resources
	Consolidation		<p>Gizmos</p> <ul style="list-style-type: none"> • Equivalent Fractions (Fraction Tiles) <p>Desmos</p> <ul style="list-style-type: none"> • Fractions on a Number Line • Shaded Rectangles Polygraph <p>NCTM Illuminations</p> <ul style="list-style-type: none"> • Fraction Models <p>Gap Closing J/I Student Book: Representing Fractions</p> <p>Gap Closing J/I Facilitator's Guide: Representing Fractions</p> <p>Gap Closing J/I Student Book: Comparing Fractions</p> <p>Gap Closing J/I Facilitator's Guide: Comparing Fractions</p> <p>Gap Closing I/S Student Book: Fractions pp 3 – 12</p> <p>Gap Closing I/S Facilitator's Guide: Fractions pp 5 – 13</p> <p>ePractice</p> <ul style="list-style-type: none"> • Fractions

Order Fractions

Specific Expectations: 7m11

	Learning Focus	Blended Learning	Other Resources
Minds On	<ul style="list-style-type: none"> Review represent and compare fractions 		mathies <ul style="list-style-type: none"> Fraction strips Pouring Containers Relational Rods
Action	<ul style="list-style-type: none"> Order fractions 		
Consolidation			

Compose and Decompose Fractions

Specific Expectations: 7m11, 7m25

	Learning Focus	Blended Learning	Other Resources
Minds On	<ul style="list-style-type: none"> Decompose fractions into unit fractions 		mathies <ul style="list-style-type: none"> Fraction Strips Pouring Containers Relational Rods
Action	<ul style="list-style-type: none"> Decompose fractions into unit fractions, and represent as: <ul style="list-style-type: none"> o repeated addition o multiplication of a fraction by a whole Represent the composition and decomposition of fractions with like and unlike denominators, using a variety of tools Estimate sums and differences of fractions to the nearest whole Compare two addition expressions involving fractions, using models 		
Consolidation			

Addition and Subtraction of Fractions with Like Denominators

Specific Expectations: 7m11, 7m19, 7m24

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide Unit 1 Activity 6: Addition and Subtraction of Fractions OERB ID: ELO1471850	TIPS4RM Grade 7 Unit 7: Fraction and Decimals <ul style="list-style-type: none"> Day 2: Adding Fractions Day 3: Adding Fractions with Different Denominators
Minds On	<ul style="list-style-type: none"> Develop familiarity with the area model 	Unit 1 Activity 6: Consolidation OERB ID: ELO1476910 <ul style="list-style-type: none"> Assignment 1: Fraction Flag <ul style="list-style-type: none"> represent each area as a fraction add and subtract the areas 	Fractions Learning Pathways <ul style="list-style-type: none"> Building Flags
Action	<ul style="list-style-type: none"> Add and subtract fractions with like and unlike denominators using an area model (e.g., rectangles) To determine the sum or difference, like units are needed 	Unit 1 Activity 6: Action OERB ID: ELO1476910 <ul style="list-style-type: none"> Addition and Subtraction of Fractions Video <ul style="list-style-type: none"> Importance of working with a common unit (denominator) when adding and subtracting fractions Unit 1 Activity 6: Action <ul style="list-style-type: none"> Adding Fractions Gizmo Activity A use of fraction tiles <p><i>Note: supplementation required for investigating and generalizing using area and volume models</i></p>	mathies <ul style="list-style-type: none"> Fraction Strips Pouring Containers Relational Rods Homework Help <ul style="list-style-type: none"> Fractions Gizmos <ul style="list-style-type: none"> Adding Fractions (Fraction Tiles) Math Interactives <ul style="list-style-type: none"> Exploring Fractions
Consolidation			Gap Closing I/S Student Book: Fractions pp 13 – 27 Gap Closing I/S Facilitator’s Guide: Fractions pp 14 – 26

