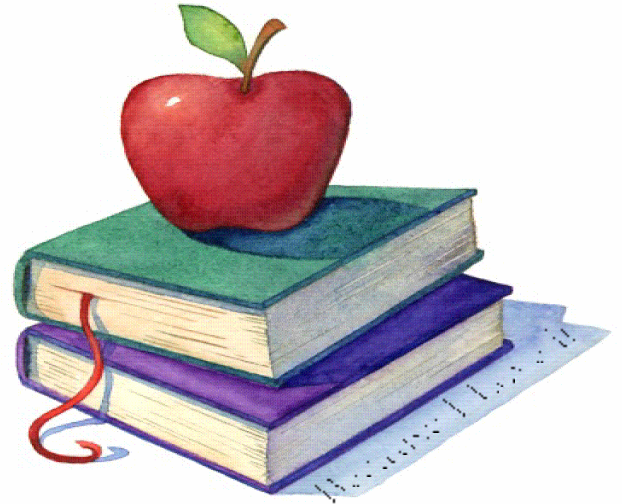# Algebra/Geometry Institute Summer 2003

Lesson Plan # 3

Faculty Name: Algernon D. Cooper
School: W. A. Higgins Jr. High
City: Clarksdale, MS
Grade Level: 7th Compensatory Math

1   Teaching objective(s)

➢ *The student will convert decimals to fractions and fractions to decimals.*

➢ *At completion of this lesson, student will be able to convert decimals to fractions and fractions to decimals with at least 70% accuracy.*

2   Instructional Activities

1. *The teacher will start the lesson by instructing each student to suggest situations for which they would want to express a fraction as a decimal, or to express a decimal as a fraction. Have students discuss the responses. Examples may include: as a decimal—for impact, as in advertising.*

2. *The teacher will open the lecture by explaining to the students that 3 out of every 25 people are left-handed. The teacher will write the following fraction on the overhead $\frac{3}{25}$.*

3. *The teacher will ask each student if they are right-handed or left-handed. After doing so, the teacher will write the fraction on the overhead. The teacher will explain the method for expressing a fraction as a decimal.*

4. *The teacher will explain that a fraction indicates division, and instruct the student to divide the numerator of the fraction by the denominator. The teacher will model the method of using long division (pencil and paper) of $\frac{3}{25}$ on the overhead, and the method of using the calculator, which is $\frac{3}{25}$ = 0.12. (Once the teacher is convinced students understand how to express a fraction as a decimal, encourage them to work more efficiently by using calculators to find answers.)*

5. *The teacher will explain that in using both methods, they were changing a fraction into a decimal. The teacher will have students work with a partner and change the following fractions into decimals using long division and the calculator: a) $\frac{19}{25}$, b) $\frac{24}{40}$ c) $\frac{7}{8}$ d) $\frac{24}{40}$ e) $\frac{6}{50}$. The teacher will explain that* decimals to fractions and fractions to decimals *methods have to be illustrated on paper.*

Students will discuss the answers among themselves. One student can take the role of recorder and write the answers on paper, and the other student can take the role of reporter and report to the class.

6. *The teacher will then explain to students that decimals, in turn, can be expressed as a fraction. The teacher will explain that a decimal can be expressed as a fraction with a denominator of the power of ten indicated by the place value of the final digit of the decimal, and then simplify the fraction. The teacher will write the following on the overhead—0.12=$\frac{12}{100}=\frac{3}{25}$. The teacher will watch for students who choose the incorrect power of 10 when writing a decimal as a fraction.*

7. *The teacher will write the following examples on the overhead and discuss the answers: a)0.45 and b) 0.8.*

8. *The teacher will have students work with a partner and change the following decimals into fractions: a)0.08, b) 0.78, c) 0.29, d) 0.225, e) 0.10. The teacher will explain that all work must be shone. The students will discuss the answers among themselves. One student can take the role of recorder and write the answers on paper, and the other student can take the role of reporter and report to the class.*

9. *The teacher will explain to each student that they will complete an activity entitled-Skittles® Fun. The teacher will pass each student a package of Skittles® . The teacher will instruct each student to open the package of Skittles® and pour them on a sheet of paper. The teacher will tell students not to eat the Skittles® . The teacher will first instruct each student to count the total number of Skittles® that were in the package. The student will write this number in their journal. The teacher will instruct each student to make groups of the different colors of Skittles®. The student will count the number of each color and express this number as a fraction of the bag. After expressing each group as a fraction, the student will change the fraction into a decimal. The student will report their findings in their journal. The questions for the journal writing will be: 1. How many different colors are in a bag? 2. What is the ratio of colors, red to blue, blue to green, green to yellow, and yellow to red?*

3   Materials and Resources

Overhead projector
Pencil
Notebook
Textbook -Mathematics-Applications and Connections, Course (Glencoe, 1995)
Calculators –TI 73
Skittles® for each student

4   Assessment

Teacher observation of student participation
Peer evaluation
Student product-Skittles® Fun
Journal writing-recorded answers