

Grade 4 Mathematics – Unit 5: Measurement

Phoenixville Area School District

Stage 1 Desired Results			
	<i>Transfer</i>		
<p>PA Core Standards: <u>CC.2.4.4.A.1</u> Solve problems involving measurement and conversions from a larger unit to a smaller unit</p>	<p>TRANSFER GOALS <i>Students will be able to independently use their learning to...</i></p> <ul style="list-style-type: none"> • Problem-solving: Persistently apply various problem-solving strategies and organized approaches to accurately understand and solve problems • Mathematical Vocabulary: Interpret mathematical vocabulary and apply proper terminology to engage in meaningful oral and written expression that communicates mathematical thinking, problem-solving methods, and rationale 		
	<i>Meaning</i>		
<p>PSSA Assessment Anchors: <u>M04.D-M.1.1</u> Solve problems involving length, weight (mass), liquid volume, time, area, and perimeter</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>UNDERSTANDINGS <i>Students will understand that...</i></p> <ul style="list-style-type: none"> • <i>Numerical quantities, unites, and measurements can be exchanged/converted using appropriate calculations</i> </td> <td style="width: 50%; padding: 5px;"> <p>ESSENTIAL QUESTIONS <i>Students will keep considering...</i></p> <ul style="list-style-type: none"> • What is the correct operation for the task? • How can different units within a given measurement system be used to represent the same quantity? </td> </tr> </table>	<p>UNDERSTANDINGS <i>Students will understand that...</i></p> <ul style="list-style-type: none"> • <i>Numerical quantities, unites, and measurements can be exchanged/converted using appropriate calculations</i> 	<p>ESSENTIAL QUESTIONS <i>Students will keep considering...</i></p> <ul style="list-style-type: none"> • What is the correct operation for the task? • How can different units within a given measurement system be used to represent the same quantity?
<p>UNDERSTANDINGS <i>Students will understand that...</i></p> <ul style="list-style-type: none"> • <i>Numerical quantities, unites, and measurements can be exchanged/converted using appropriate calculations</i> 	<p>ESSENTIAL QUESTIONS <i>Students will keep considering...</i></p> <ul style="list-style-type: none"> • What is the correct operation for the task? • How can different units within a given measurement system be used to represent the same quantity? 		
	<i>Knowledge and Skills Acquisition</i>		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p>KNOWLEDGE <i>Students will know...</i></p> <ul style="list-style-type: none"> • Multiplication is used when converting from a larger unit to a smaller unit • In the US we use the customary measurement system to measure • Other parts of the world use a metric measurement system <p>VOCABULARY</p> <ul style="list-style-type: none"> • Conversion • Convert • Metric </td> <td style="width: 50%; padding: 5px;"> <p>SKILLS <i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> • Expressing measurements in a larger unit in terms of a smaller unit • Use the four operations to solve word problems involving distance, time, volume, mass and money to convert from a large unit to a smaller unit • Use area and perimeter formulas (provided) to solve real world word problems involving rectangles • Find the missing side/length of a rectangle </td> </tr> </table>	<p>KNOWLEDGE <i>Students will know...</i></p> <ul style="list-style-type: none"> • Multiplication is used when converting from a larger unit to a smaller unit • In the US we use the customary measurement system to measure • Other parts of the world use a metric measurement system <p>VOCABULARY</p> <ul style="list-style-type: none"> • Conversion • Convert • Metric 	<p>SKILLS <i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> • Expressing measurements in a larger unit in terms of a smaller unit • Use the four operations to solve word problems involving distance, time, volume, mass and money to convert from a large unit to a smaller unit • Use area and perimeter formulas (provided) to solve real world word problems involving rectangles • Find the missing side/length of a rectangle
<p>KNOWLEDGE <i>Students will know...</i></p> <ul style="list-style-type: none"> • Multiplication is used when converting from a larger unit to a smaller unit • In the US we use the customary measurement system to measure • Other parts of the world use a metric measurement system <p>VOCABULARY</p> <ul style="list-style-type: none"> • Conversion • Convert • Metric 	<p>SKILLS <i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> • Expressing measurements in a larger unit in terms of a smaller unit • Use the four operations to solve word problems involving distance, time, volume, mass and money to convert from a large unit to a smaller unit • Use area and perimeter formulas (provided) to solve real world word problems involving rectangles • Find the missing side/length of a rectangle 		

	<ul style="list-style-type: none"> • Customary • Area • Perimeter 	<ul style="list-style-type: none"> • Identify time as the amount of minutes before or after the hour using analog and digit clocks
--	--	---

Stage 2 – Evidence

Code A/M/T	Evaluative Criteria	Assessment Evidence	
<p style="text-align: center;">A/M/T</p> <p>Acquisition</p> <p>Meaning Making</p> <p>Transfer</p>	<p><i>What criteria will be used in each assessment to evaluate attainment of the desired results?</i></p>	<p>PERFORMANCE TASK(S) <i>Students will demonstrate understanding (meaning-making and transfer) through complex performance by...</i></p> <p>Goal: The goal is to create a detailed floor plan for your dream house.</p> <p>Role: You are looking to be hired as an architect for a new development being built in Phoenixville.</p> <p>Audience: Your target audience is Toll Brothers, a well-known builder.</p> <p>Situation: You are interviewing for a job as an architect for a high – end construction company in the area. You are to create a floor plan, of your dream home, to bring with to your interview.</p> <p>Product/Performance and Purpose: You need to create a labeled floor plan for your dream home.</p> <p>Standards & Criteria for Success: The first phase of your project will be to create a plan drawing of your home. If you choose to have more than one floor, each should be drawn and labeled accordingly. It must include distances and measurements and should only include these types of shapes:</p> <ul style="list-style-type: none"> • Square • Rectangle • Irregular/complex figures (made of squares and rectangles) 	<p>Differentiation Considerations:</p> <p>[Work on this section after completing Stages 1-2 of all units]</p>

Your drawing must have these elements:

1. Each of your rooms must be clearly labeled with the following:
 - What type of room is it?
 - Area of each room
 - Perimeter of each room
 - Calculate the TOTAL area of your dream house
2. Rooms Required (at least):
 - 2 bedrooms
 - 2 bathrooms
 - 1 kitchen
 - 1 garage
 - 1 living room
3. Your drawing must be large and on graph paper. (You may need more than one piece of graph paper)
4. You must use color and make this dream home appealing.
5. You will use a scale for your drawing so that your drawing is realistic and life-like (1 inch= 5 foot).
6. Your home should have realistic measurements, and should be something someone would actually live in. Refer to floor plans on the internet for assistance.
7. Be CREATIVE! Have fun with the design and make it very imaginative.

Opportunities for extension:

- Include flooring – choose 2 of the following floor types and determine the total cost of the flooring for your house:

Carpet	\$2 per square foot
Linoleum	\$1 per square foot
Ceramic Tile	\$3 per square foot

		<p>Hardwood flooring \$5 per square foot</p> <ul style="list-style-type: none"> Furnish your home: You have a \$10,000 budget. What furniture would you choose for your kitchen, living room and bedroom? Don't forget that when homes are built everything needs to be purchased. You will need appliances as well as furniture! 	
<p>A/M/T</p> <p>Acquisition</p> <p>Meaning Making</p> <p>Transfer</p>	<p><i>What criteria will be used in each assessment to evaluate attainment of the desired results?</i></p>	<p>OTHER EVIDENCE</p> <p>Unit 5 Test</p> <p>See Assessment folder for Unit 5 Test</p>	<p>Differentiation Considerations:</p> <p>[Work on this section after completing Stages 1-2 of all units]</p>