Grade 7 - Unit 5 Circles and Area

M02 Students will be expected to develop and apply a formula for determining the area of triangles, parallelograms, and circles.

Performance Indicators

M02.01 Illustrate and explain how the area of a rectangle can be used to determine the area of a triangle.
M02.02 Generalize a rule to create a formula for determining the area of triangles.
M02.03 Illustrate and explain how the area of a rectangle can be used to determine the area of a parallelogram.
M02.04 Generalize a rule to create a formula for determining the area of parallelograms.
M02.05 Illustrate and explain how to estimate the area of a circle without the use of a formula.
M02.06 Generalize a rule to create a formula for determining the area of a given circle.
M02.07 Solve a given problem involving the area of triangles, parallelograms, and/or circles.

Limited	Developing	Competent	In-Depth
Student can determine the area of a rectangle drawn on a square grid or geoboard and draw rectangles with a given area.	Student can transform a parallelogram into a rectangle by cutting a right triangle out of the parallelogram and sliding it to the other side to create a rectangle.	Student can draw a picture or use a model to show how the area of a rectangle can be used to determine the area of a parallelogram and generalize this to create a formula.	
Student can fold and then cut a parallelogram in half along a diagonal to show that the two resulting triangles are congruent.	Student can show that every triangle, no matter what type (e.g. acute, right, obtuse, etc), is half of a parallelogram with the same base and height.	Student can draw a picture or use a model to show how the area of a rectangle can be used to determine the area of a triangle and generalize this to create a formula.	Student can demonstrate that any two triangles with the same base and height must have the same area, even if they look different.
Student can determine the radius and circumference of a given circle and estimate the area of a given circle drawn on a grid of squares.	Student can cut a circle into sectors and rearrange them to create an “almost” parallelogram.	Student can draw a picture or use a model to show how to estimate the area of a circle and generalize this to create a formula.	
	Student can make a reasonable estimate of the solution to a problem involving area.	Student can solve a given problem involving the area of triangles, parallelograms, and/or circles.	Student can justify my problem solving strategy and critique the strategies used by others.