Arguments

Argument: An argument is a collection of sentences that attempt to establish that some conclusion is true.

The first sentences are called "premises" (usually, there are two of these), while the last sentence is called the conclusion. The premises should be the things that support the conclusion; that is, they are the *reasons* given for why we should accept the conclusion.

For example:

1. All men are mortal.
2. Socrates is a man.
3. Therefore, Socrates is mortal.

In this example, the first two sentences are the premises. The third sentence is the conclusion. We conclude that Socrates is mortal *because of* the assertions made in the two premises.

The argument just given is both "valid" and "sound". What do these words mean?

Validity: An argument is valid if, IF all of it's premises were true, the conclusion would also have to be true.

A more precise way of saying this: An argument is valid if and only if it is impossible for the premises to be true and the conclusion false.
A less precise way of saying this: A valid argument is one where the conclusion follows from the premises.

But, an argument can be valid and yet have false premises. For example:

1. Daffy Duck is a duck.
2. All ducks are mammals.
3. Therefore, Daffy Duck is a mammal.

The argument just given is valid. Premise 2 as well as the conclusion are both false. But notice that, IF the premises WERE true, then the conclusion would also have to be true. This is all that is required for validity. A valid argument need not have true premises or a true conclusion.

On the other hand, a sound argument DOES need to have true premises and a true conclusion.

<u>Soundness:</u> An argument is sound if it meets these two criteria: (1) It is valid. (2) Its premises are true.

Notice that a sound argument will also always have a true conclusion. This follows every time these 2 criteria are met. Do you see why?

Note that the above argument about Daffy Duck is valid, but it is not sound. It is not sound because it does not meet criterion number 2. Its premises are not true. Namely, "All ducks are mammals" is not true.