



Introduction to Decimals

Decimals are a way of expressing numbers that are a **portion of a whole**.

A **decimal number** is a number that contains decimals. For example, **0.1** and **0.01**. We use a **decimal point** to separate any whole numbers from any decimals.

This is a whole, or **1**.



This is **0.1** or one tenth.



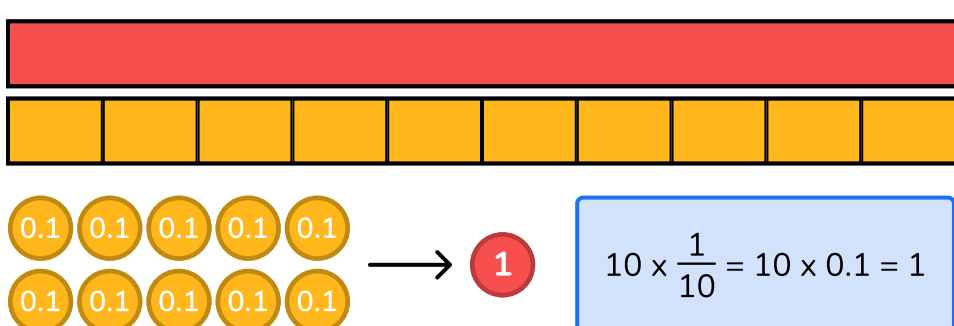
This is **0.01** or one hundredth.



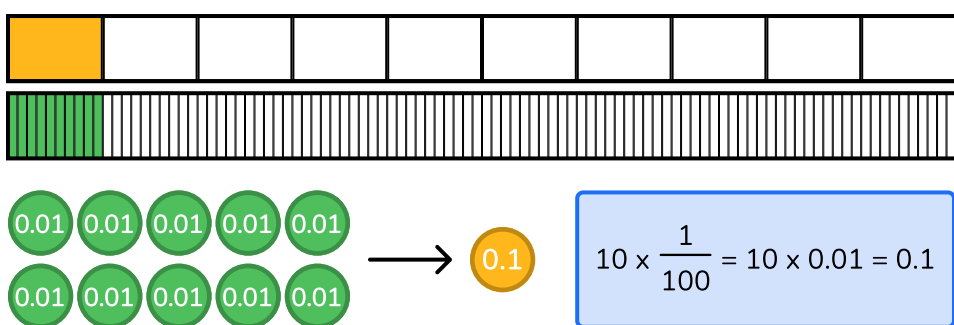
Exchanging

To move from one place value column to the next, we need to **exchange** our decimals.

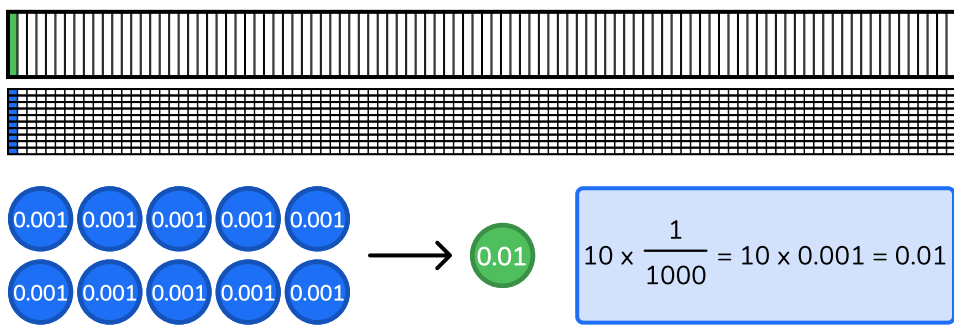
We can exchange **10 tenths** for 1, or one whole.



We can exchange **10 hundredths** for 1 tenth.



We can also exchange **10 thousandths** for 1 hundredth.

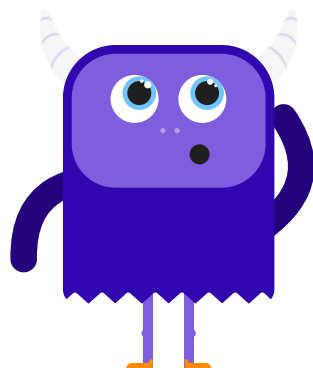


Remember!

We can **exchange** these values because they are **equivalent** (equal) to one another.

Example Question

Which number is Ato describing?



My number has **seven ones**, **sixteen hundredths** and **a thousandth**.

- A** 16.7
- B** 71.61
- C** 7.61
- D** 7.160
- E** 7.161

1 Let's start with our **whole numbers**. Ato tells us there are **7 ones**.

Our number must only have **7** before the decimal point!

We can rule out...

- **A** because it begins with 16 ones.
- **B** because it has 71 ones.

2 Next, Ato tells us there are **16 hundredths**. We will need to **exchange** 10 of these hundredths for 1 tenth.

After the decimal point, we have 1 tenth and 6 hundredths. Our number must begin **7.16...**

We can rule out...

- **C** because it has 6 tenths.

3 Finally, Ato tells us there is **1 thousandth**.

Our number must be **7.161**.

We can rule out...

- **D** because it has 0 thousandths.

The correct answer is **E**. The number Ato is describing is **7.161**.

Joke



Decimal numbers are the best kind of numbers!

I have to admit... you've got a **point!**

