Lesson: Finding the Area of a Triangle          Length: 45 minutes

Age or Grade Intended: 5th

Academic Standards: 5.5.1 Understand and apply the formulas for the area of a triangle, parallelogram, and trapezoid.

Performance Objective(s): After going over several examples on the overhead (Condition), the students (audience) will learn how to find the area of a triangle using the formula: \( \frac{1}{2} \times \text{base} \times \text{height} \) (behavior) with 90% accuracy (degree).

Assessment: The teacher will monitor the students’ ability to find the area of a triangle through the practice problems in the textbook. These problems will be worked out on the overhead in step-by-step fashion. At the end of the lesson the students will then be given a worksheet where they will have to answer a variety of “area of a triangle” problems. These problems will work on many different skills such as multiplying by fractions, decimals, and being able to find both the height and base (lengths) of a given triangle.

Advanced Preparation by the Teacher: I will need to make sure that I have the overhead prepared with review problems for finding the area of a parallelogram. I will also need to have review problems set up on how to multiply fractions. Other than that, the students will need only their textbooks, a piece of scrap paper, and a pencil.

Procedure:

Daily Routine:

1) After our writing activity, the students will return to their seats and clear their desks off of everything except for their gray math folder and a pencil to write with.
2) I will have the students raise their hand once they have their materials out on their desk. This behavior technique will quiet the students down and show me that they are ready to begin the lesson.

Introduction / Motivation: All of last week we had been working on finding the area of a parallelogram using the formula: \( \text{base} \times \text{height} \). Today’s lesson focuses on the same idea with one exception, so to introduce the concept of “finding the area of a triangle” we will work on some more parallelogram problems on the overhead. The area of a triangle uses the formula: \( \frac{1}{2} \times \text{base} \times \text{height} \) so they have many similarities that the students will be able to apply.

Step-by-Step Plan:
1) We will start the lesson with a Problem of the Day which will be as follows:
   - The height of a parallelogram is 6cm less than the length. The length of this same
     parallelogram is 19cm. What is the area of the parallelogram?
     (This problem will get the students critically thinking about how to find the base and
     height, something they will need to be able to do when finding the area of a triangle.)
2) Next I will have the students turn to pg. 432 in their math textbook. We will read the
   “Learn About It” section to show the connection between parallelograms and triangles.
3) We will go over review problems on the overhead of how to multiply fractions. The
   students will need to know this concept when they work on the “area of a triangle”
   problems in the textbook and on the overhead.
   - 2 ½ x 6 ¼
   - 4 ¾ x 5 ½
4) We will go through the step-by-step procedure of how to find the area of a triangle as it is
   outlined in the textbook.
   - Practice Problem (Base = 20 yd. Height = 15 yd)
5) I will then model #1 from the textbook on the board (Base = 5 in. Height = 4 in.)
   - The students will do #2 on their own which we will then go over.
   - We will then do #3 & #4 together, the students will do #5 & #6 on their own.
6) We will go over these problems on the overhead step-by-step so that the students are
   understanding the formula and concept of “area of a triangle”.

Closure: I will briefly discuss the kinds of problems the students will see on the assignment
for the day and then guide them through the activity by writing the formula of “area of a
triangle” on the board. The students will use this formula to complete the worksheet. I will
monitor and answer questions during the assignment.

Bloom’s Questions:
Knowledge: The students will learn the formula for finding the area of a triangle.
Analysis: The students will use the formula of finding the area of a parallelogram to
work on problems for finding the area of a triangle.
Application The students will apply the problems they solved on a separate sheet of
paper to complete the worksheet.

Gardner’s Multiple intelligences:
Linguistic The students will follow step-by-step procedures in the textbook and on
the overhead in answering the problems.
Mathematical The students will work on finding the area of a triangle.
Intrapersonal The students will complete the worksheet over “area of a triangle”
independently at their seats.
**Adaptations:** During the lesson I will monitor the understanding of the special needs students by continually asking them questions to check progress. If Mrs. Cozad is in the classroom she can work with these students during the lesson. I will also need to make sure to attend to these students during the assignment.

-