

Seymour Public Schools Math Grade 1 Unit 7

<p>Grade: 1</p> <p>Unit 7- Comparing Objects and Telling Time</p>	<p>Subject: Math</p> <ul style="list-style-type: none"> • Time Frame: 27 days • Domain: Measurements and Data Geometry 	
<p>Standards</p>	<p>Content Standards: 1.MD.1, 1.MD.2, 1.MD.3 1.G.1, 1.G.2, 1.G.3 http://www.corestandards.org/wp-content/uploads/Math_Standards.pdf</p>	<p>Practice Standards: MP 1, 2, 3, 4, 5, 6, 7, 8</p>
<p>Enduring Understandings</p>	<ol style="list-style-type: none"> 1. Understand the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. 2. Use both analog and digital clocks. 3. Understand that decomposing into more equal shares creates smaller shares. 	
<p>Essential Questions</p>	<ol style="list-style-type: none"> 1. How can we show, tell, and write time in hours? 2. How can we show, tell, and write time in half hours? 3. How can we distinguish between defining and non-defining attributes of squares, triangles, circles, and other rectangles? 4. How can we show two or four equal shares in circles and rectangles? 5. How can we compose and identify attributes of 2-dimensional and 3-dimensional shapes? 6. How do we compare and order objects by length? 	
<p>Vocabulary</p>	<p>clock, hour, minute, hour hand, minute hand, half hour, rectangle, square, side, corner, square corner, triangle, circle, halves, fourths, quarters, equal shares, half of, fourth of, quarter of, trapezoid, cube, rectangular prism, cone, cylinder, sphere, face, edge, vertex, compare, order, longer, longest, shorter, shortest</p>	

Priority and Supporting CCSS	Explanations and Examples*
<p>1. MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.</p>	<p>1.MD.1. In order for students to be able to compare objects, students need to understand that length is measured from one end point to another end point. They determine which of two objects is longer, by physically aligning the objects. Typical language of length includes taller, shorter, longer, and higher. When students use bigger or smaller as a comparison, they should explain what they mean by the word. Some objects may have more than one measurement of length, so students identify the length they are measuring. Both the length and the width of an object are measurements of length.</p> <p>Examples for ordering:</p> <ul style="list-style-type: none"> • Order three students by their height • Order pencils, crayons, and/or markers by length • Build three towers (with cubes) and order them from shortest to tallest • Three students each draw one line, then order the lines from longest to shortest <p>Example for comparing indirectly:</p> <ul style="list-style-type: none"> • Two students each make a dough “snake.” Given a tower of cubes, each student compares his/her snake to the tower. Then students make statements such as, “My snake is longer than the cube tower and your snake is shorter than the cube tower. So, my snake is longer than your snake.” <p>Students may use interactive whiteboard or document camera to demonstrate and justify comparisons.</p>

*Source – Connecticut Core Standards for Mathematics as adapted from the Arizona Academic Content Standards

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. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

1.MD.3. Tell and write time in hours and half-hours using analog and digital clocks.

1.MD.2. Students use their counting skills while measuring with non-standard units. While this standard limits measurement to whole numbers of length, in a natural environment, not all objects will measure to an exact whole unit. When students determine that the length of a pencil is six to seven paperclips long, they can state that it is about six paperclips long.

Example:

- Ask students to use multiple units of the same object to measure the length of a pencil.
(How many paper clips will it take to measure how long the pencil is?)



Students may use the document camera or interactive whiteboard to demonstrate their counting and measuring skills.

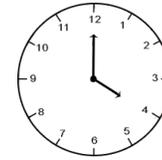
1.MD.3. Ideas to support telling time:

- within a day, the hour hand goes around a clock twice (the hand moves only in one direction)
- when the hour hand points exactly to a number, the time is exactly on the hour
- time on the hour is written in the same manner as it appears on a digital clock
- the hour hand moves as time passes, so when it is half way between two numbers it is at the half hour
- there are 60 minutes in one hour; so halfway between an hour, 30 minutes have passed

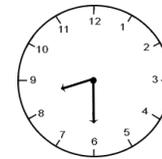
1.G.1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

- half hour is written with “30” after the colon

“It is 4 o’clock”

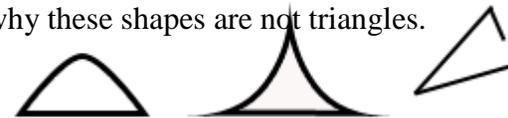


“It is halfway between 8 o’clock and 9 o’clock. It is 8:30.”



The idea of 30 being “halfway” is difficult for students to grasp. Students can write the numbers from 0 - 60 counting by tens on a sentence strip. Fold the paper in half and determine that halfway between 0 and 60 is 30. A number line on an interactive whiteboard may also be used to demonstrate this.

