LESSON PLAN

Your Name: Sarah Lidgard
Lesson: Least Common Multiple
Cooperating Teacher: Kate DeWys
Date: 3/13/12

School: Bentheim Elementary School
Length: approx. 45 minutes
College Supervisor: Kim Arsenault

GLCE:
5th Grade Math
N.FL.05.14 Add and subtract fractions with unlike denominators through 12 and/or 100, using the common denominator that is the product of the denominators of the 2 fractions.

COMMON CORE STANDARDS:
5th Grade Math
Use equivalent fractions as a strategy to add and subtract fractions. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

OBJECTIVE:
TLW find the least common multiple of two numbers to 80% accuracy on a given worksheet.

BEHAVIORAL EXPECTATIONS:
“Alright, so before we get started I want to make sure you know my expectations of you so that we are all on the same page. I know you are both already familiar with what is expected of you when you’re in school, but I want to go over them one more time. Please keep your eyes on me or whoever is talking and do not talk unless you’ve been called on. This is just so we can keep the noise volume down in the room and show respect for one another! I also expect you to participate when asked to do so and do the tasks I give to you. Also, please do not touch any of the materials until I tell you it is okay to do so. I hold these expectations because I know you are all capable of them and it will make the day go by much more smoothly. Thank you!”

MATERIALS NEEDED
- Counting blocks
- Note handout
- Laptops
- Individual white boards
- Independent practice worksheet
OUTLINE OF LESSON:

Anticipatory Set (3 minutes)
Start by playing hangman with the students. Draw the blanks for LEAST COMMON MULTIPLE on the board. Have the students guess letters back and forth until the word has been guessed. After the game, hold a quick discussion about what they think this math term means.

Objective (1 minute)
“Today you ladies will be learning how to find the least common multiple!”

Rationale (1 minute)
“This is going to be very helpful for when we begin to add and subtract fractions with unlike denominators. Fractions are rarely going to have the same denominator, so knowing how to find the least common multiple will be a great shortcut in adding and subtracting these fractions.”

Input - Multiples (5 minutes)
Begin lesson by defining what a multiple is. Explain that it is very important that we understand the concept of a multiple before we can continue on with this lesson. Write the multiples of 3 on the board. Explain that the multiples of 3 simply go up by 3 each time. Also explain that the multiples of 3 are 3x1, 3x2, 3x3, etc. In addition, talk about the fact that a multiple is a number that another number can go into with having a remainder! A multiple is any number that can be divided by another perfectly!

Model - Multiples (5 minutes)
First take out counting blocks (or any manipulative you can count with.) Demonstrate how to find the multiples of 3 by adding 3 more counting blocks each time. Explain that a multiple is simply any number that the other number can go into without a remainder. Show how to find the multiple of 2 and 5 as well with the counting blocks. Talk through counting by 2’s or 5’s as I am writing down the multiples on the white board. Make it obvious that when you are finding the multiple of 2, you are going up by 2. When you are finding the multiples of 5, you are going up by 5, etc. Another way to do this is go 2x1, 2x2, 2x3... or 5x1, 5x2, 5x3...

Then have students take out white boards. Have students write the multiples of 6 as I do on the board. Explain that the multiples are simply the numbers that a given number can go into without having a remainder.

Checking for Understanding - Multiples (5 minutes)
Have students write the multiples for 3 on their white boards. (Allow then to use manipulative if needed.) Have them show me when they’re done. Then have students write the multiples of 8 on their white boards. Have them show me when they’re done. Finally, have write the multiples of 9 on their white boards. Have them show me when they are done. If students are getting the multiples correct, I will know that we are ready to move on to finding the LCM. If students are not getting them correct, I will re-teach concepts as necessary.
Input - LCM (5 minutes)
I will then bring up least common multiple. Explain that this is the smallest number that 2 numbers can go into. Say that when you are finding the LCM of 2 numbers, you are simply finding the multiples of each number and then identifying the smallest multiple that is from both numbers! The least common multiple will always have to be the same as or bigger than both of the numbers! Also explain that the least common multiple is often just called the LCM for short. After explaining the basic definition of LCM, hand out a note sheet. As a group, fill out this note sheet together. First go over the definition of multiple, then have the students write down the definition of LCM. Then explain the steps of finding the LCM. Have the students fill in the blanks as I go through each step. After students have filled out front side of handout, walk through each step one more time, ensuring that the students are becoming familiar with the steps.

Model -LCM (5 minutes)
First, go through one example with the students simply watching. Go through each step in the process of finding the LCM with the numbers 8 and 12. First find the multiples of each number. Then circle the common multiples. Then identify the smallest common multiple. Then have students flip their handout over. Go through the three examples on the back of the handout together. Go step-by-step to find the LCM of each pair of numbers. I will make sure to walk through each step and be very clear in my explanation.

Checking for Understanding (5 minutes)
Before letting them practice, ask the students to first define LCM and then talk me through the steps of finding it. Have students tell me their solutions. If correct, continue with checking for understanding. If incorrect, discuss and review the steps of finding LCM. Then, give each student one number (different number for each student.) Have them write the first 6 multiples of their number on the white board. After finding the multiples, have the students compare their lists to find the LCM. Do this same process two more times.

Watch as the students work together. Ensure that they are both getting the correct multiples and then working together to find the LCM. If they are getting the multiples correct, I will continue on to guided practice. Otherwise, I will re-teach as needed.

Guided Practice (10 minutes)
Have students get a laptop. Guide students to this website game: http://www.fun4thebrain.com/beyondfacts/lcmsnowball.html. It is a fun, interactive game that the students have to find the LCM in the middle of a snowball fight. The students are given two numbers that they need to find the LCM for. They are also give 4 different options. They have a certain amount of “snowballs” to throw before they get out. They keep going until they get a certain amount wrong. I will observe the students as they are playing this game. If they are getting the majority of the problems correct, I will continue on with independent practice.
**Independent Practice (5 minutes)**

I will hand out a worksheet. Students will have to find the LCM for 5 different pairs of numbers. The goal is for them to each get at least 4 or 80% of the problems correct. This worksheet will also be used for the evaluation.

**Evaluation**

The worksheet used for independent practice and observations will ensure that my students got at least 80% of the LCM correct.

**Closure**

“Thank you girls for working so hard today! I hope you both learned a thing or two about least common multiples. Can one of you please tell me what the LCM is one more time? Who can tell me what that means? Great! The least common multiple is the number that two other numbers can go into! You may both play with the laptops or I-Pad until recess!”