

Fractions, Ratios, Decimals and Percents

Overall Expectation

Students will:

- Read, represent, compare, and order whole numbers to 1 000 000, decimal numbers to thousandths, proper and improper fractions, and mixed numbers (6m8)
- Demonstrate an understanding of relationships involving percent, ratio, and unit rate (6m10)

Specific Expectations

Students will:

- Represent, compare, and order fractional amounts with unlike denominators, including proper and improper fractions and mixed numbers, using a variety of tools and using standard fractional notation (6m14)
- Estimate quantities using benchmarks of 10%, 25%, 50%, 75%, and 100% (6m15)
- Represent ratios found in real-life contexts, using concrete materials, drawings, and standard fractional notation (6m26)
- Determine and explain, through investigation using concrete materials, drawings, and calculators, the relationships among fractions (i.e., with denominators of 2, 4, 5, 10, 20, 25, 50, and 100), decimal numbers, and percents (6m27)

Lesson	Learning Focus	Specific Expectations
Make Sense of Percent	<ul style="list-style-type: none"> • Through investigation, using concrete materials, determine the meaning of percent • Estimate quantities using benchmarks of 10%, 25%, 50%, 75% and 100% 	6m15
Connecting Percents to Ratios and Fractions	<ul style="list-style-type: none"> • Determine and explain the relationship between percents, ratios and fractions with denominators of 2, 4, 5, 10, 20, 25, 50 or 100 <ul style="list-style-type: none"> o using concrete materials (hundreds chart, 10 x 10 grid paper), drawings and calculators 	6m27
Connect Percents and Decimal Numbers	<ul style="list-style-type: none"> • Determine and explain the relationship between percents and decimal numbers <ul style="list-style-type: none"> o using concrete materials (hundreds chart, 10 x 10 grid paper), drawings and calculators 	6m27
Match Fractions, Decimals and Percentages	<ul style="list-style-type: none"> • Determine and explain using concrete materials the relationships among fractions (with denominators of 2, 4, 5, 10, 20, 25, 50, and 100), decimal numbers and percents 	6m27
Consolidation and Summative Tasks		

Make Sense of Percent

Specific Expectations: 6m15

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide Unit 1 Activity 6: Fractions, Decimals and Percents OERB ID: ELO1474900	Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6 <ul style="list-style-type: none"> pp 67 – 85: Grade 6 Learning Activity: The Contest
Minds On	<ul style="list-style-type: none"> Review fractions as part of a whole 		
Action	<ul style="list-style-type: none"> Through investigation, using concrete materials, determine the meaning of percent Estimate quantities using benchmarks of 10%, 25%, 50%, 75% and 100% 	Unit 1 Activity 6: Action OERB ID : ELO1474810 <ul style="list-style-type: none"> The Meaning of Percent Video <p><i>Note: supplementation required for reinforcing what percent means and estimating quantities</i></p>	mathies <ul style="list-style-type: none"> Colour Tiles Money Relational Rods Rekenrek Set Tool
Consolidation		Unit 1 Activity 6: Minds On <ul style="list-style-type: none"> Think Tank <ul style="list-style-type: none"> estimating based on benchmarks 	NCTM Illuminations <ul style="list-style-type: none"> Grid and Percent It Summer Daze Fraction Models

Connecting Percents to Ratios and Fractions

Specific Expectations: 6m27

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide Unit 1 Activity 6: Fractions, Decimals and Percents OERB ID: ELO1474900	Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6 <ul style="list-style-type: none"> pp 67 – 85: Grade 6 Learning Activity: The Contest
Minds On	<ul style="list-style-type: none"> Match the benchmarks for fractions and percents 		mathies
Action	<ul style="list-style-type: none"> Determine and explain the relationship between percents, ratios and fractions with denominators of 2, 4, 5, 10, 20, 25, 50, or 100 <ul style="list-style-type: none"> using concrete materials (hundreds chart, 10 x 10 grid paper), drawings and calculators 	Unit 1 Activity 6: Action OERB ID: ELO1474810 <ul style="list-style-type: none"> Assignment 1: Converting Fractions to Percent <ul style="list-style-type: none"> using models <p><i>Note: supplementation required for using concrete materials</i></p>	<ul style="list-style-type: none"> Colour Tiles Money Relational Rods Rekenrek Set Tool NCTM Illuminations <ul style="list-style-type: none"> Grid and Percent It Summer Daze Fraction Models
Consolidation			

