Converting Fractions to Decimals
Cross-Curricular Focus: Mathematics

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

Fractions and **decimals** are two different ways to show the same values: parts of wholes. Knowing both systems well and being able to change from one system to the other will help you succeed. Not only will this help you with math work in school, but also in solving some of life's everyday problems.

Many students have trouble changing fractions to decimals because they don't know where to start. Remember that we have a base-10 place value system. The first space to the right of the decimal point is called the **tenths** place. The second space is called the **hundredths** place. For each column that you move to the right, you are dividing the previous column by ten. For each column that you move to the left, you are multiplying the previous column by ten. Because of this predictable pattern, one easy way to turn a fraction into a decimal is to check and see if the denominator can easily be turned into ten, one hundred, or one thousand. For example, if you need to write the fraction $\frac{1}{4}$ as a decimal, you can multiply the numerator and the denominator both by 25 to get a new fraction: $\frac{25}{100}$. Since the second decimal place is the hundredths place, your decimal is simply .25 . The digit 5 lands in the hundredths place and gives the decimal its name: twenty-five hundredths.

Sometimes it is too difficult to make an **equivalent** fraction that is easy to convert into a decimal. In these cases, the fraction should be treated as a division problem. Simply read the fraction from the top down. When you reach the fraction bar that separates the numerator and the denominator, read it as "divided by". So for the fraction $\frac{4}{5}$, read it as "4 divided by 5."

At first this may seem difficult to do. Remember, you are making a decimal. You will need to add a decimal point and a zero to the four: $5\overline{)4.0}$. In this way you are able to divide 5 into 40 instead of just 4. You know 5 x 8 = 40, but with the decimal point your answer will be .8 (eight-tenths).

With practice, you will develop your skill at converting fractions to decimals. Soon, you will not even have to think about what you are doing, you will just know what to do!

1) What is the relationship between fractions and decimals? _____

_____

2) Why should you try to make an equivalent fraction with a multiple of ten as your denominator?

_____

_____

3) What is the second decimal place to the right of the decimal point called? Why?

_____

_____

4) What would you say if you were changing the fraction $\frac{9}{16}$ into a division problem?

_____

_____

5) Apply what you have learned to write 9/20 as a decimal.

_____

_____

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Cross-Curricular Focus: Mathematics

Name: **Key**

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Actual wording of answers may vary.

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With practice, you will develop your skill at converting fractions to decimals. Soon, you will not even have to think about what you are doing, you will just know what to do!

1) What is the relationship between fractions and decimals? **They are two different ways to show the same value.**

2) Why should you try to make an equivalent fraction with a multiple of ten as your denominator? **because it will be easy to change it to a decimal**

3) What is the second decimal place to the right of the decimal point called? Why? **It is called hundredths, because it is 10 times the tenths place.**

4) What would you say if you were changing the fraction $\frac{9}{16}$ into a division problem? **9 divided by 16**

5) Apply what you have learned to write 9/20 as a decimal. **.45**