Addition and Subtraction of Fractions using an Area Model

Specific Expectations: 7m11, 7m19, 7m24

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide OERB ID: ELO1471850 Unit 1 Activity 6: Addition and Subtraction of Fractions	Fractions Learning Pathways <ul style="list-style-type: none"> • Turf Touchdown!
Minds On	<ul style="list-style-type: none"> • Develop familiarity with the area model 	Unit 1 Activity 6: Consolidation OERB ID: ELO1476910 <ul style="list-style-type: none"> • Assignment 1: Fraction Flag <ul style="list-style-type: none"> o represent each area as a fraction o add and subtract the areas 	mathies <ul style="list-style-type: none"> • Fraction Strips Homework Help <ul style="list-style-type: none"> • Fractions
Action	<ul style="list-style-type: none"> • Add and subtract fractions with like and unlike denominators using an area model (e.g., rectangles) • To determine the sum or difference, like units are needed 		OERB <ul style="list-style-type: none"> • Adding Fractions <ul style="list-style-type: none"> o OERB ID: ELO1414340 Tap into Teen Minds <ul style="list-style-type: none"> • Gimme A Break Task 1- Adding Simple Fractions • Gimme A Break Adding Simple Fractions video
Consolidation			GeoGebra <ul style="list-style-type: none"> • Subtracting Fractions using an Area Model Gap Closing I/S Student Book: Fractions pp 13 – 27 Gap Closing I/S Facilitator’s Guide: Fractions pp 14 – 26

Addition and Subtraction of Fractions using a Volume Model

Specific Expectations: 7m11, 7m19, 7m24

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide OERB ID: ELO1471850 Unit 1 Activity 6: Addition and Subtraction of Fractions	mathies • Pouring Containers Homework Help: Interactive tutorial • Fractions
Minds On	<ul style="list-style-type: none"> Develop familiarity with the volume model 	Unit 1 Activity 6: Consolidation • Practice – Recipes <ul style="list-style-type: none"> smoothie makers with 3 recipes using like and unlike denominators 	
Action	<ul style="list-style-type: none"> Add and subtract fractions with like and unlike denominators using a measurement model (e.g., pouring containers) To determine the sum or difference, like units are needed 		
Consolidation			

Addition and Subtraction of Fractions using a Linear Model

Specific Expectations: 7m11, 7m19, 7m24

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide OERB ID: ELO1471850 Unit 1 Activity 6: Addition and Subtraction of Fractions	TIPS4RM Grade 7 Unit 7: Fractions and Decimals <ul style="list-style-type: none"> Day 4: Exploring Fractions Using Relational Rods Day 5: Adding and Subtracting Fractions Using Relational Rods
Minds On	<ul style="list-style-type: none"> Develop familiarity with linear models 		
Action	<ul style="list-style-type: none"> Add and subtract fractions with like and unlike denominators using a linear model (e.g., number line) to determine the sum or difference, like units are needed 	Unit 1 Activity 6: Action OERB ID: ELO1476910 <ul style="list-style-type: none"> Adding Fractions Gizmo Activities B and C <ul style="list-style-type: none"> use of fraction tiles with unlike denominators <p><i>Note: supplementation required for adding and subtraction fractions using other linear models</i></p>	Fractions Learning Pathways <ul style="list-style-type: none"> Building a Stage! mathies <ul style="list-style-type: none"> Fraction Strips Relational Rods Spatial Reasoning in Number Sense and Numeration <ul style="list-style-type: none"> Operations with Fractions
Consolidation			Gizmos <ul style="list-style-type: none"> Adding Fractions (Fraction Tiles) Gap Closing I/S Student Book: Fractions pp 13 – 27 Gap Closing I/S Facilitator’s Guide: Fractions pp 14 – 26

Addition and Subtraction of Fractions Practice

Specific Expectations: 7m11, 7m19, 7m24

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide OERB ID: ELO1471850 Unit 1 Activity 6: Addition and Subtraction of Fractions	TIPS4RM Grade 7 Unit 7: Fractions and Decimals <ul style="list-style-type: none"> Day 6: Subtracting Fractions Using Equivalent Fractions Day 7: Adding and Subtracting Fractions Day 8: Exploring Fractions Further mathies <ul style="list-style-type: none"> Fraction Strips Pouring Containers Relational Rods Gap Closing I/S Student Book: Fractions pp 21 – 27 Gap Closing I/S Facilitator’s Guide: Fractions pp 21 – 26
Minds On	<ul style="list-style-type: none"> Review the need for a common unit when adding and subtracting fractions 	Unit 1 Activity 6: Action OERB ID: ELO1476910 <ul style="list-style-type: none"> Addition and Subtraction of Fractions Video <ul style="list-style-type: none"> importance of using a common denominator 	
Action	<ul style="list-style-type: none"> Use mental strategies to add and subtract fractions Solve problems involving addition and subtraction of fractions 	Unit 1 Activity 6: Action <ul style="list-style-type: none"> Adding Fractions ePractice Subtracting Fractions ePractice <ul style="list-style-type: none"> with models using grid (area) and fraction strips (linear) 	
Consolidation			

