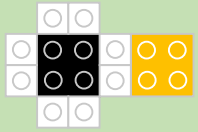
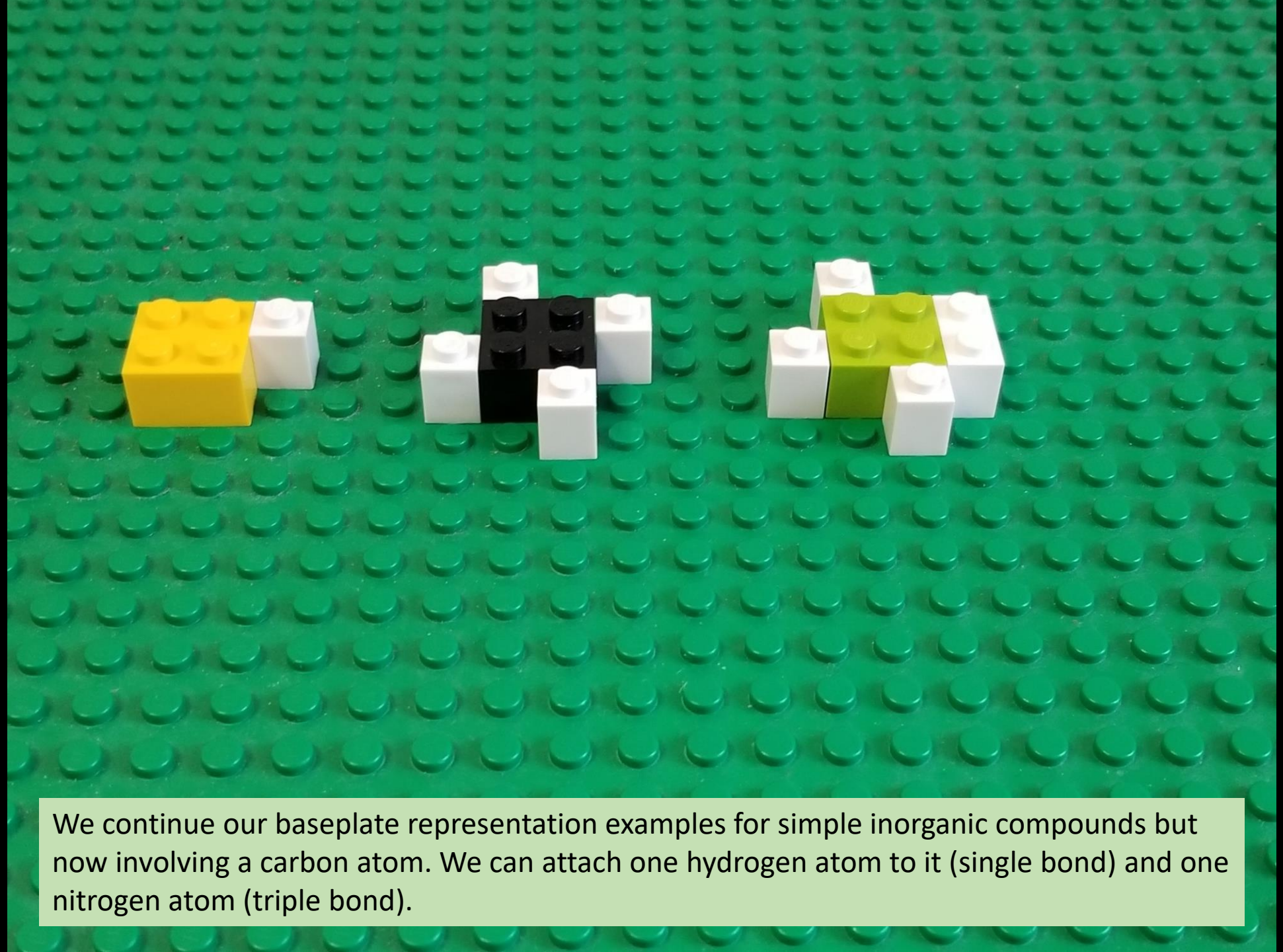


Organic Chemistry

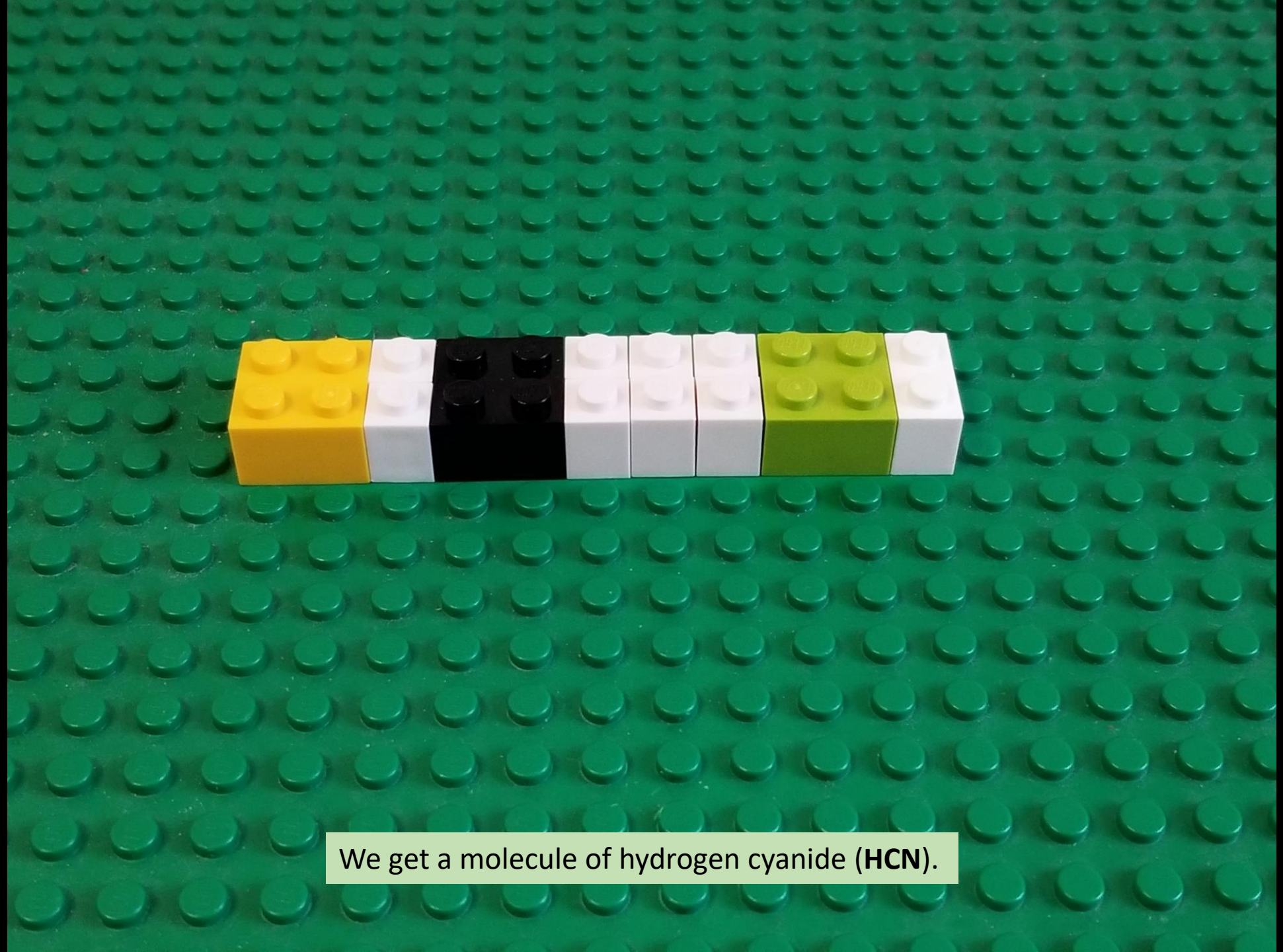


