

## Lesson Plan/Microteaching #1

**Instructor:** Morgan Schwarz

**Grade Level of Student:** 3rd Grade

**Learning Goal(s):**

The student will be able to:

- Find the area of a shape
- Find the perimeter of a shape
- Distinguish between area and perimeter to solve problems
- Calculate the perimeter of an object once one measurement is missing

NOTE: The lessons were taken from the Complete Curriculum Math Series.

**Materials:**

1. **Straw Polygons:** Straws, pipe cleaners, rulers, pencil, notebook

2. **Cheez-It Math:** Cheez-Its, corresponding worksheets, pencil

**Important: STUDENT ALLERGIES**

3. **Name Banners:** Square graph paper, pencil, markers/crayons/colored pencils, ruler

4. **Area or Perimeter Cards:** Word problem cards, Post-Its, pencil, notebook

5. **Worksheets:** Appropriate worksheets with word problems, pencil, ruler

**Lesson Steps:**

1. **Straw Polygons:** Using straws cut into lengths of 2, 4, and 6 inches, along with pipe cleaners cut into 2 inch pieces, the students will explore perimeter independently by making polygons with sides of various lengths and to their choosing. They will then measure and record the lengths then draw the shapes in a notebook while making sure they write down the length of each side on the drawing as well as noting the total perimeter. If the student can successfully put together his/her own polygon, measure it accurately, draw an appropriate sketch, and provide the correct perimeter, the student is ready to move on to the next step in the lesson. If the student cannot

successfully add together the sides of the polygon, it is vital that the student gets extra assistance until he/she can demonstrate how to calculate perimeter.

2. **Cheez-It Math:** Edible manipulatives! This can be used to compare and contrast the area and perimeter of different polygons. Students will discover that the exact same 20 crackers can have many different perimeters while the area will always be 20. Using the corresponding worksheets, students are able to work together and independently to collaborate and then proceed to show what they have learned. If the student can successfully identify between perimeter and area and is able to calculate the two correctly, he/she may continue on to solving problems using perimeter and area or begin a new project to work on if time allows (see next item). If the student is not able to independently calculate area and distinguish between area and perimeter, it is important that the student receives additional assistance until he/she can demonstrate how to calculate the area along with understanding the difference between area and perimeter.
3. **Name Banners:** Students will use the square graph paper provided to write out their names ensuring that each square is completely filled in (no half squares for this activity). Next, students will find the area and perimeter of each letter and note it below that corresponding letter. He/she will then add together the perimeter and area separately to find the total of their entire name. Working in groups may be helpful in this activity; not knowing how to make the letter “m” or “s” out of squares may be challenging to some. It is important to ensure that all students who begin this project can calculate and measure area and perimeter independently. This individual project will allow myself, as a teacher, to assist the other students who have not grasped the objectives yet while the others can “show off” what they have learned.
4. **Area or Perimeter Cards:** Students will work in small groups to sort the cards provided into two groups: area or perimeter. At this time, they will not solve the problems. It is important that the students can distinguish between area and perimeter before solving. When working in groups, it is important to emphasize and set roles to ensure that everyone participates. Students will use Post-Its to label the two groups. They will then lay the corresponding cards down below that specific category. When the students have successfully distinguished between area and perimeter, they may begin to solve the problems on the cards in their notebooks while working independently and checking their answers with a friend. If the students are struggling with

distinguishing between the two categories, is it important to point out the “key words” that make the problem area or perimeter.

5. **Worksheets:** These will be used to give me a sense of what needs to be further worked on as an entire class and what needs need to be worked on individually. Being able to apply what was previously learned hands-on to word problems is an important part of math as well as many subjects as the aspect of comprehension is vital. When this is achieved, the student will be able to successfully sketch what the word problem is describing as well as solving what is being asked to do. If the student has not yet reached this level, it is more than likely a lack of comprehension. Modeling how to highlight and point out important figures and keywords is essential.