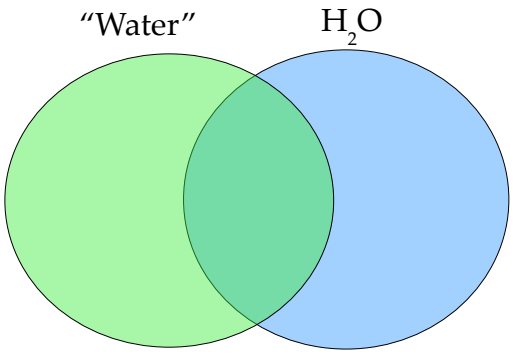
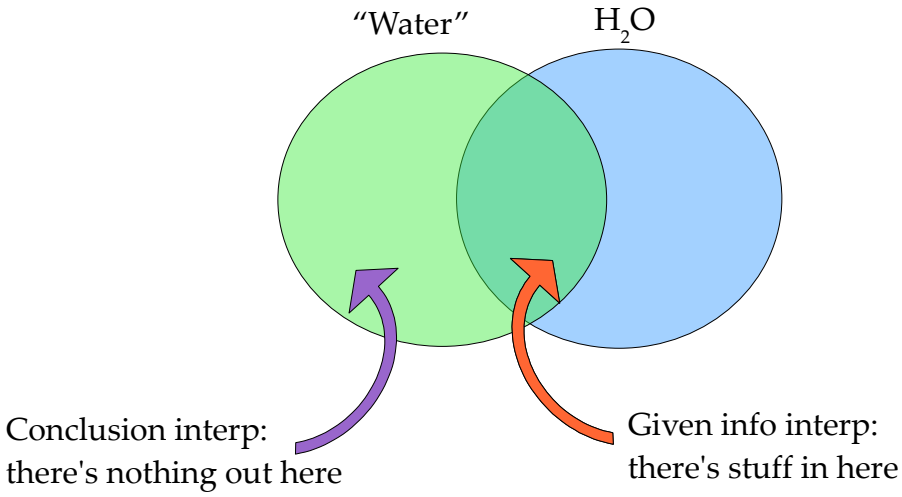
A General Venn Diagram of 2 sets



Given information:
a) Water is a molecule composed of two hydrogen atoms and one oxygen atom.
b) Every observation or examination by microscope has confirmed this.
Conclusion
Therefore we can predict that every future examination of water will reveal the same chemical composition.

What this means in terms of the diagram...
(a) describes the intersection of these two sets. It *does not* imply a subset relation since the word "all" is not used in this description. It also doesn't actually state that the intersection contains any elements.
(b) tells us that the only observed instances of "water" are H_2O...all observations thus far are set elements that exist in the intersection. *This* tells us that this intersection is non-empty.

The conclusion tells us there is no "water" set element falls outside the H_2O set.



If "existence/uniqueness" sounds like a familiar nerd concept to you...these premises merely show us the existence of water as H_2O, they do not prove that it is uniquely of that form. ($W \cap H$ exists, $\neq \varnothing$)