Review the methods used to determine the area of parallelograms. Review the terms radius, diameter and circumference as they apply to circles. Using the following steps, calculate the area of a circle by transforming it into a parallelogram.

Cut a cardboard circle with a diameter of approximately 7 inches, into twenty or more equal pie shaped pieces. Arrange these pieces following the pattern below.

Turn This   Into this

The more cuts you make in the circle, the closer it will resemble a parallelogram. Cut two more circles and vary the number of cuts to demonstrate this.

Analyze the parallelogram. Compare the base and height of the newly created parallelogram to the circumference and radius of when it was a circle. Based on your analysis, write a formula for finding the area of a circle. Design and create a poster showing each step of your research. The poster will include the models, the formula and written paragraphs explaining the purpose of each step. Explain your poster to the class so others can get a better understanding of the area of a circle.