Connect Percents and Decimal Numbers

Specific Expectations: 6m27

	Learning Focus	Blended Learning	Other Resources
Minds On	<ul style="list-style-type: none"> Match the benchmarks for percents and decimal numbers 		Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6 <ul style="list-style-type: none"> pp 67 – 85: Grade 6 Learning Activity: The Contest
Action	<ul style="list-style-type: none"> Determine and explain the relationship between percents and decimal numbers <ul style="list-style-type: none"> using concrete materials (hundreds chart, 10 x 10 grid paper), drawings and calculators 		mathies <ul style="list-style-type: none"> Money
Consolidation			

Match Fractions, Decimals and Percentages

Specific Expectations: 6m27

	Learning Focus	Blended Learning	Other Resources
		Teacher Guide Unit 1 Activity 6: Fractions, Decimals and Percents OERB ID: ELO1474900	Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6 <ul style="list-style-type: none"> pp 67 – 85: Grade 6 Learning Activity: The Contest
Minds On	<ul style="list-style-type: none"> Compare benchmarks of fractions, decimals and percentages using visuals, concrete materials and virtual tools 		mathies <ul style="list-style-type: none"> Colour Tiles Money Relational Rods Rekenrek Set Tool
Action	<ul style="list-style-type: none"> Determine and explain using concrete materials the relationships among fractions (with denominators of 2, 4, 5, 10, 20, 25, 50, and 100), decimal numbers and percents 	Unit 1 Activity 6: Action OERB ID: ELO1474810 <ul style="list-style-type: none"> Fraction Models <ul style="list-style-type: none"> explore connections between fractions, decimals and percents using models Assignment 2: Match Fractions, Decimals and Percentages <ul style="list-style-type: none"> to recall and use equivalences between simple fractions, decimals and percentages in different contexts 	NCTM Illuminations <ul style="list-style-type: none"> Grid and Percent It Summer Daze Fraction Models Concentration
Consolidation		Unit 1 Activity 6: Action <ul style="list-style-type: none"> Tool Box <ul style="list-style-type: none"> Fraction/Decimal Grids and Discussion Unit 1 Activity 6: Consolidation <ul style="list-style-type: none"> Discussion <ul style="list-style-type: none"> solve a problem involving quantities expressed in a variety of forms 	

Consolidation & Summative Tasks

Specific Expectations: 6m15, 6m27

Blended Learning	Other Resources

Make Sense of Percent

Resource	URL
Teacher Guide: Unit 1 Activity 6: Fractions, Decimals and Percents	https://download.elearningontario.ca/repository/14/1474900000/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/Teacher%20Notes%20-%20Activities%206%20-%2010/content.html
The Meaning of Percent Video	https://www.youtube.com/watch?v=Lvr2YsxG10o
Unit 1 Activity 6: Minds On	https://download.elearningontario.ca/repository/14/1474810000/GRD6MTHEU01A06/content.html
Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6	http://oame.on.ca/eduproject/ontariomathedresources/files/Number%20Sense%20and%20Numeration%20Vol%206%20Decimal%20Numbers%204-6.pdf
mathies: Colour Tiles	http://mathies.ca/learningTools.php
mathies: Money	http://mathies.ca/learningTools.php#Mm0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
mathies: Rekenrek	http://mathies.ca/learningTools.php#Rr0
mathies: Set Tool	http://mathies.ca/learningTools.php#Ss1
NCTM Illuminations: Grid and Percent It	https://illuminations.nctm.org/Lesson.aspx?id=960
NCTM Illuminations: Summer Daze	https://illuminations.nctm.org/Lesson.aspx?id=2847
NCTM Illuminations: Fraction Models	https://illuminations.nctm.org/Activity.aspx?id=3519

