Unit 3 & 4 -Big Ideas Chapters 10-15

Content Area: **Mathematics**
Course(s): **Mathematics 3**
Time Period: **March**
Length: **60 Instructional Days**
Status: **Published**

Unit 3 & 4 Overview: Big Ideas Math Chapters 10-15

Unit 3--Big Ideas Math Chapters 10-15

(Length of Time: 3rd Trimester)

This unit includes:

- Understand Fractions (Chapter 10)
- Understand Fraction Equivalence and Comparison (Chapter 11)
- Understand Time, Liquid Volume and Mass (Chapter 12)
- Classify Two-Dimensional Shapes (Chapter 13)
- Represent and Interpret Data (Chapter 14)
- Find Perimeter and Area (Chapter 15)

Priority Standards

MATH.3.NF.A	Develop understanding of fractions as numbers
MATH.3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
MATH.3.M.A.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
MATH.3.M.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.
MATH.3.M.C.6	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
MATH.3.DL.B.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.
MATH.3.G.A	Reason with shapes and their attributes

Unit 3 Learning Goals

Big Ideas Chapter	Content Focus	CCSS Priority Standard
Chapter 10	**Understand Fractions**	**Standard:** 3.G.A - Reason with shapes and their attribut **Standard:** 3.NF.A - Develop understanding of fractions a numbers.
Chapter 11	**Understand Fraction Equivalence and Comparison**	**Standard:** 3.NF.A - Develop understanding of fractions a numbers. **Standard:** 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasc about their size

Chapter 12	**Understand Time, Liquid Volume, & Mass**	**Standard:** 3.M.A.1 Tell and write time to the nearest mi and measure time intervals in minutes. Solve problems involving addition and subtraction o intervals in minutes, e.g., by representing the problem on a number line diagram. **Standard:** 3.M.A.2 Measure and estimate liquid volumes masses of objects using standard units of gra (g), kilograms (kg), and liters (l). Add, subtra multiply, or divide to solve one-step word pro involving masses or volumes that are given in same units, e.g., by using drawings (such as beaker with a measurement scale) to represe problem.

Chapter 14	**Represent and Interpret Data**	**Standard:** 3.DL.B.3 - Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step " many more" and "how many less" problems u information presented in scaled bar graphs.
Chapter 15	**Find Perimeter and Area**	**Standard:** 3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimete different areas or with the same area and dif perimeters.

Chapter 13	**Classify Two-Dimensional Shapes**	**Standard:** 3.G.A - Reason with shapes and their attribut

Learning Targets

Students will be able to:

- Classify quadrilaterals based on their attributes.
- Compare and order fractions.
- Compare fractions that have the same denominator.
- Compare fractions that have the same numerator
- Compare fractions.
- Draw quadrilaterals
- Find perimeters of figures.
- Find perimeters of polygons.
- Identify and write a fraction.
- Identify and write a unit fraction.
- Identify equal parts of a whole and name them
- Identify parallel sides and right angles of quadrilaterals.
- Identify parallel sides and right angles of quadrilaterals.
- Measure elapsed time, in minutes, from one hour to the next
- Measure elapsed time, in minutes, within the same hour.
- Measure liquid volumes in liters and milliliters.
- Measure masses in grams and kilograms.
- Measure objects to the nearest half inch and make line plots.
- Measure objects to the nearest quarter inch and make line plots.
- Model and write equivalent fractions.
- Plot fractions greater than 1 on a number line.
- Plot fractions less than 1 on a number line

- Relate fractions and whole numbers.
- Tell time to the nearest minute.
- Understand and estimate liquid volumes in metric units.
- Understand and estimate masses of objects.
- Understand the data shown by a bar graph.
- Understand the data shown by a picture graph.
- Use a number line to compare fractions.
- Use a number line to find equivalent fractions.
- Use area to compare rectangles with the same perimeter.
- Use comparison symbols (<, >, and =) to compare fractions and justify the comparison of two fractions with the same numerator or same denominator. (MA.3.3.NF.3)
- Use data to make bar graphs.
- Use data to make line plots.
- Use data to make picture graphs
- Use perimeter to compare rectangles with the same area.
- Use perimeter to find the unknown side lengths of a polygon
- Use the problem-solving plan to solve time interval problems.