Addition and Subtraction of Fractions Problems

Specific Expectations: 7m11, 7m19, 7m24

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide OERB ID: ELO1471850 Unit 1 Activity 6: Addition and Subtraction of Fractions	TIPS4RM Grade 7 Unit 7: Fractions and Decimals <ul style="list-style-type: none"> Day 6: Subtracting Fractions Using Equivalent Fractions Day 7: Adding and Subtracting Fractions Day 8: Exploring Fractions Further
Minds On	<ul style="list-style-type: none"> Review composition and decomposition of fractions 		<ul style="list-style-type: none"> Day 6: Subtracting Fractions Using Equivalent Fractions Day 7: Adding and Subtracting Fractions Day 8: Exploring Fractions Further
Action	<ul style="list-style-type: none"> Use mental strategies to add and subtract fractions Solve problems involving addition and subtraction of fractions 		mathies <ul style="list-style-type: none"> Fraction Strips Pouring Containers Relational Rods
Consolidation			Gap Closing I/S Student Book: Fractions pp 21 – 27 Gap Closing I/S Facilitator’s Guide: Fractions pp 21 – 26

Division of Whole Numbers by Simple Fractions

Specific Expectations: 7m18

	Learning Focus	Blended Learning	Other Resources
		<p>Teacher Guide OERB ID: ELO1471850 Unit 1 Activity7: Division of a Whole Number by a Fraction</p>	<p>TIPS4RM Grade 7 Unit 7</p> <ul style="list-style-type: none"> Day 9: Dividing Whole Numbers by Fractions Using Concrete Materials
Minds On	<ul style="list-style-type: none"> Review relationship between multiplication and division 	<p>Unit 1 Activity 7: Minds On OERB ID: ELO1471350</p> <ul style="list-style-type: none"> Open problem <ul style="list-style-type: none"> sharing chocolate bars $\frac{1}{4}$ each Pairs/Group Work <p>Unit 1 Activity 7: Action</p> <ul style="list-style-type: none"> Dividing Whole Numbers by Unit Fractions Video <ul style="list-style-type: none"> uses fraction strips and area models to find the number of groups (quotative) Smoothie Problem <ul style="list-style-type: none"> uses mathies Pouring Containers and a volume model for quotative division <p>Unit 1 Activity 6: Minds On OERB ID: ELO1476910</p> <ul style="list-style-type: none"> Anchor Chart <ul style="list-style-type: none"> summarizing strategies used in solving the open problem extend to include strategies used in video 	<p>mathies</p> <ul style="list-style-type: none"> Fraction Strips Pouring Containers Relational Rods <p>Tap into Teen Minds:</p> <ul style="list-style-type: none"> Gimme A Break Task 6 Dividing Whole Numbers By Simple Fractions <p>ePractice</p> <ul style="list-style-type: none"> Dividing Fractions

Division of Whole Numbers by Simple Fractions (continued)

Specific Expectations: 7m18

	Learning Focus	Blended Learning	Other Resources
Action	<ul style="list-style-type: none"> Division of whole numbers by simple fractions (including unit, proper and improper fractions with a variety of denominators) using concrete materials to model both partitive and quotative meanings of division 	<p><i>Note: start with a task that involves a partitive context for division similar to the following video</i></p> <p>Unit 1 Activity 7: Action</p> <ul style="list-style-type: none"> Granola Bar Problem <ul style="list-style-type: none"> uses mathies Notepad and an area model to show equal sharing (partitive division) Ribbon Problem <ul style="list-style-type: none"> uses mathies Fraction Strips and a linear model to show quotative division <p><i>Note: supplementation required for practising division involving both meanings</i></p>	
Consolidation		<p>Unit 1 Activity 7: Consolidation</p> <ul style="list-style-type: none"> Assignment 1: Dividing Whole Numbers by Fractions 	

