Grade: 3 Unit: 5	**Measurement/Data**	10 Weeks

Progression	
2nd Grade	Students learned to tell time to 5 minutes and measured length.
3rd Grade	**Students will tell time to the minute. Students will solve problems involving measurement and estimation of volume and mass. They will also understand concepts of area and perimeter, relating them to multiplication and addition**.
4th Grade	Students will convert measurements and work with measuring angles.

STUDENT LEARNING GOALS

Mathematics Standards *(Appendices A & B)*

CCSS.Math.Content.3.MD.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.

CCSS.Math.Content.3.MD.A.2

Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[1] 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.[2]

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. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

CCSS.Math.Content.3.MD.B.4

Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

CCSS.Math.Content.3.MD.C.5

Recognize area as an attribute of plane figures and understand concepts of area measurement.

CCSS.Math.Content.3.MD.C.5.a

A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

CCSS.Math.Content.3.MD.C.5.b

A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

CCSS.Math.Content.3.MD.C.6

Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

CCSS.Math.Content.3.MD.C.7

Relate area to the operations of multiplication and addition.

CCSS.Math.Content.3.MD.C.7.a

Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

CCSS.Math.Content.3.MD.C.7.b

Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

CCSS.Math.Content.3.MD.C.7.c

Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

CCSS.Math.Content.3.MD.C.7.d

Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.

CCSS.Math.Content.3.MD.D.8

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.

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	
Minute	**Meter stick**
Hour	**Yard stick**
Mass	**Line plot**
Volume	**Bar graph**
Capacity	**Pictograph**
Perimeter	**Square unit**
Area	
Compare	
Measure	
Weigh	
Survey	

Enduring Understandings

- Elapsed time means the duration of an event
- Mass and volume are important parts of our life and can be determined in many ways
- Perimeter is the distance around a figure
- Area is the number of square units needed to cover a region

Essential Questions

- How do I tell time to the nearest minute?
- How can I use a number line to determine elapsed time?
- Why is it important to know the mass and volume of an object?
- What is the difference between perimeter and area?
- How is perimeter and area determined?

Assessment Plan

Summative Assessment(s)/Performance Based Assessments including 21st Century Learning	**Formative and Diagnostic Assessment(s)**
RCC Interim Assessment, Student p.286-287 RCC Performance Task, Student p. 288	STAR Math Assessment (Fall) STAR Progress monitoring throughout the year 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 https://www.engageny.org/search-site/grade%203?solrsort=score%20desc http://www.corestandards.org/Math/Content/3/introduction/ http://lrt.ednet.ns.ca/PD/BLM/table_of_contents.htm https://jr.brainpop.com/ http://www.commoncoresheets.com/SortedByGrade.php http://www.thecurriculumcorner.com/thecurriculumcorner123/math-block/ http://www.internet4classrooms.com/common_core/index.htm http://mrnussbaum.com/grade_3_standards/ http://www.amphimath.com/Materials/COMCORE%20GRADE%203.V1.pdf http://illuminations.nctm.org/Search.aspx?view=search&cc=1917 http://www.k-5mathteachingresources.com/3rd-grade-number-activities.html http://www.math-drills.com/ http://www.insidemathematics.org/common-core-resources/mathematical-content-standards/standards-by-grade/3rd-grade https://www.pearsonsuccessnet.com/snpapp/login/PsnLandingPage.jsp?showLandingPage=true http://ccss3.watchknowlearn.org/ http://worksheetsplus.com/Third%20Grade%20Math%20Worksheets%20Plus.html http://psdcurriculum.weebly.com/third.html http://3-5cctask.ncdpi.wikispaces.net/Third+Grade+Tasks http://ccssmath.org/?page_id=59 http://collaborate.caedpartners.org/display/SAI/CORE+Math+Performance+Assessment+Modules http://www.debbiewaggoner.com/elementary-grades-k-5.html https://www.engageny.org/resource/grade-3-mathematics http://www.teacher-toolbox.com/lesson/frontmatter/172 http://fractionsccss.wikispaces.com/5.NF.5 http://www.mathematicallyminded.com/#!downloads/ctzx https://grade3commoncoremath.wikispaces.hcpss.org/ http://www.mathworksheetsland.com/3/ http://gregtangmath.com/materials http://www.youcubed.org/tasks/ https://www.teacherspayteachers.com/Browse/PreK-12-Subject-Area/Math/Price-Range/Free/Grade-Level/Third http://www.math-aids.com/ http://ctcorestandards.org/?page_id=1031#kto5 http://ctcorestandards.org/?page_id=3771#kto5 http://mdk12.org/instruction/curriculum/mathematics/index.html http://search.theeducationcenter.com/nav/Curriculum-Math--Grade-3 http://www.mrmaffesoli.com/printables/ www.youtube.com http://www.discoveryeducation.com//?ref=streaming&returnUrl=http%3A%2F%2Fstreaming.discoveryeducation.com%2Findex.cfm
Week 1	Students will: • Use an analog clock to tell and write time to the nearest minute. • Relate time on analog and digital clocks. • Express time as the number of minutes before the hour.

Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
Ready Common core Lesson 20: Title: "Tell and Write Time" Tchr. Pgs. 207-214 Student pgs. 180-187 Differentiation tchr. Pg. 214	*Engage NY Stopwatch lesson Engage NY time unit *Use student hand clocks & Teacher clock to review minute and hour hand, telling time to hour, ½ hour, and 5 minutes *Use hand clocks to complete RCC student pgs. *Hands on Activity with paper plates Tchr. P. 214	Practice & Problem solving worksheet *Worksheets from "Math Worksheet Land" "Time to ½ hr. /hour" (S.F.) "Time to minute" (S.F.) RCC Student pgs. 134-137	common core sheets time "Mailbox" activities www.teacher-toolbox.com (Lesson 20)video

Week 2	Students will: • Measure time intervals in minutes using clock models and number lines • Solve word problems involving addition of time intervals in minutes • Solve word problems involving subtraction of time intervals in minutes		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
***Ready Common core* Lesson 21** **Title: "Solve Problems About Time"** Tchr. Pgs. 215-223 Student pgs. 188-197 Differentiation tchr. Pg. 224	*"Time to Get Clean" (Georgia Task) *"Let's Talk About Time" (Georgia Task) *Teach number line to determine elapsed time in RCC student workbook -See "Concept Extension" tchr. P. 217 Engage NY time unit	Practice and Problems Solving pgs. 233-240 "Elapsed Time" (S.F.) "Field Trip" (S.F.)	Math is Fun Video Lesson 21 Time intervals (Toolkit)

Week 3	Students will: • Identify items that can be measured in liquid volume units. • Understand the relative size of a liter. • Use unit size to estimate liquid volume (capacity). • Solve one-step word problems involving liquid volume (capacity). • Connect to science unit "Changes."		
Lessons	**Tasks / Activities**	**Worksheets**	**Technology**
***Ready Common core* Lesson 22:** **Title: "Liquid Volume"** Tchr. Pgs. 225-233 Students pgs. 198-207 Differentiation: pg. 234	*"Fill it Up" (Georgia Task) *"More Punch Please" (Georgia Task) *Use various type containers/beakers/graduated cylinders to explore liquid measurement Hands-on capacity activities from curr. corner	Practice & Problem solving worksheets pgs. 243-250	Toolkit interactive video Lesson 22

Week 4	Students will: • Understand that one way objects can be measured is by how heavy or light they are. • Identify items that can be measured in mass units. • Understand the difference between liquid volume and mass. • Understand relative masses of grams and kilogram. • Use unit size to estimate mass. • Solve one-step problems involving mass.

Lessons	Tasks / Activities	Worksheets
***Ready Common core* Lesson 23: Title: "Mass"** Tchr. Pgs. 235-244 Student pgs. 208-217 Differentiation: pg.244	*"Setting the Standard" (Georgia Task) *"Worth the Weight" (Georgia Task) *Allow students practice finding mass in classroom objects using balance scales	*Practice & Problem Solving Toolkit pgs. 183-194 "Grams & Kilograms" (S.F.)

Week 5 (2 days)	Students will: • Interpret data displayed in a multi-unit, multi-category bar graph to solve one-step addition and subtraction problems. • Interpret data displayed in a multi-unit, multi-category picture graph to solve two-step addition and subtraction problems.

Lessons	Tasks / Activities	Worksheets	Technology
***Ready Common core* Lesson 24: Title: "Solve Problems Using Scaled Graphs"** Tchr. Pgs. 245-253 Student pgs. 218-227 Differentiation: p. 254	*In addition to student pgs. Allow chd. to construct various types of graphs based on their own ideas.	*Practice & Problem Solving Toolkit pgs. 195-202 "Reading Pictograph & Bar Graph" (S.F.)	Toolkit Interactive video Lesson 24

Week 5 (3 days)	Students will: • Draw a scaled pictograph. Draw a scaled bar graph.

