Manchester College
Education Department

Lesson: Saxon Math 110: <u>Multiplying</u>   **Length:** 30-45 minutes
<u>decimal numbers: using zeros</u>
<u>as placeholders</u>

Lesson Plan By: Kristi Brown   **Age or Grade Intended:** 5th grade

Academic Standards:
Mathematics/Problem Solving:
- <u>5.7.3.</u> Apply strategies and results from simpler problems to solve more complex problems.

Performance Objective(s):
- The students (audience) will solve complex multiplication problems (behavior) when applying previous learned strategies (condition) at least three out of five times prompted (criterion of acceptable performance).

Assessment:
- The teacher will observe, checking students answers as a whole classroom. The observation will be done during the lesson by giving time to the students to work on the problem set examples (at least five examples will be chosen from the practice set). The teacher will observe a number of things, such as, students checking answers with their math partner when they finish a problem and whether or not students acquire the right solution to the problem (this will be done by a raise of hands).

Advanced Preparation by Teacher:
- Airliner/ Overhead projector & screen
- Saxon Math Book (Teacher Edition)
  - Saxon Math Lesson 110 (attached)
    - Includes: warm-up, new concept, & lesson practice set problems
- Transparency- Lesson 109 answer key for students to check homework

Procedure:
Daily Routine:
1. After the students come back from computer lab, they sit down quietly and get out their math books, paper, and a pencil.
    - Please note: Due to NWEA testing in the computer lab, students will be working on various things in the classroom as well as the laptops from the mobile lab.

Introduction/Motivation:
-The teacher will begin the lesson by asking the students various mental math questions. (These are considered a warm-up to get the students

thinking as well as giving the teacher the time to observe the students accessing the knowledge from previous learned material). The teacher will either call on students to answer these mental math questions or have students say the answer aloud.

-The teacher will then have the students turn to page 569 in their math books and call on a student to read the problem solving. The students will then have a few minutes to work on the problem solving and check their answer with their math partner. Once most students are done, the teacher will ask students what answer they obtained for the problem solving problem. The teacher will listen to the student and write their answer on the airliner. (The teacher may ask if other students might have a different answer and will then challenge the students by asking them to justify their answer).

Step-by-Step Plan:
** See attached Saxon Math Lesson 110**

-Since this is a continuation lesson, the teacher may ask the students what the class worked on the day before as to connect to the previous lesson.

-The lesson will continue with the teacher having a student read the new concept part. In this lesson, the teacher will use the airliner to write down the sample problem given in the book while the student is reading the explanation. The teacher will then have another student continue to read the information in the new concept part while demonstrating on the airliner.

- The teacher will then have students look at example one in the new concept section and will let the students know that the example will be done together by using the airliner for all students to see.

Closure:
Once students have worked on the various math practice set problems (given in a whole class setting by the teacher), the teacher will have students grade their math homework from the previous night (Math lesson 109). The teacher will then give the students the option of working quietly on their math homework or on other work/activities from other subject areas for the remaining time.

Bloom's Taxonomy:

Knowledge: By asking the initial introduction question (see introduction/motivation section), the students will recall basic concepts and previous learned material.

Comprehension: Students will demonstrate understanding of facts by giving answers and describing how they reached that specific answer.

Application: Students will solve different examples of multiplication decimal problems and be able to verbally explain their understanding.

Analysis: Students are able to break down information by identifying the answer to the given problem. When asked, "Why do you think" the students are able to explain and justify their inference.

Evaluation: The teacher is able to observe the students make judgments about the correct math answers. The teacher will ask if they agree with the answer displayed on the airliner.

Gardner's Multiple Intelligences:

Interpersonal: Students are able to communicate effectively math when the teacher asks them to check their answers with their math partners.

Linguistic: Students listen to the teacher's oral directions.

Spatial-Visual: By using the airliner, students will be able to see the correct math answers to the practice problem set examples. Also, by using a scrap sheet of paper, students are capable to see the problems in front of them.

Logical-Mathematical: Students will multiply numbers with decimals as well as mentally compute answers when asked mental math questions at the beginning of the lesson.

Verbal-Linguistic: Students will be asked to give an answer to the problem examples and explain how to reach that specific answer.

Adaptations:
*Students who have attention problems may need redirection after the student has completed the guided practice. The teacher will observe and remind the student to stay on task or keep the lesson moving along so the student will not lose focus quickly. (However, this will be done in a manner where all students will be able to follow along and not be hurried through problems).
 * Students who have trouble understanding the concept will be paired with another student to assist in any difficulty. The students will help each other by checking their answers to the practice set problems. Also, the teacher may work individually with those who are having trouble after the math lesson is complete.