Consolidation & Summative Tasks

Specific Expectations: 7m11, 7m18, 7m19, 7m24, 7m25

Blended Learning	Other Resources

Represent and Compare Fractions

Resource	URL
Teacher Guide: Unit 1 Activity 6: Addition and Subtraction of Fractions	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_6.html
Introduction: Comparing Simple Fractions	http://mathclips.ca/?cluster=1&clip=3&activity=1
Grade 6 Blended Learning Unit 1 Activity 4	https://download.elearningontario.ca/repository/14/1474790000/GRD6MTHEU01A04/overview.html
Grade 6 Blended Learning Unit 1 Activity 5	https://download.elearningontario.ca/repository/14/1474800000/GRD6MTHEU01A05/overview.html
TIPS4RM Grade 7 Unit 7: Fractions and Decimals	http://www.edugains.ca/resources/LearningMaterials/TIPS/tips4rm/grade7/Unit7_FractionsDecimals.pdf
Fractions Learning Pathways: Recipe Task	http://www.edugains.ca/newsite/DigitalPapers/FractionsLearningPathway/ComparingFractions-A-RecipeTask.html
Fractions Learning Pathways: Pretty Powerful Paper Folding	http://www.edugains.ca/newsite/DigitalPapers/FractionsLearningPathway/ComparingFractions-E-PaperFolding.html
mathies : Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies : Pouring Containers	http://mathies.ca/learningTools.php#Pp0
mathies : Relational Rods	http://mathies.ca/learningTools.php#Rr0
mathies : Set Tool	http://mathies.ca/learningTools.php#Ss1
mathies : Colour Tiles	http://mathies.ca/learningTools.php
mathies : Card Games (Fractions)	http://oame.on.ca/CLIPS/lib/CL001_KC_FractionsPartWhole/CL001_Games/FractionsCardGame.pdf
mathies : Dominoes (Fractions)	http://oame.on.ca/CLIPS/lib/CL001_KC_FractionsPartWhole/CL001_Games/Dominoes.pdf
mathies : Dropball	http://mathclips.ca/swfPlayer.html?swfURL=lib/CL001_KC_FractionsPartWhole/CL001_C05_A03_W_DropballGame/CL001_C05_A03_W_DropballGame.swf

Represent and Compare Fractions (continued)

Resource	URL
mathies : Pathway Challenge (Fractions)	http://oame.on.ca/CLIPS/lib/CL001_KC_FractionsPartWhole/CL001_Games/FractionChallenge.pdf
mathies : Representation Match (Fractions)	http://oame.on.ca/CLIPS/swfPlayer.html?swfURL=lib/CL001_KC_FractionsPartWhole/CL001_Games/CL001_MemoryMatchGame.swf
CLIPS: Representing Simple Fractions	http://oame.on.ca/CLIPS/index.html?cluster=1&clip=1
CLIPS: Forming and Naming Equivalent Fractions	http://oame.on.ca/CLIPS/index.html?cluster=1&clip=2
CLIPS: Comparing Simple Fractions	http://oame.on.ca/CLIPS/index.html?cluster=1&clip=3
CLIPS: Forming Equivalent Fractions by Splitting or Merging Parts	http://oame.on.ca/CLIPS/index.html?cluster=1&clip=4
CLIPS: Representing Improper Fractions as Mixed Numbers	http://oame.on.ca/CLIPS/index.html?cluster=1&clip=5
Gizmos: Equivalent Fractions (Fraction Tiles)	https://www.explorelearning.com/index.cfm?method=cResource.dspView&ResourceID=1012
Desmos: Fractions on a Number Line	https://teacher.desmos.com/activitybuilder/custom/56533fd568b9f261064c1f7f
Desmos: Shaded Rectangles Polygraph	https://teacher.desmos.com/polygraph/custom/559c981d67205ca836e1bc8e
NCTM Illuminations : Fraction Models	http://illuminations.nctm.org/Activity.aspx?id=3519
Gap Closing J/I Student Book: Representing Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade6/GCU1_SB_RepresentingFractions.pdf
Gap Closing J/I Facilitator's Guide: Representing Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade6/GCU1_FG_RepresentingFractions.pdf

Represent and Compare Fractions (continued)

Resource	URL
Gap Closing J/I Student Book: Comparing Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade6/GCU2_SB_Comparing-Fractions.pdf
Gap Closing J/I Facilitator's Guide: Comparing Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade6/GCU2_FG_Comparing-Fractions.pdf
Gap Closing I/S Student Book: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_SB_IS.pdf
Gap Closing I/S Facilitator's Guide: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_FG_IS.pdf
ePractice – Fractions	http://oame.on.ca/CLIPS/index.html?ePractice=T/index.html?ePractice=T&EP_Topic=Fractions

