

NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics

GRADE: 1

UNIT: # 4

UNIT NAME: Measurement and Shapes

STUDENT LEARNING OBJECTIVES		CORRESPONDING CCSS	
1	Order three objects by lengths and compare the lengths of two objects by using the third object (e.g., if the crayon is shorter than the marker and the marker is shorter than the pencil then the crayon is shorter than pencil).	1.MD.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
2	Use an object to measure another object's length by laying multiple copies end to end with no overlaps giving measurements in whole number units.	1.MD.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. <i>Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</i>
3	Tell and write time to the half-hour using "o'clock" and digital notation.	1.MD.3	Tell and write time in hours and half-hours using analog and digital clocks.
4	Name the attributes of a given two-dimensional shape (square, triangle, rectangle, regular hexagon) distinguishing between defining and non-defining attributes.	1.G.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
5	Draw and build shapes when given defining attributes (e.g., 3 sides, 4 sides, 3 corners, 4 corners).	1.G.1	
6	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions.	1.OA.1	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. ²
7	Add or subtract whole numbers within 20 (various strategies: counting on, composition, etc.).	1.OA.6	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
8	Read and write numerals to 120 starting at any number and represent a number of objects with a written numeral.	1.NBT.1	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

Bold type indicates grade level fluency requirements. (Identified by PARCC Model Content Frameworks)

Selected Opportunities for Connection to Mathematical Practices

1. Make sense of problems and persevere in solving them.

SLO #1 Use concrete objects to help order the lengths of multiple objects.

SLO #7 Analyze the given information and the relationship among numbers in addition and subtraction problems in order to solve.

2. Reason abstractly and quantitatively.

SLO #8 Know how to represent the quantity or set of objects with a written numeral of any number less than 120.

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

SLO #6 Apply previously learned mathematics to solve addition and subtraction word problems (within 20).

5. Use appropriate tools strategically.

SLO #1 and #2 Consider and make use of available tools when comparing objects by length.

6. Attend to precision.

SLO #2 Use precise and accurate measurements when measuring the lengths of objects.

7. Look for and make use of structure.

SLO #7 Look for and discern patterns when solving addition and subtraction problems within 20 (e.g. adding two even numbers yields an even number, subtraction of two odd numbers yields an even number, or $3 + 7$ is equivalent to $7 + 3$).

8. Look for and express regularity in repeated reasoning.

Bold type identifies possible starting points for connections to the SLOs in this unit.

Greater Brunswick Charter School Curriculum

Grade level: 1		Subject: Math			Unit #: 4		
Day	Topic	SLO	Learning Objectives	Essential Questions	Suggested Student Activities		Possible Resources
					Whole Group	Small Group / Stations	
1	Size		To determine readiness for unit of study	<i>Do I know enough to get started?</i>		<ul style="list-style-type: none"> • Lesson & Guided Practice • Independent Practice • Intervention • i-Ready 	MyMath p.553-562
2	Comparing lengths	1	To identify the longer or shorter item	<i>What does it mean to be longer or shorter?</i>		<ul style="list-style-type: none"> • Lesson & Guided Practice • Independent Practice • Intervention • i-Ready 	MyMath 8.1 p. 563-568
3	Ordering lengths	1	To place items in order of length	<i>What can I do with items after I know how long they are?</i>		<ul style="list-style-type: none"> • Lesson & Guided Practice • Independent Practice • Intervention • i-Ready 	MyMath 8.2 p. 579-574
4	Nonstandard units of length	2	To use nonstandard unit to measure lengths	<i>How can I tell someone else how long something is?</i>	<i>After going through a variety of items to use as measures, consider settling on a simple classroom common unit of length for now, like an interlocking block. This will enable students to talk about the length of things in a common language and prepare them for inches.</i>	<ul style="list-style-type: none"> • Lesson & Guided Practice • Independent Practice • Intervention • i-Ready 	MyMath 8.3 p.575-580
5	Estimating using nonstandard units of length	2	To use nonstandard unit to estimate and then measure lengths	<i>How can I tell someone else how long something is?</i>		<ul style="list-style-type: none"> • Lesson & Guided Practice • Independent Practice • Intervention • i-Ready 	MyMath p. 581-586
6	Measuring and estimating lengths	1, 2	To compare and measure items	<i>Am I ready to show what I know?</i>		<ul style="list-style-type: none"> • Independent Practice • Intervention for strugglers • i-Ready 	MyMath p. 587-588
7	Measuring and estimating lengths	1, 2				<ul style="list-style-type: none"> • Review • Assessment 	