Materials and Resources

- Big Ideas Materials
- Frax
- iReady
- Reflex Math

Unit Assessments (Required)

- Big Ideas Chapter 10 Assessment
- Big Ideas Chapter 11 Assessment
- Big Ideas Chapter 12 Assessment
- Big Ideas Chapter 13 Assessment
- Big Ideas Chapter 14 Assessment
- Big Ideas Chapter 15 Assessment

Strategies for Students in Need of Intervention

- Extend pacing of lessons
- Graph paper
- Incorporate centers that focus on skills that students are struggling with

- Modified/ shortened assignments if necessary
- Multiplication chart if applicable
- Place value chart if applicable
- Provide a copy of notes/directions
- Provide list/chart of key words used in word problems to help determine operation
- Small group instruction based on levels/abilities
- Use of calculator
- Use of manipulatives
- Utilize visual aids

Learning Plan and Pacing Guide

Trimester 3 ~ Big Ideas Chapters 10-15

Time Frame	Lesson	Standard(s)	Target
Big Ideas		Standard:	
Chapter 10 (7 days)	Lesson: 10.1: Equal Parts of a Whole	3.G.A - Reason with shapes and their attributes.	Target: I can identify equal parts of a whole and name them.
	Lesson: 10.2: Understand a Unit Fraction	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can identify and write a unit fraction
	Lesson: 10.3: Write Fractions of a Whole	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can identify and write a fraction.
	Lesson: Lesson 10.4: Fractions on a Number Line Less Than 1	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can plot fractions less than 1 on a number line
	Lesson: Lesson 10.5: Fractions on a Number Line	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can plot fractions greater than 1 on a number line.

	Greater Than 1		
	Chapter 10 Review	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can develop understanding of fractions as numbers
	Chapter 10 Test	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can develop understanding of fractions as numbers
Big Ideas		Standard:	
Chapter 11	Lesson 11.1: Equivalent Fractions	3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	Target: I can model and write equivalent fractions.
(10 days)			
	Lesson 11.2: Equivalent Fractions on a Number Line	Standard: 3.NF.A - Develop understanding of fractions as numbers. Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	Target: I can use a number line to find equivalent fractions
	Lesson 11.3: Relate Fractions and Whole Numbers	Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	Target: I can relate fractions and whole numbers.
	Lesson 11.4: Compare Fractions with the Same Denominator	Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	Target: I can compare fractions that have the same denominator.
	Lesson 11.5: Compare Fractions with the Same Numerator	Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	Target: I can compare fractions that have the same numerator.
	Lesson 11.6: Compare Fractions on a Number Line	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can use a number line to compare fractions.

		Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	
	Lesson : 11.7 Compare Fractions	Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	Target: I can compare two fractions.
	Lesson 11.8: Compare and Order Fractions	Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size	Target: I can order three fractions from greatest to least, or least to greatest.
	Chapter 11 Review	Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can develop understanding of fractions as numbers
	Chapter 11 Test	Standard: 3.NF.A.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size Standard: 3.NF.A - Develop understanding of fractions as numbers.	Target: I can develop understanding of fractions as numbers
Big Ideas Chapter 12	Lesson 12.1: Time to the Nearest Minute	Standard: 3.M.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes,	Target: I can write the time to the nearest minute

(10 days)		e.g., by representing the problem on a number line diagram. Standard:	
	Lesson: 12.2: Measure Elapsed Time Within the Hour	3.M.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. Standard:	Target: I can measure elapsed time, in minutes, within the same hour.
	Lesson: 12.3: Measure Elapsed Time Across the Hour	3.M.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. Standard:	Target: I can measure elapsed time, in minutes, from one hour to the next.
	Lesson: 12.4: Problem Solving: Time Interval Problems	3.M.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. Standard:	Target: I can solve time interval word problems.
	Lesson: 12.5: Understand and Estimate Liquid Volume	3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. Standard:	Target: I can understand and estimate liquid volumes in metric units.
	Lesson 12.6: Measure Liquid Volume	3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units,	Target: I can measure liquid volumes in liters and milliliters.

	e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. Standard: 3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	
Lesson: 12.7: Understand and Estimate Mass	Standard: 3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	Target:I can identify which unit to use to measure mass.
Lesson: 12.8: Measure Mass	Standard: 3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. Standard: 3.M.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	Target: I can measure mass in grams and kilograms.
Chapter 12 Review	Standard: 3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	Target: I can understand time, liquid volume, and mass.

		Standard: 3.M.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	
	Chapter 12 Assessment	Standard: 3.M.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	Target: I can understand time, liquid volume, and mass.
Big Ideas Chapter 14 (9 days)	Lesson 14.1: Read and Interpret Picture Graphs	Standard: 3.DL.B.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.	Target: I can understand the data shown by a picture graph.
	Lesson: 14.2: Make Picture Graphs	Standard: 3.DL.B.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.	Target: I can use data to make picture graphs.
	Lesson: 14.3: Read and Interpret Bar Graphs	Standard: 3.DL.B.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.	Target: I can understand the data shown by a bar graph.

