

**Summary/Analysis of the Results:**

The class average for my assessment was a 51.4%. There were five students that made an A, four students that made a C, seven students that made a F. I gave my students two problems for the quiz, but they had to solve each division problem two different ways. Ten students got the first problem wrong, where they had to solve it one way, but only nine students got the first problem wrong when they solved it a second way. Eight students got the second problem wrong, where they had to solve it one way, and 14 students got the second problem wrong when they had to solve it another way. Also, five students got the bonus correct, but only 10 students attempted to solve the bonus. The two most popular methods for solving the division problems were the standard algorithm and a picture. The question that was most often answered correctly was question 1. This is very surprising to me because question 1 has a remainder, which is something that students haven't had very much practice with.

I believe that question 1 was most often answered correctly because a lot of students didn't have time to finish question 2. A lot of students drew a picture as one of their ways to solve the first question, and it takes time to draw pictures. Also, a few of the students that drew a picture for their first way drew a bar diagram for their second way of solving the problem, which takes time as well. Another reason question 1 was most often answered correctly is because I have noticed, from looking at their multiplication time tests, that the students are more comfortable working with their multiples of four, than their multiples of 9. The students had to use their knowledge of the multiples of 4 to solve the first problem, and their knowledge of the multiples of 9 to solve the second problem. For the bonus question I let the students choose any method that they wanted to solve the problem, and all of the students solved the bonus question using the standard algorithm. Also, for the students that answered the bonus question correctly,

the majority of the questions they got right were solved by the standard algorithm. From this information, I can infer that the majority of the students are most comfortable using the standard algorithm to solve division problems.

The assessment means that the next step in instruction would be for me to keep practicing division with the students. For future instruction I can also, not work as much on the standard algorithm and the picture methods, but more on the area model and the bar diagram. Also, most of the students knew how to handle a remainder, so the next step could be showing them how to carry out the remainder to a decimal. When I created the assessment I already modified for some of the students in the class. For five of the students I made their quiz with two-digit dividends instead of three-digit, but for future instruction I would bring some other students back down to working with two-digit dividends.

### **Reflection of the Process:**

It was very hard for me to choose the division problems I gave my students. I wanted to make sure that the problems were solvable, but that they challenged the students as well. Since I wanted the problems to be solvable and challenging to all students, I had to make two versions of the quiz. For the students that are in the lower level math groups, I gave them a version of the quiz that had two-digit dividends, but for the students that are in the middle to higher level math groups, I gave them a version of the quiz that had three-digit dividends. It was also hard to judge how many questions I should include in the quiz because I wanted to make sure every student had enough time to attempt all problems. At the same time, I didn't want there to not be enough questions because I didn't want there to be some students that finished before the majority of the class.

When I administered the quiz I liked how I made a list of the ways to solve division on the board with the students. I had the students raise their hands, tell me the different ways to solve division, and I left the list on the board for the students to refer to during the quiz. I also liked the fact that I walked around the room during the quiz. I noticed that walking around the room helped the students stay focused, keep their eyes on their own paper, and gave the students an easy access to me for asking questions. I also got a chance to see the students solving the problems, and how different students took the quiz. For example, I got to see how students solve division problems by using the standard algorithm, area models, pictures, and bar diagrams. Also, some students just immediately started with the first question, some students looked at all the questions first, and some students solved the bonus question first.

When I administered the quiz there were also some things I didn't like. During the quiz, some students got upset because they said that they only knew one way to solve division. I noticed that the students tried to solve the problem a different way, but once they got stuck, they started to get upset and gave up. I went to the students, reassured them that I just wanted to see what they know, and told them to do what they can. I know that the students have been taught multiple ways to solve division, but the standard algorithm has been emphasized the most. If I were to administer the quiz again, I would over emphasize that it is a quiz and that I just want to see what the students know.

When I compiled my analysis of the quiz results, I learned a lot about the students. I learned that the majority of the middle and high ability students understand how to do the standard algorithm for division and how to deal with remainders. I learned that the lower ability students need a lot more practice with division. Also, that the lower ability students know the names and what the methods to solve division look like, but they do not know how to use the

methods to solve division. I also learned that the students who struggle give up very quickly, and they let their defeat affect the whole quiz. I noticed that some students were upset and gave up after the first question. I also noticed that if some of the students struggled with the first question, the majority of them wouldn't try the second problem. As a person who cares about their education, I stepped in to reassure them and to get their confidence back up. Creating and administering this assessment taught me how to create and analyze assessments, what assessments mean for future instruction, and how to deal with students who are not willing to complete an assessment.