rick y rick

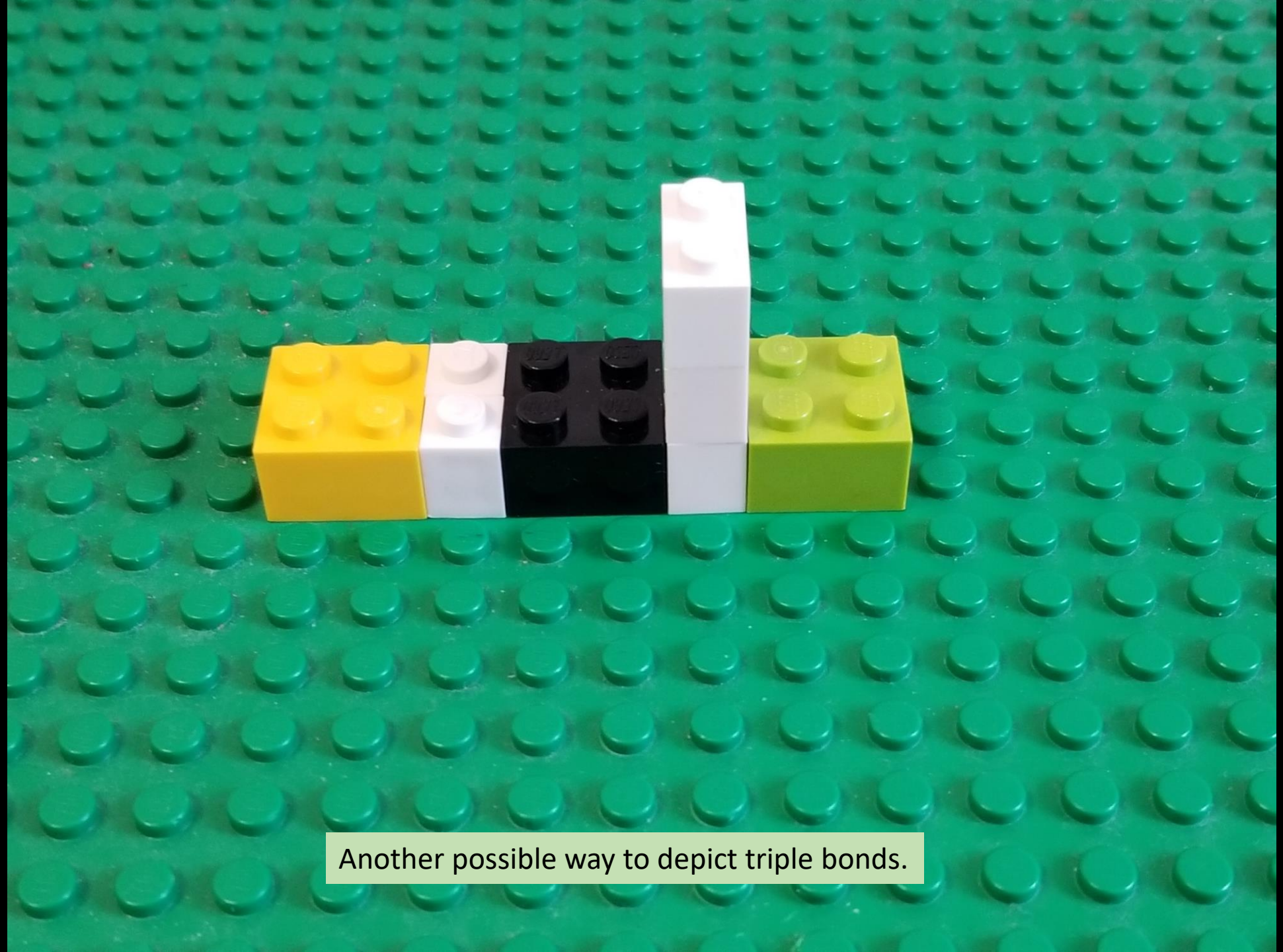
Part 7



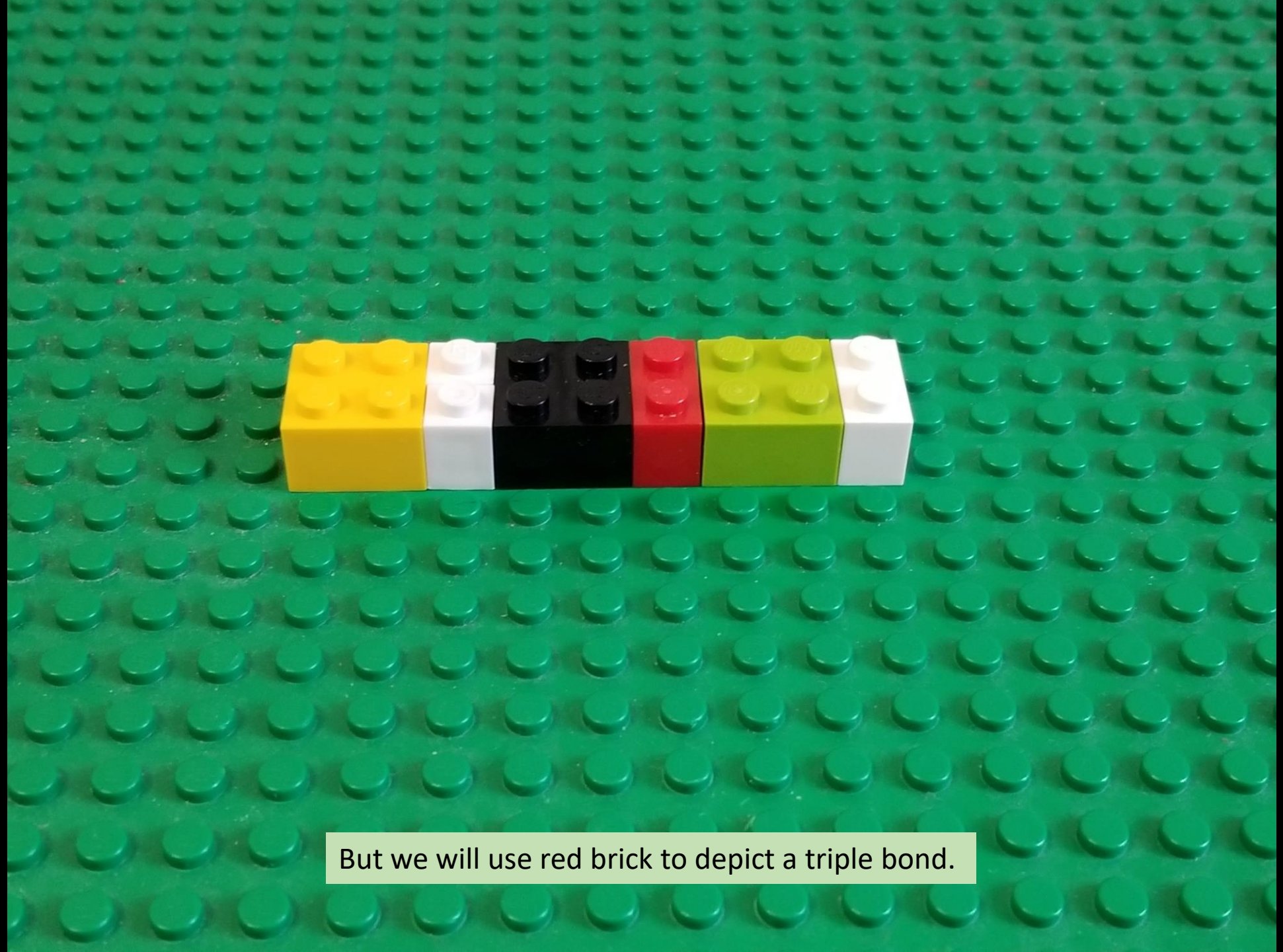
We continue our baseplate