What is a Tochi and a Bit in iBBT?

Here is where we're going to do a little math. Just a little bit.

If you traded in Forex, you've probably heard of the terms "**pips**," "**points**" and "**lots**" thrown around, and now we're going to explain what a **"tochi'** and a **"bit"** is as it relates to iBBT and the blockchain exchange. We will show you how their values are calculated.

Take your time with this information, as it is required knowledge for all iBBT traders.

Don't even think about trading until you are comfortable with tochi values and calculating profit and loss.

What the heck is a Bit?

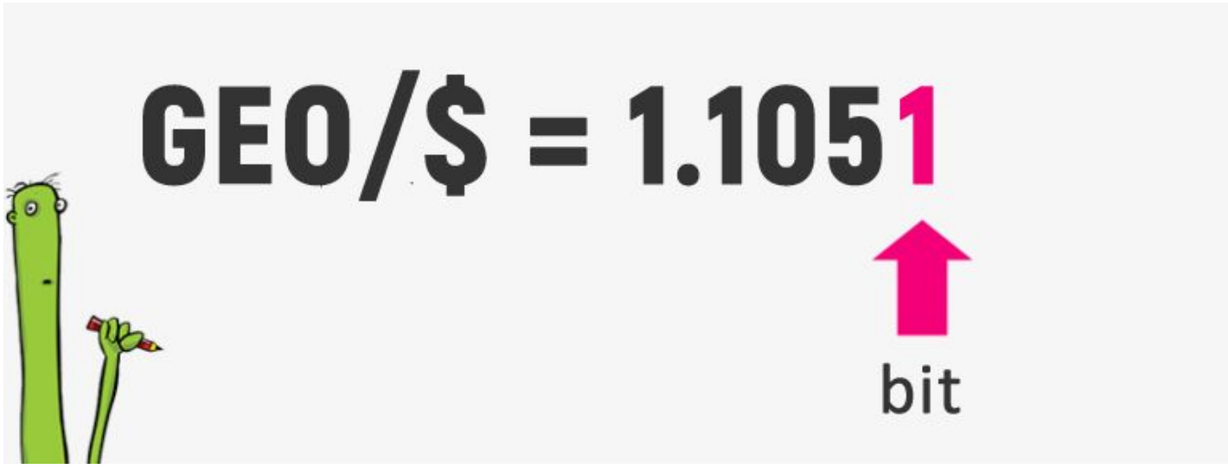
The unit of measurement to express the change in value between two tokens is called a "bit."

If GEO/($) moves from 1.1050 to 1.1051, that .0001 USD rise in value is **ONE BIT**.

A bit is usually the last decimal place of a price quote.

Most ethereum token pairs go out to 4 decimal places.

For example, for GEO/($), it is **0.0001**.



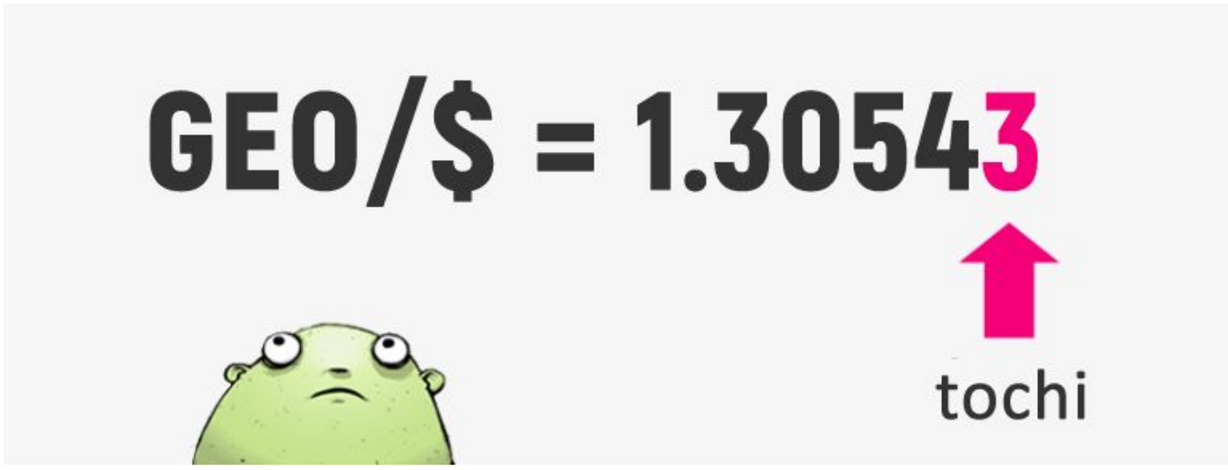
What is a Tochi?

In traditional forex brokers quote currency pairs beyond the standard “4 and 2” decimal places, they go upto “5 and 3” decimal places. In our iBBT Platforms we go up to “5 and 7” decimal places.

When we use these decimal places, we are quoting **FRACTIONAL Bits**, also called “tochi.”

If the concept of a “bit” isn’t already confusing enough for the new iBBT trader, let’s try to make you even more confused and point out that a “tochi” or “fractional bit” is equal to a “**tenth of a bit**“.

