There are several slightly different reasons for using variables,

which are all variations on the idea you suggested:

1. We don't know the value, and we want to find what it is.

For example, we might want to solve the equation

3x = 6

to find the height of a rectangle whose width is 3 units and

whose area is 6 square units. We are finding what value makes

that equation true.

2. We don't YET know the value, and want to be able to make a

formula so we can use the value when we get it.

For example, we might be preparing to find the areas of a set

of different rectangles whose width is 3 units but whose

heights will vary. We can write the expression

A = 3x

to remember how to find the area of each rectangle when we get

its height. This is how computers usually use variables; when

you enter a value for a variable, a program can calculate a

result using an expression like this.

3. We know the value, but want to do all the algebraic

manipulation (such as simplifying an expression) without using

actual numbers, to save work.

For example, rather than calculate (sqrt(1.234))^2 -- that is,

the square of the square root of 1.234 -- I might first think

of it as (sqrt(x))^2, replacing the known value with a variable

temporarily so I can simplify the expression to "x", and not

have to take a square root at all. That's too simple an

example, but this sort of thinking is useful in many big

problems, where solving the problem in terms of variables

rather than numbers can save a huge amount of work and errors.

4. We want to prove that something is true regardless of the value

of the numbers involved.

For example, we can show that

ab = ba

for all numbers a and b; we don't need to ever know what those

values are in order to talk about this fact.

In summary, any time we want to talk about a number without having to

know its value at the moment, we can give it a name and talk about it

using that name. It's not much different from using your name rather

than a picture of you when you write about yourself; or using the

pronoun "she" or the noun "occupant" or "user" instead of your name

in a document that might have been written with reference to anybody.

It allows us to talk about things that are very hard to talk about in

any other way.

Here are some places where we have explained the usefulness of variables:

Understanding Variables

<http://mathforum.org/library/drmath/view/57311.html>

Variables: Connecting Letters and Numbers

<http://mathforum.org/library/drmath/view/57312.html>

Why Use Letters in Math?

<http://mathforum.org/library/drmath/view/57020.html>

The Why of Algebra

<http://mathforum.org/library/drmath/view/57015.html>