

## GRADE 1 UNIT 4 MEASUREMENT AND SHAPES

<p><b>Established Goals:</b> Standards</p> <p><b><u>Measurement &amp; Data</u></b></p> <p><b>1.MD.1</b> 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).</p> <p><b>1.MD.2</b> 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.</p> <p><b>1.MD.3</b> Tell and write time to the half-hour using "o'clock" and digital notation.</p> <p><b><u>Geometry</u></b></p> <p><b>1.G.1</b> Name the attributes of a given two-dimensional shape (square, triangle, rectangle, regular hexagon) distinguishing between defining and non-defining attributes.</p> <p><b>1.G.1</b> Draw and build shapes when given defining attributes (e.g., 3 sides, 4 sides, 3 corners, 4 corners)</p> <p><b><u>Order &amp; Operations</u></b></p> <p><b>1.OA.1</b> 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.</p> <p><b>1.OA.6</b> Add or subtract whole numbers within 20 (various strategies: counting on, composition, etc.).</p> <p><b><u>Number &amp; Base Ten</u></b></p> <p><b>1.NBT.1</b> Read and write numerals to 120 starting at any number and represent a number of objects with a written numeral.</p>	<b>Transfer</b>	
	<p><i>Students will be able to:</i></p> <p>Measurement tools can be used to solve problems in the real world</p> <p>Apply Geometry concepts to their own environment</p>	
	<b>Meaning</b>	
	<b>ENDURING UNDERSTANDING</b>	<b>ESSENTIAL QUESTIONS</b>
	<ul style="list-style-type: none"> <li>• Time is measured in units</li> <li>• Objects are measured in units</li> <li>• Geometric shapes have names and attributes</li> <li>• Different tools and strategies can be used to solve for addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>• How can objects be measured, compared and ordered by length?</li> <li>• How can shapes and solids be described, compared, and used to make other shapes?</li> </ul>
	<b>Acquisition</b>	
	<b>KNOWLEDGE</b>	<b>SKILLS</b>
	<i>Students will know how to...</i>	<i>Students will be skilled at...</i>
	<ul style="list-style-type: none"> <li>• Describe length compared to the length of the other two items</li> <li>• Compare and order item lengths. e.g. Compare unifix trains, sharpened pencils, chalk pieces.</li> <li>• Record findings of items measured</li> <li>• Predict unit of time (how long things will take)</li> <li>• Analyze a digital and analog clock</li> <li>• Estimate and then measure common classroom items</li> </ul>	<ul style="list-style-type: none"> <li>• Estimating measurement</li> <li>• Use non-standard units of measure</li> <li>• Compare units of measure</li> <li>• Tell time to the hour and half hour</li> <li>• Measure classroom objects</li> <li>• Know the names of plane shapes</li> <li>• Recognize and name 3 Dimensional Shapes</li> <li>• Solve addition and subtraction problems</li> <li>• Know various strategies to solve for addition and subtraction</li> </ul>

	<ul style="list-style-type: none"> <li>• Measure the same item with three nonstandard units of measure, end to end with no overlaps</li>   <li>• Describe and Name Plane Shapes</li>   <li>• Point out 3-dimensional objects and how they are composed of plane shapes.</li>   <li>• Sort shapes according to their attributes</li>   <li>• Draw Plane Geometric Shapes</li>   <li>• Using any tools they choose (number lines, ten-frames, etc.), students will solve word problems involving addition and subtraction</li>   <li>• Using strategies , students will solve addition and subtraction problems with pencil and paper</li> </ul>	
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Vocabulary	Instruction and Pacing (suggested order to teach)	
Compare Order Length Shortest Tallest Estimate Measure Plane shapes Hexagon Trapezoid Sort Side corner Rectangles Hexagons Triangle Add Subtract Unknown Counting on Compose Decompose Counting on Number line	<b>Measurement (Length)</b>	<b>2 Weeks</b>
	<b>Measurement (Time)</b>	<b>2 Weeks</b>
	<b>Geometry</b>	<b>2 Weeks</b>
	<b>Addition &amp; Subtraction Fluency (1 – 10)</b>	<b>Entire Unit</b>
	<b>Benchmark Testing &amp; Reteaching</b>	<b>2 Weeks</b>
Common Misconceptions	Proper Conceptions	
Students have difficulty understanding how long or short an activity may take	Act out activities that take short amounts of time (tying a shoe, writing their name)	
Students have difficulty with intervals (5 min) on a clock and 60 minutes as a total	Time is grouped and measured in a different ways	
Students confuse the hour and minute hand	The hands on a clock move differently and have different functions	
Students have difficulty visualizing all sides of solid figures	Use objects in everyday world to help us find attributes	
If a shape is rotated or a different size, students have trouble recognizing it	Turning shapes can help you see the attributes don't change	
Students make errors in measuring	Line up "end to end" when measuring objects to align	
Students have difficulty estimating measurement	Using an anchor or benchmark can help with estimating for measurement	
Students lose count or cannot track when measuring	Marking and writing down measurements help you keep track	

