**MSP Lesson Plan: 3rd Grade Math**

**ESTIMATED LESSON LENGTH: 30 minutes**

**GRADE LEVEL:** **3rd Grade**

**SETTING:** [X] WHOLE CLASS [ ] SMALL GROUP [ ] INDIVIDUAL

**CONTENT AREA:**

Understanding area of plane figures.

**LESSON TOPIC, CONCEPT or SKILL:**

Students will be learning how to find the area of plane figures, incorporating the substitution of the variable n as a unit square and overlapping the units of the plane figure in order to find the area. Students will focus on the “unit square” to start this off.

**LESSON RATIONALE:**

This lesson is important for students to learn because it is the foundation to finding area of complex figures. This lesson will lead into finding volume of three dimensional figures, as well as practical real-life story problems dealing with area. Students will be asked to apply this lesson of finding area to their daily lives, with the example of having enough space on a wall for three pictures to fit.

**CALIFORNIA COMMON CORE STATE STANDARDS:**

•CCSS.Math.Content.3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.
•CCSS.Math.Content.3.MD.C.5a A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.
•CCSS.Math.Content.3.MD.C.5b A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.

**VOCABULARY/ACADEMIC LANGUAGE NEEDED:**

1. area
2. unit square
3. square inch
4. variable
5. multiplication
6. plane figure
7. square
8. centimeters
9. measurement

**OBJECTIVE(S):**

Students will accurately measure areas of different plane figures using centimeters. Students will be able to find the area of a plane figure using the formula provided. Students will recognize a “unit square” and understand that it creates a square with one square unit of area. Students will recognize that n can be substituted for one unit of area, and that a plane figure can be covered by these *n* unit squares without gaps or overlaps, creating the total area.

**ASSESSMENT: (directly aligned to objectives)**

**Formative assessment: adjustments …finding the gap in student understanding**

**Observations**

**Student self-assessment**

**Checks for understanding through the lesson**

**Asking of main-topic questions**

**Summative Assessment: This assessment will be given at the very end of the unit in order to gather the understanding and knowledge received by the students. Students will take a short test that will evaluate the effectiveness of the unit as a whole.**

**INSTRUCTIONAL STRATEGIES:** (e.g., direct instruction, indirect, guided inquiry, cooperative learning, etc.)

Direct Instruction

**REQUIRED TEACHER BACKGROUND INFORMATION:**

Become familiar with the formula for area, and how to teach understanding of finding area using both variables and unit squares. Review content knowledge of these key concepts.

**TASK ANALYSIS:**

Students need to be able to successfully multiply small numbers together. Students need to understand what a variable is, and why variables can be substituted for a value in order to understand a concept more fully

**PROCEDURES: General Outline**

Introduction:

I do: Teacher demonstration and explanation of the overall topics of area and measurement. Discuss how to multiply positive numbers together, and how you get a larger number from that.

Lesson Sequence:

I do: Teach vocabulary (listed in LP).

I do: Give example of how to overlap unit squares over a plane figure.

We do: Guided student practice. Have students measure the sides of plane figures with rulers. Have students multiply the numbers using the area formula. Compare that answer to substituting the small unit squares overlapping the same plane figure. Work with your group and work individually. During this time I as the teacher will be giving feedback to correct errors and continue to guide students along the right path while they practice.

I do: Give the formula for area as a concluding thought. Connect the formula to the in-class practice.

You do: Have students complete independent practice using the area formula to increase accuracy and efficiency.

Closure:

Think/Pair/Share with your group what you learned, what surprised you. Share with your group the step-by-step process for why the area formula works.

**MATERIALS/EQUIPMENT NEEDED:**

1. Sheets of paper cut into unit squares
2. Rulers for measurement
3. Pencils
4. Pre-cut plane figures of different sizes

**RESOURCES/SOURCES:**

1. California Content Standards, Common Core
2. Third grade math textbook