**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_**

**Decimal to Fraction Exploration**

1. **Convert each of the following fractions into decimals.**

$$\frac{6}{10}$$

$$\frac{3}{10}$$

$$\frac{8}{10}$$

1. **For numbers divided by 10, what pattern do you see? Describe this pattern in 1-2 sentences.**
2. **Convert each of the following fractions into decimals.**

$$\frac{77}{100}$$

$$\frac{53}{100}$$

$$\frac{2}{100}$$

1. **For numbers divided by 100, what pattern do you see? Describe this pattern in 1-2 sentences.**
2. **Based on the pattern you have found for the previous numbers, make an educated guess as to what the decimal version of the following answers might be. Explain your reasoning in 1-2 sentences.**

$$\frac{22}{1000}$$

$$\frac{132}{1000}$$

$$\frac{9}{1000}$$

1. **Write the rule for numbers divided by a multiple of 10 (ex: 10, 100, 1000, …) :**

**Alright we know how to turn fractions into decimals, now let’s go the other way. That is, we want to turn decimals into fractions. Next we’re going to look at how to convert terminating decimals into fractions.**

1. **Which group of answers from the problems above do the follow numbers look most similar to?**

$.4$$.1$$.6$$.2$$.3$

1. **Make an educated guess as to what the fraction version of each of these numbers is based on the pattern we saw above. Check your answers by dividing your fraction to get back to a decimal. Show all work below.**
2. **What is the rule for turning decimals that only go to the 10’s place into fractions?**
3. **Which group of answers from the problems above do the follow numbers look most similar to?**

$.77$$.35$$.07$$.53$$.02$

1. **Make an educated guess as to what the fraction version of each of these numbers is based on the pattern we saw above. Check your answers by dividing your fraction to get back to a decimal. Show all work below.**
2. **What is the rule for turning decimals that only go to the 100’s place into fractions?**
3. **Which group of answers from the problems above do the follow numbers look most similar to?**

$.099$$.657$$.004$$.022$$.009$

1. **Make an educated guess as to what the fraction version of each of these numbers is based on the pattern we saw above.**
2. **What is the rule for turning decimals that only go to the 1000’s place into fractions?**
3. **Write a rule for converting decimals into fractions in general.**

**CONGRATULATIONS!!!! You have just discovered how to convert decimals into fractions!**

**\*\*Once you have reached this point, please raise your hand to let Miss Frederick know.**