Order Fractions

Resource	URL
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies: Pouring Containers	http://mathies.ca/learningTools.php#Pp0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0

Compose and Decompose Fractions

Resource	URL
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies: Pouring Containers	http://mathies.ca/learningTools.php#Pp0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0

Addition and Subtraction of Fractions with Like Denominators

Resource	URL
Teacher Guide: Unit 1 Activity 6: Addition and Subtraction of Fractions	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_6.html
Addition and Subtraction of Fractions Video	https://www.youtube.com/watch?v=3Fqi2Uqp_Cg&feature=youtu.be
Unit 1 Activity 6: Action	https://download.elearningontario.ca/repository/14/1471200000/GRD7MTHEU01/GRD-7MTHEU01A06/content_2.html
TIPS4RM Grade 7 Unit 7: Fraction and Decimals	http://www.edugains.ca/resources/LearningMaterials/TIPS/tips4rm/grade7/Unit7_FractionsDecimals.pdf
Fractions Learning Pathways: Building Flags	http://www.edugains.ca/newsite/DigitalPapers/FractionsLearningPathway/OperationsWithFractions-B-BuildingFlags.html
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies: Pouring Containers	http://mathies.ca/learningTools.php#Pp0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
Homework Help: Fractions	https://homeworkhelp.ilc.org/tutorials/L_Objects/lo_objects_loader.php?object_id=477
Gizmos: Adding Fractions (Fraction Tiles)	https://www.explorellearning.com/index.cfm?method=cResource.dspDetail&ResourceID=1027

Addition and Subtraction of Fractions using an Area Model

Resource	URL
Teacher Guide: Unit 1 Activity 6: Addition and Subtraction of Fractions	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_6.html
Assignment 1: Fraction Flag	https://download.elearningontario.ca/repository/14/1471200000/GRD7MTHEU01/GRD-7MTHEU01A06/assignment.html
Fractions Learning Pathways: Turf Touchdown!	http://www.edugains.ca/newsite/DigitalPapers/FractionsLearningPathway/OperationsWithFractions-E-TurfTouchdown.html
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
Homework Help: Fractions	https://homeworkhelp.ilc.org/tutorials/L_Objects/lo_objects_loader.php?object_id=477
OERB: Adding Fractions	https://download.elearningontario.ca/repository/14/1414340000/Pare_Gr7NumStoryboard4.html
Tap into Teen Minds: Gimme A Break Task 1- Adding Simple Fractions	https://tapintoteenminds.com/3act-math/gimme-a-break/
Tap into Teen Minds Gimme A Break Task – Adding Simple Fractions Video	https://www.youtube.com/watch?v=jJpXiDAW4Wg
GeoGebra: Subtracting Fractions using an Area Model	http://www.geogebra.org/m/2957439
Gap Closing I/S Student Book: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_SB_IS.pdf

Addition and Subtraction of Fractions using a Volume Model

Resource	URL
Teacher Guide: Unit 1 Activity 6: Addition and Subtraction of Fractions	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_6.html
Practice – Recipes	http://www.learnalberta.ca/content/mejhm/index.html?l=0&ID1=AB.MATH.JR.NUMB&ID2=AB.MATH.JR.NUMB.FRA&lesson=html/object_interactives/fractions/use_it.html
mathies: Pouring Containers	http://mathies.ca/learningTools.php#Pp0
Homework Help: Fractions	https://homeworkhelp.ilc.org/tutorials/L_Objects/lo_objects_loader.php?object_id=477

