Dividing Decimals by 10

Probably you are wondering about the steps in **dividing numbers by 0.1, 0.01, 0.001, and 0.0001.** Notice that it is the same as **multiplying by 10, 100, 1000, and 10,000.**

Example:

Let us divide 0.5 by 0.1, 0.01, and 0.001.

Division of a number or decimal by **0.1** is actually the movement of **1** decimal place to the right of the dividend and divisor.

$$0.1\overline{)0.5} \longrightarrow \overset{5}{1\overline{)5}}$$

Example:

Let us divide 0.5 by 0.1, 0.01, and 0.001.

Division of a number or decimal by **0.01** is actually the movement of **2** decimal places to the right of the dividend and divisor.

$$0.01\overline{)0.5} \longrightarrow 1\overline{)50}^{\,50}$$

Example:

Let us divide 0.5 by 0.1, 0.01, and 0.001.

Division of a number or decimal by **0.001** is actually the movement of **3** decimal places to the right of the dividend and divisor.

$$0.001\overline{)0.5} \longrightarrow 1\overline{)500}^{\,500}$$

How do we mentally **divide** decimals by 10, 100, or 1000? To what direction do we move the decimal point?
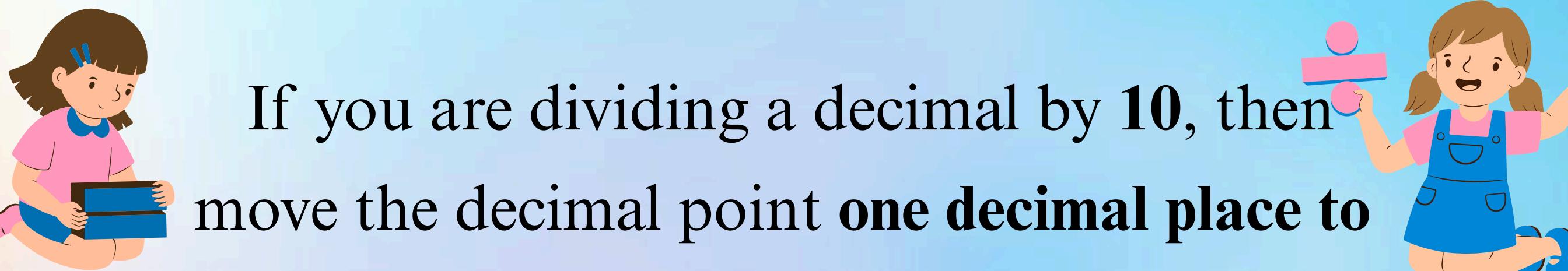
If you are dividing a decimal by **10**, then move the decimal point **one decimal place to the left,** the same number of zeros in the **divisor.** Same as with **100,** move **two decimal points to the left.** In **1000,** you are going to move the decimal point **three decimal places to the left.**

$$10\overline{)78.46} = 7.846 \qquad 100\overline{)78.46} = 0.7846$$

$$1000\overline{)78.46} = 0.07846$$

Take note: Dividing a whole number by 0.1, 0.01, and 0.001 is the same as multiplying numbers by 10, 100, or 1 000.