1.G.1. Attributes refer to any characteristic of a shape. Students use attribute language to describe a given two-dimensional shape: number of sides, number of vertices/points, straight sides, closed. A child might describe a triangle as “right side up” or “red.” These attributes are not defining because they are not relevant to whether a shape is a triangle or not. Students should articulate ideas such as, “A triangle is a triangle because it has three straight sides and is closed.” It is important that students are exposed to both regular and irregular shapes so that they can communicate defining attributes. Students should use attribute language to describe why these shapes are not triangles.



Students should also use appropriate language to describe a given three-dimensional shape: number of faces, number of vertices/points, number of edges.

Example: A cylinder would be described as a solid that has two circular faces connected by a curved surface (which is not considered a face). Students may say, "It looks like a can."

Students should compare and contrast two- and three-dimensional figures using defining attributes.

Examples:

- List two things that are the same and two things that are different between a triangle and a cube.
- Given a circle and a sphere, students identify the sphere as being three-dimensional but both are round.
- Given a trapezoid, find another two-dimensional shape that has two things that are the same.

Students may use interactive whiteboards or computer environments to move shapes into different orientations and to enlarge or decrease the size of a shape still keeping the same shape. They can also move a point/vertex of a triangle and identify that the new shape is still a triangle. When they move one point/vertex of a rectangle they should recognize that the resulting shape is no longer a rectangle.

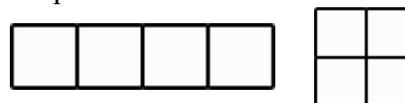
1.G.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

1. G.3. Partition circles and rectangles into two and four equal shares, describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares. (Students do not need to learn formal names such as “right rectangular prism”).

1.G.2. The ability to describe, use and visualize the effect of composing and decomposing shapes is an important mathematical skill. It is not only relevant to geometry, but is related to children’s ability to compose and decompose numbers. Students may use pattern blocks, plastic shapes, tangrams, or computer environments to make new shapes. The teacher can provide students with cutouts of shapes and ask them to combine them to make a particular shape.

Example:

- What shapes can be made from four squares?



Students can make three-dimensional shapes with clay or dough, slice into two pieces (not necessarily congruent) and describe the two resulting shapes. For example, slicing a cylinder will result in two smaller cylinders.

1.G.3. Students need experiences with different sized circles and rectangles to recognize that when they cut something into two equal pieces, each piece will equal one half of its original whole. Children should recognize that halves of two different wholes are not necessarily the same size.

Examples:

- Student partitions a rectangular candy bar to share equally with one friend and thinks “I cut the rectangle into two equal parts. When I put the two parts back together, they equal the whole candy bar. One half of the candy bar is smaller than the whole candy bar.”



- Student partitions an identical rectangular candy bar to share equally

with 3 friends and thinks “I cut the rectangle into four equal parts. Each piece is one fourth of or one quarter of the whole candy bar. When I put the four parts back together, they equal the whole candy bar. I can compare the pieces (one half and one fourth) by placing them side-by-side. One fourth of the candy bar is smaller than one half of the candy bar.



- Students partition a pizza to share equally with three friends. They recognize that they now have four equal pieces and each will receive a fourth or quarter of the whole pizza.



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Resources

Math Expressions - Unit 7, Lessons 1-14
Soar to Success Math Intervention
Mega Math
Destination Math
Common Core Mathematics-Newmark Learning- Units-16, 17, 18, 20, 21, 22

Unit Assessments

Unit Test
Quick Quizzes
Formative Assessments
Performance Assessment

Technology: Videos, Websites, Links

www.learnzillion.com

www.xtramath.org

<https://www.georgiastandards.org/Common-Core/Pages/Math-K-5.aspx>

<http://exchange.smarttech.com/index.html#tab=0>

<http://nlvm.usu.edu/en/nav/vlibrary.html>

<https://grade1commoncoremath.wikispaces.hcpss.org/1.OA.1>

<https://grade1commoncoremath.wikispaces.hcpss.org/1.OA.3>

http://www.internet4classrooms.com/common_core/apply_properties_operations_strategies_add_subtract_operations_algebraic_thinking_first_1st_grade_math_mathematics.htm

http://mrmussbaum.com/grade_1_standards/

<http://www.youtube.com/watch?v=OWpTqaSr7e8>

http://ccssmath.org/?page_id=49

<http://www.ohiorc.org/standards/commoncore/mathematics/grade.aspx?id=5022>

<https://sites.google.com/a/bryantschools.org/math-common-core-resource-site/home-1/1st-grade/1-0a-6>

<http://www.mrmaffesoli.com/1stGrade/1stGradeCCS.html>