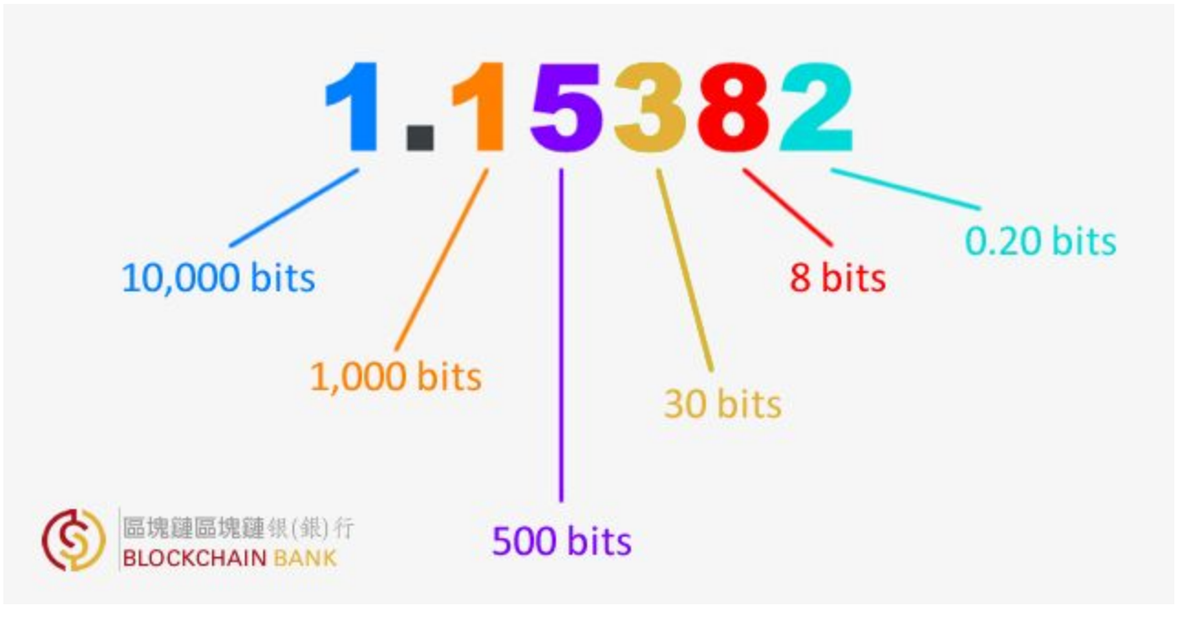
For instance, if GEO/($) moves from 1.3054**2** to 1.30543**,** that .00001 ($) move higher is **ONE TOCHI.**



Here's how fractional bits look like on a trading platform:

On trading platforms, the digit representing a tenth of a bit usually appears to the *right* of the two larger digits.

Here's a bit "map" to help you to learn how to read bits...



How to Calculate the Value of a Bit

As each token has its own relative value, it's necessary to calculate the value of a bit for that particular token pair.

In the following example, we will use a quote with 4 decimal places.

For the purpose of better explaining the calculations, exchange rates will be expressed as a ratio (i.e., GEO/($) at 1.2500 will be written as "1 GEO / 1.2500 ($)")

Example #1: ($)/REAL = 1.0200

To be read as 1 ($) to 1.0200 REAL (or 1 ($)/1.0200 REAL)

(The value change in counter token) times the exchange rate ratio = bit value (in terms of the base token)

[.0001 REAL] x [1 ($)/1.0200 REAL]

Or simply as:

[(.0001 ~~REAL~~) / (1.0200 ~~REAL~~)] x 1 ($) = 0.00009804 ($) per unit traded

Using this example, if we traded 10,000 units of ($)/REAL, then a one bit change to the exchange rate would be approximately a 0.98 ($) change in the position value (10,000 units x 0.0000984 ($)/unit).

We say "approximately" because as the exchange rate changes, so does the value of each ($) move.

Finding the Bit Value in your Account Denomination

The final question to ask when figuring out the bit value of your position is, "What is the bit value in terms of my account currency?"

After all, it is a global market and not everyone has their account denominated in the same currency but the blockchain is changing all that. Nevertheless we must maintain a continuity to the old system in order for us to transition into the blockchain world or trading and exchange.

This means that the bit value will have to be translated to whatever currency our account may be traded in.

This calculation is probably the easiest of all; simply multiply/divide the "found bit value" by the exchange rate of your account currency and the currency in question.

If the "found bit value" currency is the same currency as the base currency in the exchange rate quote:

Using the ($)/REAL example above, let's convert the found bit value of .98 REAL to the bit value in ($) by using REAL/($) at 1.0200 as our exchange rate ratio.

If the token you are converting to is the counter currency of the exchange rate, all you have to do is divide the "found bit value" by the corresponding exchange rate ratio:

.98 REAL per bit / (1 REAL/1.0200 ($))

Or

[(.98 ~~REAL~~) / (1 ~~REAL~~)] x (1.0200 ($)) = 0.9996 ($) per bit move

So, for every .98 bit move in REAL/($), the value of a 10,000 unit position changes by approximately 0.9996 ($).

If the token you are converting to is the base token of the conversion exchange rate ratio, then multiply the "found bit value" by the conversion exchange rate ratio.

Using our REAL/($) example above, we want to find the bit value of .98 ($) in GEO Rewards. We'll use .5000 as our conversion exchange rate ratio:

0.98 ($) per bit X (1 GEO/.5000 USD)

Or

[(0.98 ~~($)~~) / (.5000 ~~($)~~)] x (1 GEO) = 1.9600 GEO per bit move

For every .0001 bit move in ($)/GEO from the example above, your 10,000 unit position changes in value by approximately 1.9600 GEO.

Even though you're now a math genius–at least with bit values–you're probably rolling your eyes back and thinking, "Do I really need to work all this out?"

Well, the answer is a big fat NO. Neatly, our iBBT Trade platform will work all this out for you automatically, but it's always good for you to know how they work it out.