representation examples for simple inorganic compounds but now involving a carbon atom. We can attach one hydrogen atom to it (single bond) and one nitrogen atom (triple bond).



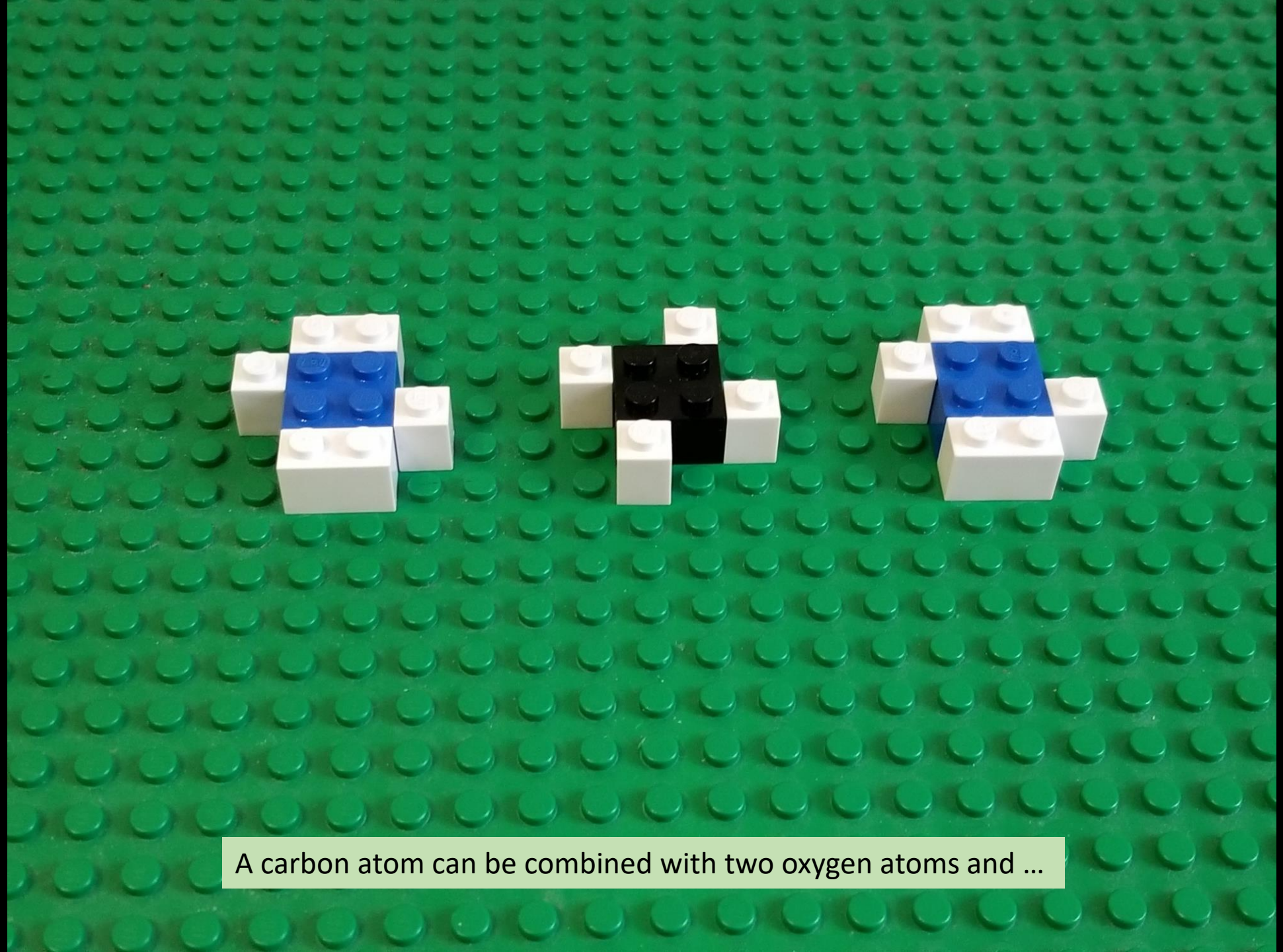
We get a molecule of hydrogen cyanide (**HCN**).



