Grade: 5 Unit: 4	Measurement and Data	8 Weeks

Progression	
4th Grade	Students learned to convert measurements: time, money, length, liquid volume, and mass
5th Grade	**Students will learn to convert measurement units, solve word problems involving conversions, make line plots and interpret data, understand and find volume using unit cubes and formulas, and find volume of composite figures. Edge-lengths of prisms should be limited to whole numbers.**
6th Grade	Students will extend their work to equivalent ratios, understand statistical questions, and build upon volume by including fractional edge lengths.

STUDENT LEARNING GOALS

Mathematics Standards *(Appendices A & B)*

CCSS.MATH.CONTENT.5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
CCSS.MATH.CONTENT.5.MD.B.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.
CCSS.MATH.CONTENT.5.MD.C.3.A A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
CCSS.MATH.CONTENT.5.MD.C.3.B A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
CCSS.MATH.CONTENT.5.MD.C.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
CCSS.MATH.CONTENT.5.MD.C.5.A Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
CCSS.MATH.CONTENT.5.MD.C.5.B Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.
CCSS.MATH.CONTENT.5.MD.C.5.C Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

(Include MP1 and MP6 for all units for 2014-2015)
MP1: Make sense of problems and persevere in solving them.

MP6: Attend to Precision

Interdisciplinary Standards	
Technology Integration *(Appendix C)*	**21st Century Skills** *(Appendix D)*
IS1. Information Strategies IS2. Information Use	TCS1. Use of Information TCS5. Problem Solving

Key Vocabulary	
Area	Meter
Centimeter	Metric System
Cubic Unit	Millimeter
Customary System	Scale
Distribution	Volume
Line Plot	

Enduring Understandings

- I can convert from one measurement unit to another, for example: 4 ft = 48 in.
- I can make a line plot of data represented as fractions of measurements
- I can find volume by counting unit cubes
- I can find volume by using a formula
- I can find volume of composite figures

Essential Questions

- How do I convert from one measurement unit to another?
- How do I make a line plot? What does the data mean?
- How do I find volume?

Assessment Plan

Summative Assessment(s)/Performance Based Assessments including 21st Century Learning	**Formative and Diagnostic Assessment(s)**
RCC Interim Assessment, Student p. 248-249 RCC Performance Task, Student p. 250	STAR Math Assessment (Fall) RCC Embedded Tasks and Assessments

Learning Plan Components

Text	**Ready Common Core Mathematics Instruction 2**, 2014, Curriculum Associates, ISBN: 978-0-7609-8637-0
Print	**Ready Common Core Mathematics Teacher Resource Book 2**, 2014, Curriculum Associates, ISBN: 978-0-7609-8644-8
Electronic	www.teacher-toolbox.com www.stratfordmath.wikispaces.com www.xtramath.org exchangesmarttech.com - Lessons 21 & 22: Cups, Pints, Quarts and Gallons by Alaina C., Metric Measurement Conversion by Deb Todd - Lessons 24 & 25: Volume of Rectangular Solids by F. Purslow - Lesson 26: Cubic Centimeters and Meters by SMART Technologies, Gardening with Math and Science by David O'Neil

Week 1	Students will: • Convert from a larger unit of measure to a smaller unit of measure within the same measurement system • Convert from a smaller unit of measure to a larger unit of measure within the same measurement system		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
RCC Lesson 21: Convert Measurement Units (TRB p. 208-217)	RCC Converting Units Vocabulary Math Engage NY M2 Topic D Lesson 13 & 14 MD 1 Assessment Tasks 1,2,6,& 7 Activity 1 Fruits and Vegetables	MI p. 188-197 PPS p. 227-236 HW 1-8	RCC Teacher-Toolbox Solve Word Problems Involving Conversions - Level E Converting Customary Units of Length to Compare - Level E Lessons 21 & 22: GT Funny Numbers Dunk Tank Pour to Score
Week 2	Students will: • Convert units of measure within a given measurement system to solve multi-step word problems		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
RCC Lesson 22: Solve Word Problems Involving Conversions (TRB p. 218-227)	RCC Measurement Match Engage NY M2 Topic D Lesson 15 Activity 1 comparing-metric-units Activity 2 Statue of Liberty Activity 3 military march	MI p. 198-207 PPS p. 237 HW 1-6	RCC Teacher-Toolbox Solve Word Problems Involving Conversions - Level E
Week 3	Students will: • Make a line plot display a data set of measurements in fractions of a unit • Add, subtract, multiply, and divide fractions to solve problems that contain fraction data sets presented in line plots		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
RCC Lesson 23: Make Line Plots and Interpret Data (TRB p. 228-237)	RCC line Plot Vocabulary Engage NY G4 Topic A Lesson 1 Activity 1 Pick a Pocket Activity 2 Frog Jump Line Plot Activity 3 fractions-on-a-line-plot 5md2 Assessment Task 1 & 2	MI p. 208-217 PPS p. 247-256 HW 1-3	RCC Teacher-Toolbox Line plots with fractions - Level E Making a Line Plot Video Walkthrough Line Plot Game Create a Line Plot