Connect Percents and Fractions

Resource	URL
Teacher Guide: Unit 1 Activity 6: Fractions, Decimals and Percents	https://download.elearningontario.ca/repository/14/1474900000/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/Teacher%20Notes%20-%20Activities%206%20-%2010/content.html
Assignment 1: Converting Fractions to Percent	https://download.elearningontario.ca/repository/14/1474810000/GRD6MTHEU01A06/assignment.html
Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6	http://oame.on.ca/eduproject/ontariomathedresources/files/Number%20Sense%20and%20Numeration%20Vol%206%20Decimal%20Numbers%204-6.pdf
mathies: Colour Tiles	http://mathies.ca/learningTools.php
mathies: Money	http://mathies.ca/learningTools.php#Mm0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
mathies: Rekenrek	http://mathies.ca/learningTools.php#Rr0
mathies: Set Tool	http://mathies.ca/learningTools.php#Ss1
NCTM Illuminations: Grid and Percent It	https://illuminations.nctm.org/Lesson.aspx?id=960
NCTM Illuminations: Summer Daze	https://illuminations.nctm.org/Lesson.aspx?id=2847
NCTM Illuminations: Fraction Models	https://illuminations.nctm.org/Activity.aspx?id=3519

Connect Percents and Decimal Numbers

Resource	URL
Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6	http://oame.on.ca/eduproject/ontariomathedresources/files/Number%20Sense%20and%20Numeration%20Vol%206%20Decimal%20Numbers%204-6.pdf
mathies: Money	http://mathies.ca/learningTools.php#Mm0

Match Fractions, Decimals and Percentages

Resource	URL
Teacher Guide: Unit 1 Activity 6: Fractions, Decimals and Percents	https://download.elearningontario.ca/repository/14/1474900000/Combined%20Teacher%20Notes%20for%20Activities%201%20-%2010/Teacher%20Notes%20-%20Activities%206%20-%2010/content.html
Unit 1 Activity 6: Action	https://download.elearningontario.ca/repository/14/1474810000/GRD6MTHEU01A06/content_2.html
Fraction Models	http://illuminations.nctm.org/Activity.aspx?id=3519
Match Fractions, Decimals and Percentages	https://mathsframe.co.uk/en/resources/resource/120/match_fractions_decimals_and_percentages#.UCdcd2MsCEY
Fraction/Decimal Grids and Discussion	https://my.hrw.com/math06_07/nsmedia/tools/Decimal_Fractions/Decimal_Fractions.swf
Unit 1 Activity 6: Consolidation	https://download.elearningontario.ca/repository/14/1474810000/GRD6MTHEU01A06/content_4.html
Guide to Effective Instruction: Number Sense and Numeration Grades 4 – 6 Vol.6	http://oame.on.ca/eduproject/ontariomathedresources/files/Number%20Sense%20and%20Numeration%20Vol%206%20Decimal%20Numbers%204-6.pdf
mathies: Colour Tiles	http://mathies.ca/learningTools.php
mathies: Money	http://mathies.ca/learningTools.php#Mm0
mathies: Relational Rods	http://mathies.ca/learningTools.php#Rr0
mathies: Rekenrek	http://mathies.ca/learningTools.php#Rr0
mathies: Set Tool	http://mathies.ca/learningTools.php#Ss1
NCTM Illuminations: Grid and Percent It	https://illuminations.nctm.org/Lesson.aspx?id=960
NCTM Illuminations: Summer Daze	https://illuminations.nctm.org/Lesson.aspx?id=2847
NCTM Illuminations: Fraction Models	https://illuminations.nctm.org/Activity.aspx?id=3519
NCTM Illuminations: Concentration	https://illuminations.nctm.org/Activity.aspx?id=3563