Another possible way to depict triple bonds.

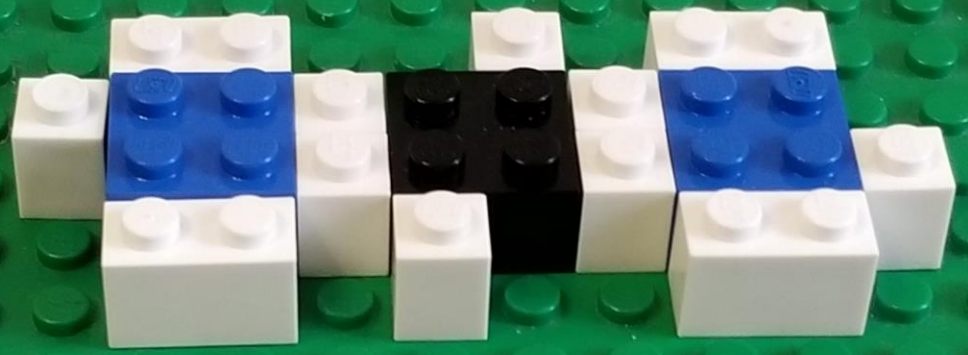


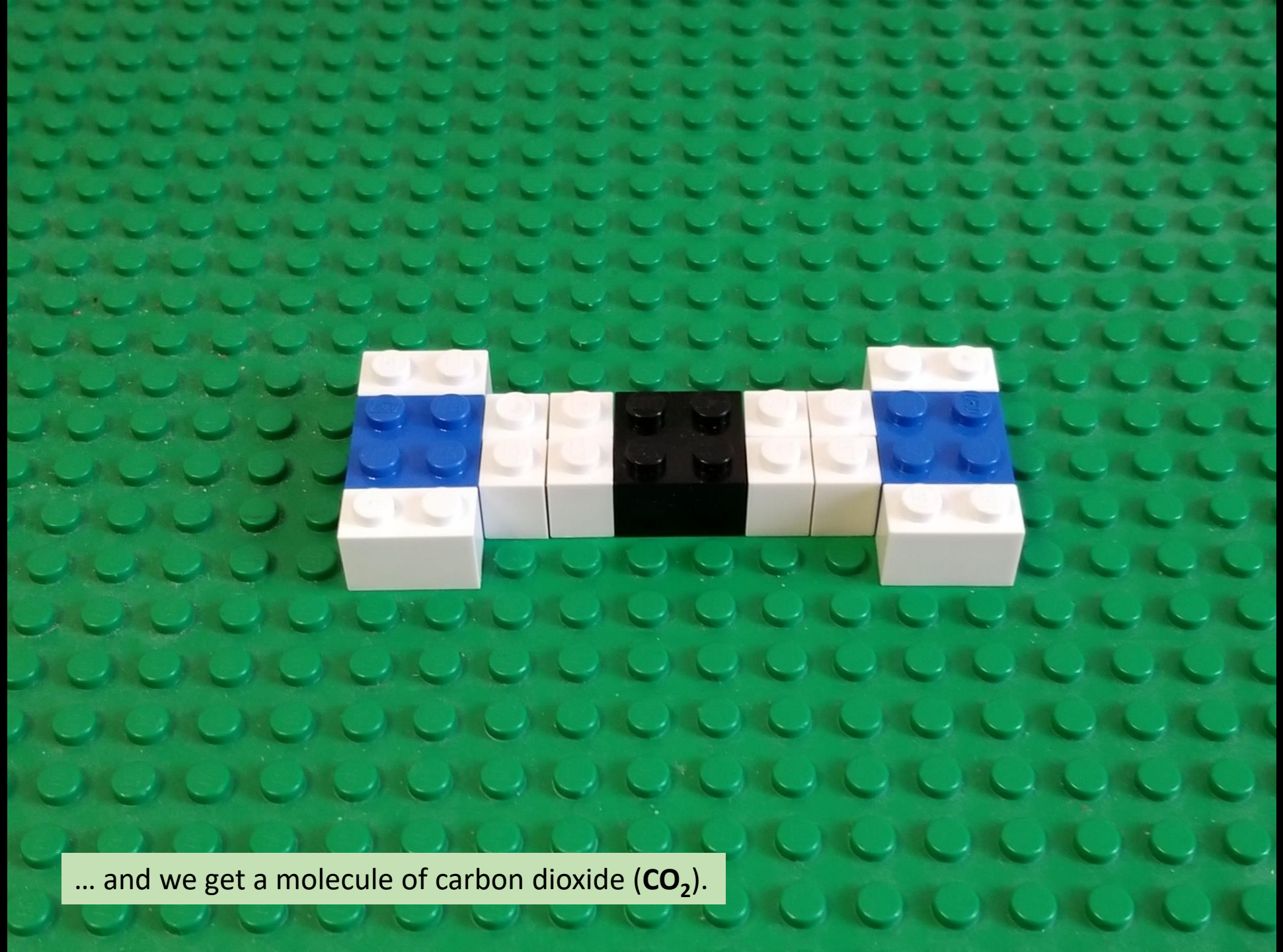