## Resources

Common Core Standards, New Jersey Model Curriculum

Envisions Math Program Suggested Topics

Topic 12 Length

Topic 13 Time

Topic 15 Geometry

Utilize the links below to continually review Place Value Concepts, and Fluency Requirements

MANIPULATIVES AND GRAPHIC ORGANIZERS – Hand Held Analog Clocks, Non-standard Tools to Measure objects (unifix cubes, plastic chain links) and Graphic Organizers/Templates for Unit 4

<http://illuminations.nctm.org>, <https://www.illustrativemathematics.org>, <https://grade1commoncoremath.wikispaces.hcps.org>

Additional Resources/Links for ELL Learners

<http://www.njctl.org/courses/math/1st-grade/place-value/>

<http://www.njctl.org/courses/math/1st-grade/2-digit-addition/>

<http://www.state.nj.us/education/modelcurriculum/math/ellscaffolding/1u3.pdf>

## Differentiation and Accommodations

Provide graphic organizers

Provide additional examples and opportunities for additional problems for repetition

Provide tutoring opportunities

Provide retesting opportunities after remediation (up to teacher and district discretion)

Teach for mastery not test

Teaching concepts in different modalities

Adjust pace and homework assignments

## ELL Modifications

- Students should gain practice measuring and comparing real objects before completing written exercises.
- Use different colored clock hands to make paper student clocks to assist students in correctly identifying the time.
- Bring in real life examples of two and three dimensional shapes. Allow students to explore shapes and gain experience to match the math vocabulary (vertices, faces, etc.)
- Allow students to act out word problems, moving around room as necessary as well as using manipulatives and drawing.
- Utilize Spanish Version of Envisions Digital Interactive Path and Printable resources

<b>21<sup>st</sup> Century Skills</b>	Critical Thinking, Creative Thinking, Collaborating, Communicating, and Technology Literacy
<b>Instructional Strategies</b>	<p>Fairfield Township School recognizes the importance of the varying methodologies that may be successfully employed by teachers within the classroom and, as a result, identifies a wide variety of possible instructional strategies that may be used effectively to support student achievement. These may include, but not be limited to, strategies that fall into categories identified by the Framework for Teaching by Charlotte Danielson:</p> <ul style="list-style-type: none"> <li>• Communicating with students</li> <li>• Using questioning and discussion techniques</li> <li>• Engaging students in learning</li> <li>• Using assessment in instruction</li> <li>• Demonstrating Flexibility and Responsiveness</li> </ul>
<b>Interdisciplinary Connections</b>	ELA, Science, and Technology

Performance Task		
<p><b>Read Aloud:</b></p> <p><b><u>Super Sandcastle Saturday</u></b></p> <p><b>by Stuart Murphy</b></p> <p><b>Have pairs of students take turns lying on the floor and measuring each other from head to toe using regular drinking straws (or some other form of measuring)</b></p> <p><b>Student will estimate how many straws it will take to measure their partner.</b></p> <p><b>Measure their partner using the drinking straws.</b></p> <p><b>Record their estimates and actual measurement in straws of their partner.</b></p> <p><b>Repeat with other partner.</b></p> <p><b>Make a chart that shows the length of each person in terms of the unit of measurement. Have students compare the difference between their estimates and the actual measurement.</b></p>		
<b>NAME OF STUDENT</b>	<b>ESTIMATED MEASUREMENT IN STRAWS</b>	<b>ACTUAL MEASUREMENT IN STRAWS</b>

**Rubric: 1 point: Being able to estimate a specific number of straws and enter into table**

**2 points: Calculating how many actual straws were needed and entering those numbers into the table**

**3 points; Calculating the difference between the estimated number of straws and the actual number of straws needed**

# ASSESSMENTS

## **Suggested Formative Assessment**

Problem of the Day

Lesson Quizzes

Exit Ticket

Anecdotal Records (Topic Observation Checklist)

**Suggested Summative Assessment** - Grade Level developed Unit/Envisions Topic Tests/ Ed Connect Tests/ State Unit Benchmark/Performance Task