Mathematics
Transitional Mathematics
Unit 3: Measurement

Essential Understandings	- What we measure influences how we measure. - Standard units of measure allow us to describe objects, interpret events and make comparisons in a way that can be universally understood. - Mathematicians and scientists often use geometric shapes to solve problems. - Geometry is considered to be an area of math with many real life applications.
Essential Questions	- What are English units? - What are the metric units? - How do you convert English units of measure? - How do you convert metric units of measure? - What is area? - What types of units are used for area? - How do you calculate the area of triangles and rectangles? - What is the perimeter of a figure? - What is the method for finding the perimeter of a given figure? - What is volume? - What types of units are used for volume? - How do you find the volume of a prism? - How do you calculate the volume of a rectangular solid? - What is surface area? - What type of units is used for surface area? - How do you find the surface area of a rectangular solid? - How do you find the surface area of a prism? - What is the circumference of a circle? - How do you find the circumference of a circle?
Essential Knowledge	- English units are the United States system of measure. - The metric units of measure are meter, gram and liter. - Conversions between English units of measurement can be done by using proportions and cross multiplication. - Conversions within the metric system can be completed by moving decimal points. - Area of triangles and rectangles can be calculated. - Perimeter is computed by the determining the sum of the sides of a given figure. - Volume of rectangular solids and prisms is calculated utilizing a formula specific to the given figure. - Surface area of rectangular solids and prisms is calculated utilizing formulas specific to the given figure. - Circumference of a circle can be determined utilizing the formula C = pi x diameter.

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Vocabulary	▪ <u>Terms</u>: o English system, Metric system, centimeter, meter, kilometer, feet, inches, yards, miles, area, perimeter, volume, surface area, circumference, pi, rectangular solid, prism, triangle, circle, rectangle, convert, and unit of measure.
Essential Skills	▪ Indentify English and metric units of measure. ▪ Find area of triangles and rectangles. ▪ Determine perimeter of a given figure. ▪ Calculate volume of rectangular solids and prisms. ▪ Determine surface area of rectangular solids and prisms. ▪ Find the circumference of a circle.

Related Maine Learning Results	<u>Mathematics</u>
	B. Data
	   Measurement and Approximation
	   B1. Students understand the relationship between precision and accuracy.
	      a. Express answers to a reasonable degree of precision in the context of a given problem.
	      b. Represent an approximate measurement using appropriate numbers of significant figures.
	      c. Know that most measurements are approximations and explain why it is useful to take the mean of repeated measurements.
	C. Geometry
	   Geometric Measurement
	   C4. Students find the surface area and volume of three-dimensional objects.
	      a. Find the volume and surface area of three-dimensional figures including cones and spheres.
	      a. Determine the effect of changes in linear dimensions on the volume and surface areas of similar and other three-dimensional figures.

Sample Lessons And Activities	▪ Students will learn how to calculate the area of both standard and combined areas through teacher demonstration and practice. ▪ Students will discuss filed/jobs that utilize the concepts of are.
Sample Classroom Assessment Methods	▪ Students will be given a floor plan diagram in order to determine the cost of carpeting specific rooms within the design plan.
Sample Resources	▪ <u>Publications</u>: o <u>Saxon-Algebra 1/2</u>