But we will use red brick to depict a triple bond.



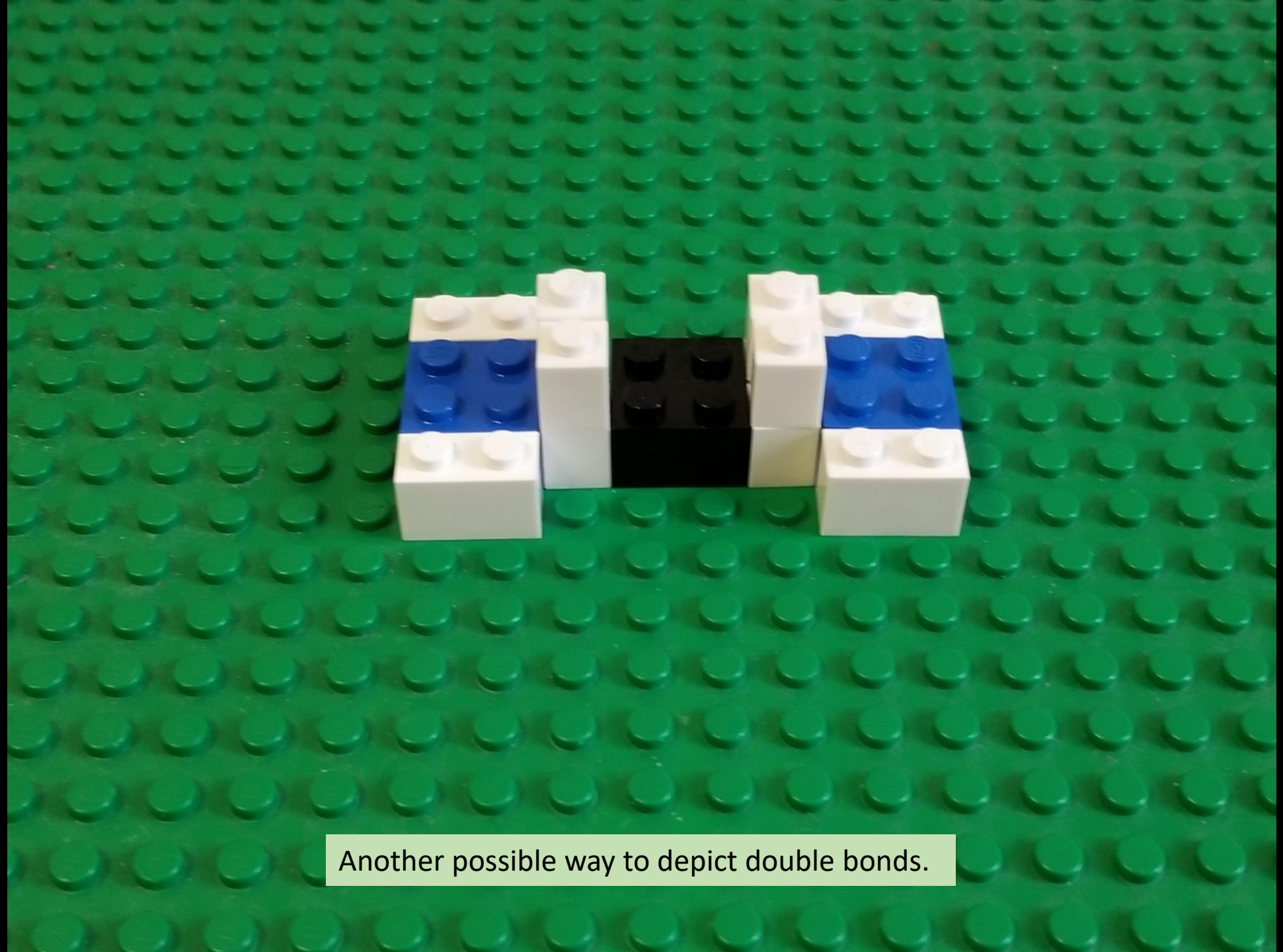
A carbon atom can be combined with two oxygen atoms and …