Addition and Subtraction of Fractions using a Linear Model

Resource	URL
Teacher Guide: Unit 1 Activity 6: Addition and Subtraction of Fractions	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_6.html
Unit 1 Activity 6: Action	https://download.elearningontario.ca/repository/14/1471200000/GRD7MTHEU01/GRD-7MTHEU01A06/content_2.html
TIPS4RM Grade 7 Unit 7: Fractions and Decimals	http://www.edugains.ca/resources/LearningMaterials/TIPS/tips4rm/grade7/Unit7_FractionsDecimals.pdf
Fractions Learning Pathways: Building a Stage!	http://www.edugains.ca/newsite/DigitalPapers/FractionsLearningPathway/OperationsWithFractions-D-BuildStage.html
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
Spatial Reasoning in Number Sense and Numeration: Operations with Fractions	http://thelearningexchange.ca/wp-content/uploads/2015/09/1.-Intermediate-Fractions-Lesson-Plan1.pdf
Gizmos: Adding Fractions (Fraction Tiles)	https://www.explorelearning.com/index.cfm?method=cResource.dspView&ResourceID=1027&ClassID=0
Gap Closing I/S Student Book: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_SB_IS.pdf
Gap Closing I/S Facilitator's Guide: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_FG_IS.pdf

Addition and Subtraction of Fractions Practice

Resource	URL
Teacher Guide: Unit 1 Activity 6: Addition and Subtraction of Fractions	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_6.html
Unit 1 Activity 6: Action	https://download.elearningontario.ca/repository/14/1471200000/GRD7MTHEU01/GRD-7MTHEU01A06/content_2.html
Adding Fractions ePractice	http://oame.on.ca/CLIPS/index.html?EP_Topic=Fractions&activity=13
Subtracting Fractions ePractice	http://oame.on.ca/CLIPS/index.html?EP_Topic=Fractions&activity=14
TIPS4RM Grade 7 Unit 7: Fractions and Decimals	http://www.edugains.ca/resources/LearningMaterials/TIPS/tips4rm/grade7/Unit7_FractionsDecimals.pdf
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies: Pouring Containers	http://mathies.ca/learningTools.php#Pp0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
Gap Closing I/S Student Book: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_SB_IS.pdf
Gap Closing I/S Facilitator's Guide: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_FG_IS.pdf

Addition and Subtraction of Fractions Problems

Resource	URL
Teacher Guide: Unit 1 Activity 6: Addition and Subtraction of Fractions	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_6.html
TIPS4RM Grade 7 Unit 7: Fractions and Decimals	http://www.edugains.ca/resources/LearningMaterials/TIPS/tips4rm/grade7/Unit7_FractionsDecimals.pdf
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies: Pouring Containers	http://mathies.ca/learningTools.php#Pp0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
Gap Closing I/S Student Book: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_SB_IS.pdf
Gap Closing I/S Facilitator's Guide: Fractions	http://www.edugains.ca/resources/LearningMaterials/GapClosing/Grade9/1-Fractions_FG_IS.pdf

Division of Whole Numbers by Simple Fractions

Resource	URL
Teacher Guide: Unit 1 Activity7: Division of a Whole Number by a Fraction	https://download.elearningontario.ca/repository/14/1471850000/Gr%207%20Math%20U1%20TG/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/content_7.html
Unit 1 Activity 7: Minds On	https://download.elearningontario.ca/repository/14/1471200000/GRD7MTHEU01/GRD-7MTHEU01A07/content.html
Dividing Whole Numbers by Unit Fractions Video	https://www.youtube.com/watch?v=fG4qmnM1aDA
Smoothie Problem	https://www.youtube.com/watch?v=3WS5agWucZ0
Unit 1 Activity 6: Minds On	https://download.elearningontario.ca/repository/14/1471200000/GRD7MTHEU01/GRD-7MTHEU01A07/content.html
Granola Bar Problem	https://www.youtube.com/watch?v=t9dDVZFRdUc
Ribbon Problem	https://www.youtube.com/watch?v=W2RfxoINCCU
Assignment 1: Dividing Whole Numbers by Fractions	https://download.elearningontario.ca/repository/14/1471200000/GRD7MTHEU01/GRD-7MTHEU01A07/assignment.html
TIPS4RM Grade 7 Unit 7: Fractions and Decimals	http://www.edugains.ca/resources/LearningMaterials/TIPS/tips4rm/grade7/Unit7_FractionsDecimals.pdf
mathies: Fraction Strips	http://mathies.ca/learningTools.php#Ff0
mathies: Pouring Containers	http://mathies.ca/learningTools.php#Pp0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
ePractice: Dividing Fractions	http://oame.on.ca/CLIPS/index.html?ePractice=T/index.html?ePractice=T&EP_Topic=Fractions&activity=16
Tap into Teen Minds: Gimme A Break Task 6 – Dividing Whole Numbers By Simple Fractions	https://tapintoteenminds.com/3act-math/gimme-a-break/