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8	Time	3	<ul style="list-style-type: none"> To identify the hour on an analog clock. To count the time forward and backward on a clock. To use "o'clock" notation.. 	<ul style="list-style-type: none"> <i>How can all the adults around me know what hour it is?</i> <i>How do my parents figure out when to pick me up from things I'm doing?</i> 	<i>I would begin with the digital clock, but your text uses analog clocks for their digital clock practice. So starting with the easier clock is not an option.</i>	<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 8.5 p. 589-594
9	Time	3	<ul style="list-style-type: none"> To identify the hour on a digital clock To use digital notation 			<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 8.6 p. 595-600
10	Time	3	<ul style="list-style-type: none"> To identify the half- hour on an analog clock. To use the term "half-past". 	<i>How can I know when my favorite shows start on TV?</i>	<i>These are reversed here as well, but you really can't switch them and still use the text.</i>	<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 8.7 p. 601-606
11	Time	3	To identify the half-hour on a digital clock			<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 8.8 p.607-612
12	Time	3	To identify the time to an hour or a half-hour by looking at only the hour hand.	<i>If I had a cheap watch and the minute hand fell off, how would I know what time it is?</i>		<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 8.9 p. 613-618
13	Measurement and Time	1, 2, 3	To tell time to the half-hour	<i>Am I ready to show what I know?</i>		<ul style="list-style-type: none"> Independent Practice Intervention for strugglers i-Ready 	MyMath p.619-622
14	Measurement and Time	1, 2, 3				<ul style="list-style-type: none"> Review Assessment 	
15	Shapes		To determine readiness for studying shapes	<i>What do I already know about shapes?</i>		<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath p.625-634

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16	Squares and rectangles	4,5	<ul style="list-style-type: none"> To define and identify squares and rectangles. To draw squares and rectangles To differentiate between defining characteristics (sides, vertices) and non-defining characteristics (size, color, orientation) 	<i>What makes a square different from a rectangle?</i>	<i>The text does not ask students to draw the figures. You'll need to have them do that on your own.</i>	<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.1 P.635-640
17	Triangles, trapezoids, and regular hexagons	4, 5	<ul style="list-style-type: none"> To define and identify triangles and regular hexagons. To draw triangles and regular hexagons To differentiate between defining characteristics (sides, vertices) and non-defining characteristics (size, color, orientation) 	<ul style="list-style-type: none"> <i>How is a triangle different?</i> <i>How do I make a regular hexagon?</i> 	<i>The SLO does not include trapezoids, but it includes regular hexagons that are made from two trapezoids. Composite shapes are explored in 9.5</i>	<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.2 P.641-646
18	Circles	NA	<ul style="list-style-type: none"> To define and identify circles. To draw circles. To differentiate between defining characteristics (no vertices) and non-defining characteristics (size, color, orientation) 	<i>What's so special about a circle?</i>	<i>Circles are no included in the SLO, but they are in your text. Include them in the unit if you wish.</i>	<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.3 p. 647-652
19	Comparing shapes	4, 5	To identify the appropriate shape when directed.	<i>Can I pick the right shape out of a line-up?</i>		<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.4 P.653-658

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20	Composite shapes	4, 5	<ul style="list-style-type: none"> To identify the shapes that are used to make a composite shape. To make composite shapes from basic shapes. 	<i>How can I make fancier shapes from the ones I know?</i>		<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.5 P. 661-666
21	Composite shapes	4, 5	<ul style="list-style-type: none"> To identify the shapes that are used to make a composite shape. To make composite shapes from basic shapes. 	<i>How can I make even fancier shapes from the ones I know?</i>		<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.6 667-672
22	Logical reasoning	NA	To identify missing shapes needed to complete a given shape.	<i>How can I figure out what is missing and what my choices are to fill up a space?</i>	<i>This isn't an SLO either. But you're welcomed to tackle it if you want. You have the time.</i>	<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath p.673-678
23	Shapes	4, 5				<ul style="list-style-type: none"> Independent Practice Intervention for strugglers i-Ready 	MyMath p.659-660 p.679-680
24	Shapes	4, 5				<ul style="list-style-type: none"> Review Assessment 	
25	Equal parts	NA	To identify and draw equal parts of a figure.	<i>When do parts of a shape look the same size to me?</i>	<i>This content isn't mentioned in the SLOs. It can help students better understand fractions at a later time. If you want to skip it, no harm.</i>	<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.8 p.681-686
26	Halves	NA	To identify two halves of a figure.	<i>If I make two halves, what does that look like and is it like getting of a bunch of something?</i>		<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	MyMath 9.9 p. 687-692
27	Quarters and Fourths	NA	To identify four equal parts of a figure.	<i>What are the two ways to draw fourths of something?</i>		<ul style="list-style-type: none"> Lesson & Guided Practice Independent Practice Intervention i-Ready 	<ul style="list-style-type: none"> MyMath 9.10 p.693-698

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						•	•
						•	•
<u>Word Wall Candidates</u>							
	Longer	Measure	Minute	Unit	Length		
	Shorter	O'Clock	Hour	Compare			
	Circle	Rectangle Sides	Square Composite	Triangle Vertex	Trapezoid		
<u>Authentic Application</u>							
Your Goal: To identify shapes in the room							
Your Role: Researcher							
Your Audience: Classmates							
The Situation: Pretend you are flying near the ceiling, looking down on the objects in the classroom. List all of the shapes you would see that look like a square, like a rectangle, like a circle. List all the items you could make by putting together more than one shape to make a composite shape.							
Your Product: You make a list so you can show your teacher and classmates all the shapes you found..							
Success Criteria: Students must identify at least 10 basic shapes to be successful. Those who provide more than 10 shapes in the room can be scored on a proportional scale with those who identify the most shapes earning the highest score.							
Students who identify any composite shapes are successful. Those who provide a composite shape with more basic shapes drawn within it can receive higher scores for their work.							