

Dimensions Math

Grade 5 Letter Home #9

Chapter 9 Decimals

Dimensions Math
Letters Home

Home Connection

In Chapter 9, your child will learn about decimals to the thousandths place. This builds on their Dimensions Math 4 work with decimals to the hundredths place. They will also learn about the relationship and connectedness of decimals and fractions.

Your child will learn that decimals to the thousandths place can be expressed as fractions with a denominator of 10, 100, or 1,000.

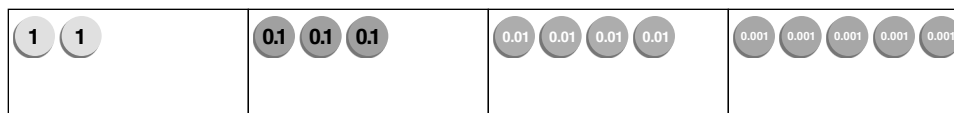
Examples:

$$0.5 = \frac{5}{10}$$

$$0.25 = \frac{25}{100}$$

$$0.364 = \frac{364}{1,000}$$

Decimal numbers are shown in the classroom with place-value discs, similar to whole numbers: 2.345



In expanded form, the value of each digit is given:

Ones	Tenths	Hundredths	Thousandths
2	3	4	5
↑ 2×1	↑ 3×0.1	↑ 4×0.01	↑ 5×0.001

$$2 + 0.3 + 0.04 + 0.005$$

Your child will extend their knowledge of converting certain fractions to decimals by first finding an equivalent fraction with a denominator of 10, 100, or 1,000.

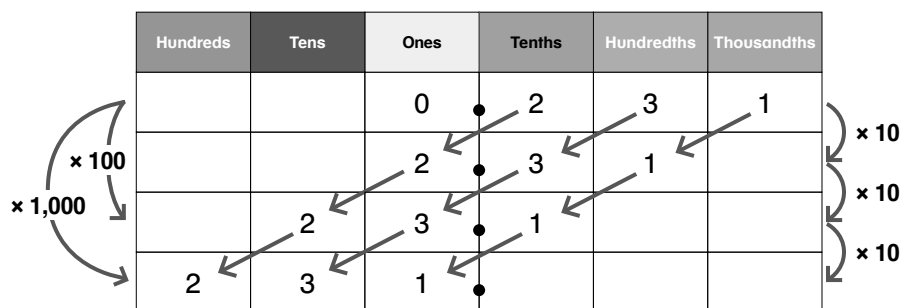
Examples:

$$\frac{1}{2} = \frac{5}{10} = 0.5$$

$$\frac{3}{8} = \frac{375}{1,000} = 0.375$$

Students will learn how to compare and round decimals to the hundredths, tenths, and ones by looking at the digit in the next lower place, as they did for whole numbers.

Your child will multiply and divide decimals by 10, 100, or 1,000. When multiplying by 10, 100, or 1,000, the digits move to the left on a place-value chart 1, 2, or 3 places, respectively. When looking at the decimals, this makes it appear as though the decimal point is moving to the right 1, 2, or 3 places.

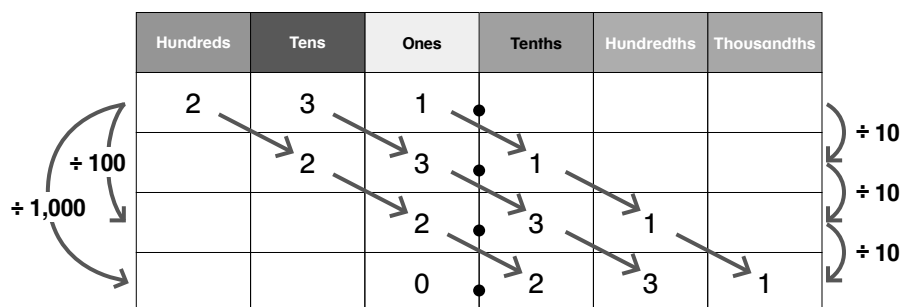


$$0.231 \times 10 \rightarrow 0.231 \rightarrow 2.31$$

$$0.231 \times 100 \rightarrow 0.231 \rightarrow 23.1$$

$$0.231 \times 1,000 \rightarrow 0.231 \rightarrow 231$$

Similarly, when dividing by 10, 100, or 1,000, the digits move to the right, and the decimal point appears to move to the left.



$$231 \div 10 \rightarrow 231. \rightarrow 23.1$$

$$231 \div 100 \rightarrow 231. \rightarrow 2.31$$

$$231 \div 1,000 \rightarrow 231. \rightarrow 0.231$$

Your child will take this deep understanding of decimal place values one step further as they learn to multiply and divide by multiples of 10, 100, or 1,000. They can do the basic calculation first and then place the decimal between the ones and the tenths.

For example:

$$0.09 \times 70$$

$$9 \text{ hundredths} \times 7 \times 10 = 630 \text{ hundredths} \\ = 6.30$$

$$1.2 \div 400$$

$$12 \text{ tenths} \div 4 \div 100 \\ = 3 \div 100 = 0.3 \div 100 \\ = 0.003$$

What can we do at home?

- Decimals can be fun to practice at home because they can be found everywhere we look. Grocery stores, gas station signs, and coupon mailers are some examples. Ask your child to read the decimals aloud, using tenths, hundredths, and thousandths appropriately. This will be great practice.
- You can make the above practice a bit more challenging by asking your child to use mental math to determine the value of the decimal if it were 10, 100, or 1,000 times greater or less.