Lessons	Tasks / Activities	Worksheets	Technology
***Ready Common Core* Lesson 25 Title: "Draw Scaled Graphs"** Tchr. Pgs. 255-264 Students pgs. 228-237 Differentiation pg. 264		*Practice & Problem Solving pgs. 203-210 **common core sheets** "Making Bar Graphs" (S.F.) "Making Pictograph" (S.F.)	Toolbox Interactive video Lesson 25

<table>
<tr><td>Week 6</td><td colspan="3">. Students will:
Use a ruler to measure objects to the nearest ½ inch.
Use a ruler to measure objects to the nearest ¼ inch.
Display measurement data in a line plot.
Answer questions about data in a line plot.</td></tr>
<tr><td>Ready Common
Lesson 26
Title: Measure Length and Plot Data on Line Plots

Tchr. Pgs. 265-273

Stud. pgs. 238-247

Differentiation p. 274</td><td>Tasks / Activities
*Hands-on Bracelet activity tchr. P. 267

*Hands-on Students' Step Activity tchr. P. 268

*Gummy Worm measurement (optional project or just use it for measuring worms to ½ and ¼ inch.

*Hands-on Activity –Class Line Plot tchr. P. 271</td><td>Worksheets

*Practice & Problem Solving

common core sheets

*"Length in feet & inches" (S. F)
"Centimeters & Decimeters"

*"Meters & Kilometers" (S. F.)

"Using Line Plots to organize Data School Days" (S.F.)</td><td>Technology

Toolbox Interactive video Lesson 26</td></tr>
<tr><td>Week 7</td><td colspan="3">Students will:
Understand what a square unit is and the fact that it can be different sizes.
Understand that a square unit is used to measure area.
Understand how to measure area by covering a shape with unit squares and counting the squares.
Find the area of shapes using different size square units, including square centimeters and meters, square inches and feet.</td></tr>
<tr><td>Ready Common
Lesson 27
Title: Understand Area

Tchr. Pgs. 275-281

Stud. pgs. 248-253

Differentiation p. 282</td><td>Tasks / Activities

*"A Whole Lot of Garden" (Georgia)</td><td>Worksheets

"Area" (S.F.)</td><td>Technology
Engage NY area module</td></tr>
<tr><td>Week 8</td><td colspan="3">Students will:
Understand that multiplying side lengths of a rectangle provides the same results as tiling it and counting the units.
Use the area formula for rectangles to solve mathematical problems.
Use the area formula for rectangles to solve real-world problems.
Use area models and the distributive property to solve area problems involving combining two rectangles.</td></tr>
</table>

Ready Common **Lesson 28** **Title: Multiply to Find Area** Tchr. Pgs. 283-291 Stud. pgs. 254-263 Differentiation p. 292	**Tasks / Activities** "Decomposing rectangles Hands-on p. 285 "How Long, How Many? Game Revisited (area instead of multiplication equation)	**Worksheets** "It's All the Same" (S.F.)	**Technology** decomposing rectangles to find area Toolbox lesson 28
Week 9	Students will: • Use area models to show how the distributive property can be used to find the area of combined rectangles • Decompose shapes formed by rectilinear rectangles, find the area of each rectangle, and add the areas to find the total area of the shape. • Understand that area is additive.		
Ready Common **Lesson 29** **Title: Add Areas** Tchr. Pgs. 293-301 Stud. pgs. 264-273 Differentiation p. 302	**Tasks/Activities** "Surrounded and Covered"	**Worksheets** *"Area" (S.F.) "Undoing Area" (S.F.)	**Technology** **Toolbox lesson 28**
Week 10	Students will: • Understand the difference between area and perimeter. • Use side lengths to find the perimeter of a shape. • Find an unknown side length given the perimeter of a shape. • Understand that rectangles with the same area can have different perimeters. • Understand that rectangles with the same perimeter can have different areas.		

Ready Common **Lesson 30** Tchr. Pgs. 303-313 Stud. pgs. 274-285 Differentiation p. 314	**Tasks/Activities** *"The Fence or the Yard?"(Georgia) *"How big is a desk?" (Georgia) *"Rectangles Rule" (Georgia) *"Pentomino Perimeters" (Georgia)	**Worksheets** *"Perimeter" (S. F.) "Perimeter Joe" (S.F.)	**Technology** perimeter lesson "Polly Gone" area/perimeter problem
RCC Lesson Review	Unit 4 "Practice" (Toolkit) Performance Task (Toolkit)		
Assessment	Unit 4 "Field Trip to the Zoo" –Performance Task (Georgia)		