Using Fractions to Make Trail Mix

1. **Purpose of Instruction: What key concepts or procedures will be taught? What content standards are addressed?**

   To help students strengthen skills in adding, multiplying and dividing fractions.

2. **Materials to be used:** pretzels, peanuts, raisins, m &m candies, variety of cereals (whatever you like such as Wheat Chex, Cheerios, Fruit Loops), measuring cups (¼, 1/3, ½), plastic bags. Additional recipes.

3. **Estimated time required:** 45 minutes**.**

4. **Explanation: How will concepts or procedures be described?**

Today we're going to continue to work with fractions. We're going to practice adding fractions with like and unlike denominators. We're also going to be multiplying and dividing fractions. We're going to learn this by making our own trail mix. I've brought in snack foods that you can choose from. What you put in your bag is up to you. This will be your own recipe. Measure what you like using the measuring cups (fractions) and then put this in your bag, seal the bag and shake it up. Write down your measurements on your note cards as you add your choices to the bag. When you have written everything down, add your fractions together, showing your work, to find out the total amount of trail mix.

Points to remember when adding fractions: Make sure the bottom numbers (denominator) are the same. If not, find a common denominator and multiply the top number (numerator) by the same number you multiplied the denominator by to get your common denominator. Then add the top numbers and keep the denominators the same. Reduce your final answer if needed.

5. **Modeling: If teaching concepts, what examples will be used? If teaching procedures, how will they be demonstrated?**

I will demonstrate by making my own trail mix. I'm going to use peanuts, m&m's and raisins. I prefer m&m's, so I'm going to use ½ cup m&m's, 1/3 cup peanuts and ¼ cup raisins. (I will measure each out and write down on the note card ½ cup m&m's, 1/3 cup peanuts, ¼ cup raisins.

$$½ \times (6/6) = 6/12$$

$$¼ \times (3/3) = 3/12$$

$$+ \quad 1/3 \times (4/4) = 4/12$$

$$13/12 \ = 1\ 1/12$$

6. **Guided Practice: How will students practice using the new concepts or procedures? What will the teacher do?**

 As students complete the project, I will ask them to write down their recipe again only this time double it, triple it and then divide it in half.

As students finish, I will hand out copies of real recipes found in magazines. Each student will receive a copy of each recipe. I will ask students to double each recipe and divide each recipe in half.

The teacher will help students as needed and check answers.

7. **Application: What will students do? How will success be monitored?**

Students will measure out what is needed, write fractions down on cards and do math problems (find common denominators, add fractions, multiply fractions, divide fractions, and reduce). Success will be monitored on knowing and mastering each step involved and on obtaining the correct answer.

The hope is that students will see how fractions are used in real life and get a better understanding of fractions. In making the lesson, I learned how difficult it is to come up with group lessons that interest all students. Hopefully the students will have fun with this.

Note: A much less costly version of this would be for each student to bring in a recipe or two from home. The teacher copies each recipe making enough copies for all the students. After each student has received a copy of each recipe, the teacher then asks that the students rewrite each recipe doubling, tripling and dividing it in half.