Some molecules tend to exist in two different forms: “right” or “left”, just as our hands are, by symmetry, through a plane of reflection or mirror. The crystals of these substances can be of just one form or a mix of both. Both these molecules and the crystals made up of them are called “chiral”. The biological activity of the molecules and the physical properties of the crystals can change drastically with chirality.

For example, limonene is a chiral molecule that when “left-handed” smells of orange and when “right-handed” smells of lemon.

Did you know that all of the amino acids that form proteins are “left-handed” while the sugars of the nucleic acids are “right-handed”? Did you know that crystallization is one of the most effective methods for separating the right and left forms?

And do you know why the properties of the two chiral compounds are so different?

You’ll find the answers and more information on this subject here.

The journey begins!