	Standard:	
Lesson: 14.4: Make Bar Graphs	3.DL.B.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.	Target: I can use data to make bar graphs
	Standard:	
Lesson: 14.5 Make Line Plots	3.DL.B.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.	Target: I can use data to make line plots.
	Standard:	
Lesson: 14.6 Measure Lengths: ½ Inch	3.DL.B.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.	Target: I can measure objects to the nearest half inch and make line plots.
	Standard:	
Lesson: 14.7 Measure Lengths: ¼ Inch	3.DL.B.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.	Target: I can measure objects to the nearest quarter inch and make line plots.
	Standard:	
Chapter 14 Review	3.DL.B.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.	Target: I can represent and interpret data.
	Standard:	
Chapter 14 Assessment	3.DL.B.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	Target: I can represent and interpret data.

		“how many less” problems using information presented in scaled bar graphs.	
Big Ideas		Standard:	
Chapter 15 (7 days)	Lesson 15.1: : Understand Perimeter	3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Target: I can find the perimeter of figures.
		Standard:	
	Lesson 15. 2: Find Perimeters of Polygons	3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Target: I can find the perimeter of polygons by adding side lengths.
		Standard:	
	Lesson 15.3: Find Unknown Side Lengths	3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Target: I can use perimeter to find the unknown side lengths of a polygon.
		Standard:	
	Lesson 15.4: Same Perimeter, Different Area	3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Target: I can use area to compare rectangles with the same perimeter.
		Standard:	
	Lesson 15.5: Same Area, Different Perimeters	3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same	Target: I can use perimeter to compare rectangles with the same area.

		perimeter and different areas or with the same area and different perimeters.	
	Chapter 15 Review	Standard: 3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Target: I can solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
	Chapter 15 Assessment	Standard: 3.M.C.6 - Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	Target: I can solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
Big Ideas			Target:
Chapter 13 (8 days)	Lesson: POLYGONS	Standard: 3.G.A - Reason with shapes and their attributes.	I can identify sides and angles of quadrilaterals. **I can identify if a shape is a polygon or not**
	Lesson: ANGLES	Standard: 3.G.A - Reason with shapes and their attributes.	Target: I can identify sides and angles of quadrilaterals. **I can identify right, acute, and obtuse angles**
	Lesson 13.1 Identify Sides and Angles of Quadrilaterals	Standard: 3.G.A - Reason with shapes and their attributes.	Target: I can identify sides and angles of quadrilaterals.
	Lesson 13.2 Describe Quadrilaterals	Standard: 3.G.A - Reason with shapes and their attributes.	Target: I can describe quadrilaterals using sides and angles.
	Lesson 13.3 Classify Quadrilaterals	Standard: 3.G.A - Reason with shapes and their attributes.	Target: I can classify quadrilaterals.

Lesson 13.4 Draw Quadrilaterals	Standard: 3.G.A - Reason with shapes and their attributes.	Target: I can draw quadrilaterals.
Chapter 13 REVIEW	Standard: 3.G.A - Reason with shapes and their attributes.	Target: I can understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals).
Chapter 13 Assessment	Standard: 3.G.A - Reason with shapes and their attributes.	Target: I can understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals).

Technology Integration

- Big Ideas Online
- Google Classroom
- Reflex Math: https://www.reflexmath.com/
- www.khanacademy.com

TECH.8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
TECH.8.1.5.A.2	Format a document using a word processing application to enhance text and include graphics, symbols and/or pictures.
TECH.8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
TECH.8.1.5.D.3	Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.
TECH.8.1.5.E.1	Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.

Interdisciplinary Connections

- Math/Science/Reading: My Math Leveled Readers
- Math/Social Studies/Reading: My Math Leveled Readers
- Math/Social Studies: Provide examples on a famous mathematician
- Math/STEAM: Students will integrate science, technology, engineering, and/or art with math to develop a game that involves area/perimeter

21st Century Life & Career Ready Practices

CAEP.9.2.4.A.1	Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
CAEP.9.2.4.A.2	Identify various life roles and civic and work - related activities in the school, home, and community.
CAEP.9.2.4.A.3	Investigate both traditional and nontraditional careers and relate information to personal likes and dislikes.
CAEP.9.2.4.A.4	Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.