

Lesson Plan

Regrouping in Addition and Subtraction

Cheryl Coffman

5/6 ELL

Regrouping in addition and subtraction

A. State Competency: **THIRD GRADE MATHEMATICS**

Reasoning – The student will use a variety of mathematical reasoning skills to solve problems.

As the year progresses, the student will:

- ◆ Identify and create patterns using physical objects, pictures, and numbers.
- ◆ Demonstrate thinking processes using physical objects, pictures, and explanations.

Number Operations – The student will find the sum or difference (with or without regrouping) of 2-and 4-digit numbers using a variety of strategies to solve application problems.

- ◆ Model the concept of place value through 4 digits using resources such as physical
- ◆ Describe the relationship between addition and subtraction (e. g. addition and subtraction are inverse operations).

B. Objectives for this lesson: The student will be able to use the processed of carrying and borrowing when performing addition and subtraction problems. The student will also understand that addition and subtraction are related processes that can be used to check the accuracy of their problems.

C. Materials and Resources: I used Subtraction and Addition worksheets from HomeschoolMath.net; www.homeschoolmath.net/worksheets for pre and post tests.

I used The Math Subtraction Train from Dositey Corp.; www.Dositey.com; 1998-2005. IT was practice in borrowing presented in a fun form on a train.

The math pages are taken from Skill Builders Series; Math Great Practice for School Tests; Learning Horizons Inc.; Cleveland, Ohio; 2003.

I used red and white glass stones to represent tens and ones places in math problems. The students made the problems using the stones, and then traded the red ten for ten white stones to carry to the smaller number to make working the problem possible.

In a similar center, I used dimes and pennies to represent the tens and ones places in problems.

D. Instructions:

a. **Introduction-** I administered a pre-test to the students to see their level of knowledge prior to beginning the section on borrowing. Prior to beginning the subtraction lesson, we had discussed using carrying in addition problems. We worked on figuring out how to change the values of the numbers when we had to carry from one place to another. We did hands on work demonstrating the carrying procedure for two days.

b. **Instructional process-** Then we began the lessons on subtraction. After doing simple subtraction problems, we discussed the problems faced when we tried to take a larger amount from a smaller one and what processes we might have to use to make this possible. We began the lesson by placing some problems on the smart board and having students try working the problems. When they ran into problems subtracting a larger number from a smaller one, we discussed ways we might get around this problem. Then I drew tally marks on the smart board to represent our problem, and I introduced the concept of borrowing.

Next, I handed out dimes and pennies to the students, and we used them to make the problems. We took one of the dimes from the tens place and traded it for pennies which we then added to our smaller number in the subtrahend. We then worked the problem using the coins.

Next we worked on the computers in groups of twos on the computer program Subtraction Train. While some students were on the computers, the other students were working with colored stones doing the same kind of borrowing process where the tens were represented by the red stones, and the white stones were the ones place holders. We followed the process of trading the red stones for white stones and then subtracting.

c. **Closure-** After doing a worksheet on borrowing, we discussed it as a class. We worked on individual problems that the students had with understanding the problems. Then after we did the discussion, we took the post-test that was the same as the pre-test.

d. **Assessment-** The post test showed that most of the students had improved on their tests and thus of their understanding of the problems we were studying. We discussed the gains they had made on the test, and we discussed how much they felt the hands-on exercises had helped them. Most felt that their understanding had improved after doing the hands- on word.

e. **Accommodations-** The students in the ELL class have a problem with vocabulary more than the math processing, so we work strongly with vocabulary. Many of our students are second year in this country and are more advanced than others, so we try to present the concepts and words as a whole process. We team the more advanced students with the newer ones to help them both gain more understanding. The use of this process helps both students gain the knowledge they might have missed by only listening to lecture from the teacher. The visual and tactile activities also helps the students understand the process better, and all students like to work on the computer or smart board.

E. **Reflection-** I believe that the lesson worked well, but when I do it again, I will try to find more computer programs to use because the students respond better to them than hands on activities like I used this time. Even the newer students like to use the computers. Technology is the best way to reach students in this day, and even disinterested students respond to the computer programs. Also one suggestion for your sanity, if you use the colored stones, have the students do the exercise on a carpeted surface as twenty sets of stones moving on a hard surfaced table is very noisy.