Week 4	Students will: • Understand the concept of volume as an attribute of solid figures • Find the volume of right rectangular prisms with whole number edge lengths by counting unit cubes • Use addition and multiplication to find volume		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
RCC Lesson 24: Understand and Find Volume (TRB p. 238-245)	RCC Build a Rectangular Prism Engage NY M5 Topic A Lesson 1 Activity 1 How Many Cubes Activity 2 Cubism Activity 3 build-a-cubic-meter Activity 4 Build a Box of Clay Activity 5 Building an Aquarium	MI p. 218-223 PPS p. 257-264 HW multiple sheets HW counting cubes	Finding Volume Lessons 24 - 27: Cubes Volume of a Rectangle Volume Quiz Minecraft Volume IXL Volume Cube Volume Practice Rectangular Prism Practice
Week 5	Students will: • Find the volume of a rectangular prism by filling it with unit cubes and counting them • Understand that a unit cube can be different sizes depending on which unit of measurement the cube represents • Find the volume of a rectangular prism with whole number side lengths using addition and multiplication		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
RCC Lesson 25: Find Volume Using Unit Cubes (TRB p. 246-253)	RCC Same Volume Different Shape Engage NY M5 Topic A Lesson 2 & 3 Activity 1 3d-structures Activity 2 roll-a-rectangular-prism Activity 3 four-open-boxes	MI p. 224-231 PPS p. 265-272 HW Volume multiple sheets	RCC Teacher-Toolbox Understand and Measure Volume - Level E
Week 6	Students will: • Find the volume of right rectangular prisms with whole number edge lengths by multiplying the height by the area of the base. • Find the volume of right rectangular prisms with whole number edge lengths using the formula V = l X w X h • Find the volume of right rectangular prisms with whole number edge lengths using the formula V = b X h • Solve real world problems involving volumes of right rectangular prisms		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
RCC Lesson 26: Find Volume Using Formulas (TRB p. 254-261)	RCC Use Volume Vocabulary Engage NY M5 Topic B Lesson 4, 5, & 7 Activity 1 what's-the-volume Activity 2 ordering-rectangular-prisms Activity 3 designing-a-toy-box Activity 4 comparing-buildings 5md5 assessment task 6 & 7	MI p. 232-239 PPS p. 273-280 HW 1-3	RCC Teacher-Toolbox Find Volume of Rectangular Prisms Using Formulas - Level E Review Volume - Level E

Week 7	Students will: • Recognize volume as additive • Use addition to find volumes of solid figures composed of two non-overlapping right rectangular prisms		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
RCC Lesson 27: Find Volume of Composite Figures (TRB p. 262-269)	RCC Volume of Composite Figures Engage NY M5 Topic B Lesson 6 & 9 Activity 1 create-a-3d-sculpture Activity 2 joes-buildings	MI p. 240-247 PPS p. 280-288 HW Multiple sheets HW Volume and Surface Area	RCC Teacher-Toolbox Find Volume of Rectangular Prisms Using Formulas - Level E
Week 8	Students will: • Demonstrate mastery of unit objectives		

Summative Assessment	**Performance Task**
RCC Unit 4 Interim Assessment - Practice and Problem Solving p. 289-302 -Student p. 248-249 -Scoring Guide (p. 271)	RCC Unit 4 Performance Task -Student p. 250 -Rubric (p. 272-273)