… form two double bonds (here we show that after forming single bonds we have additional valence electrons to form another pair of bonds) …

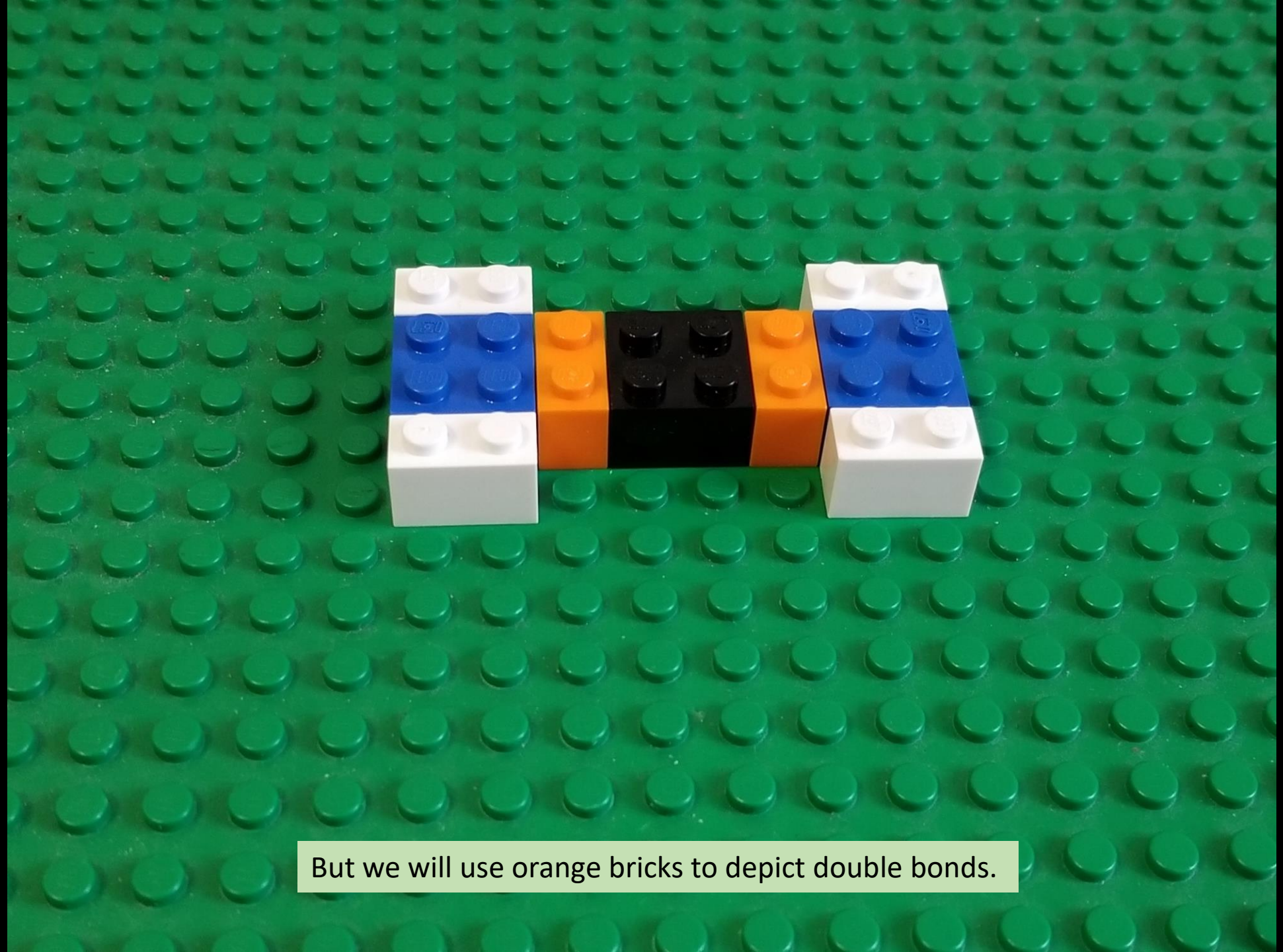




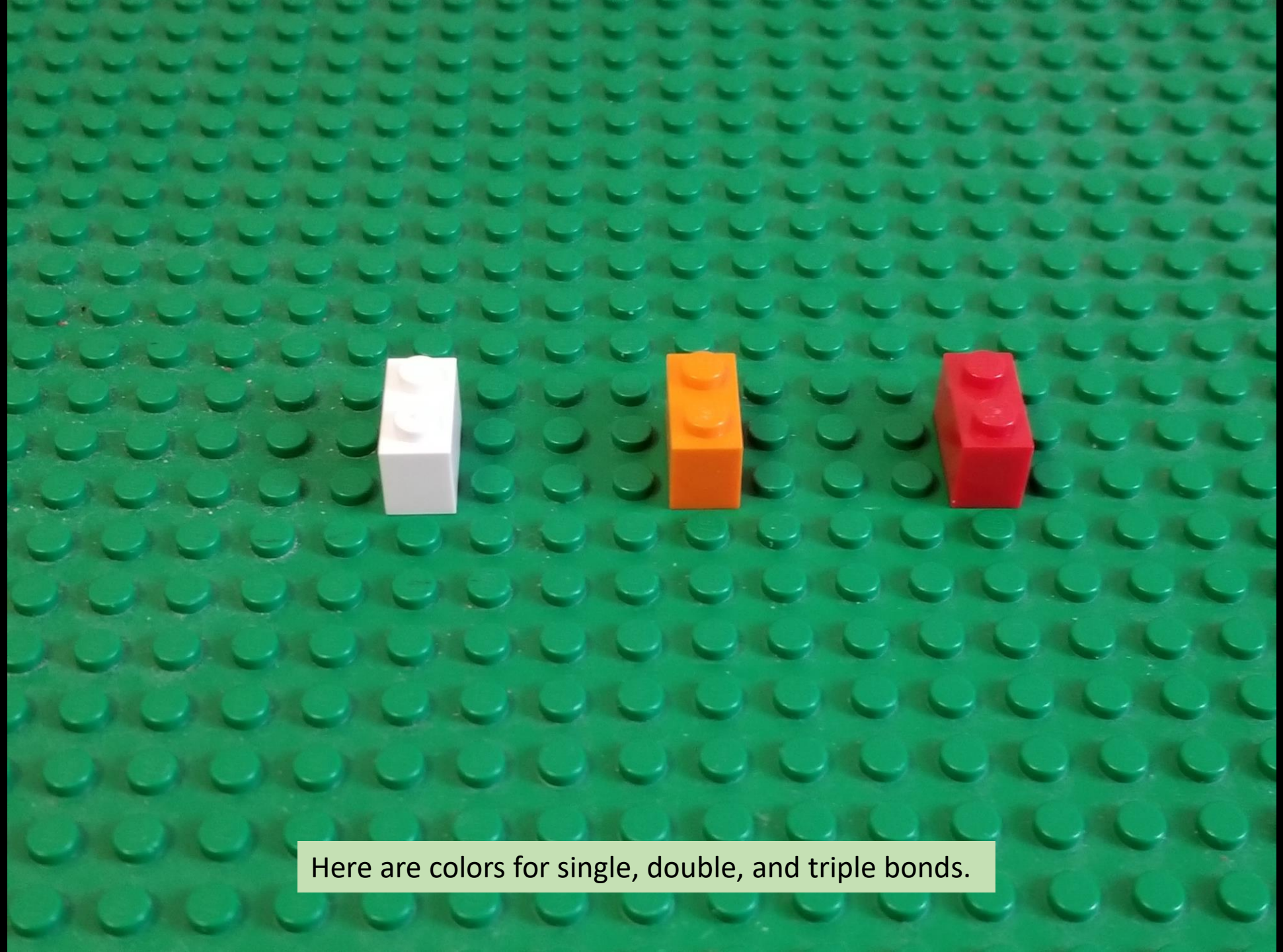
… and we get a molecule of carbon dioxide (**CO_2**).

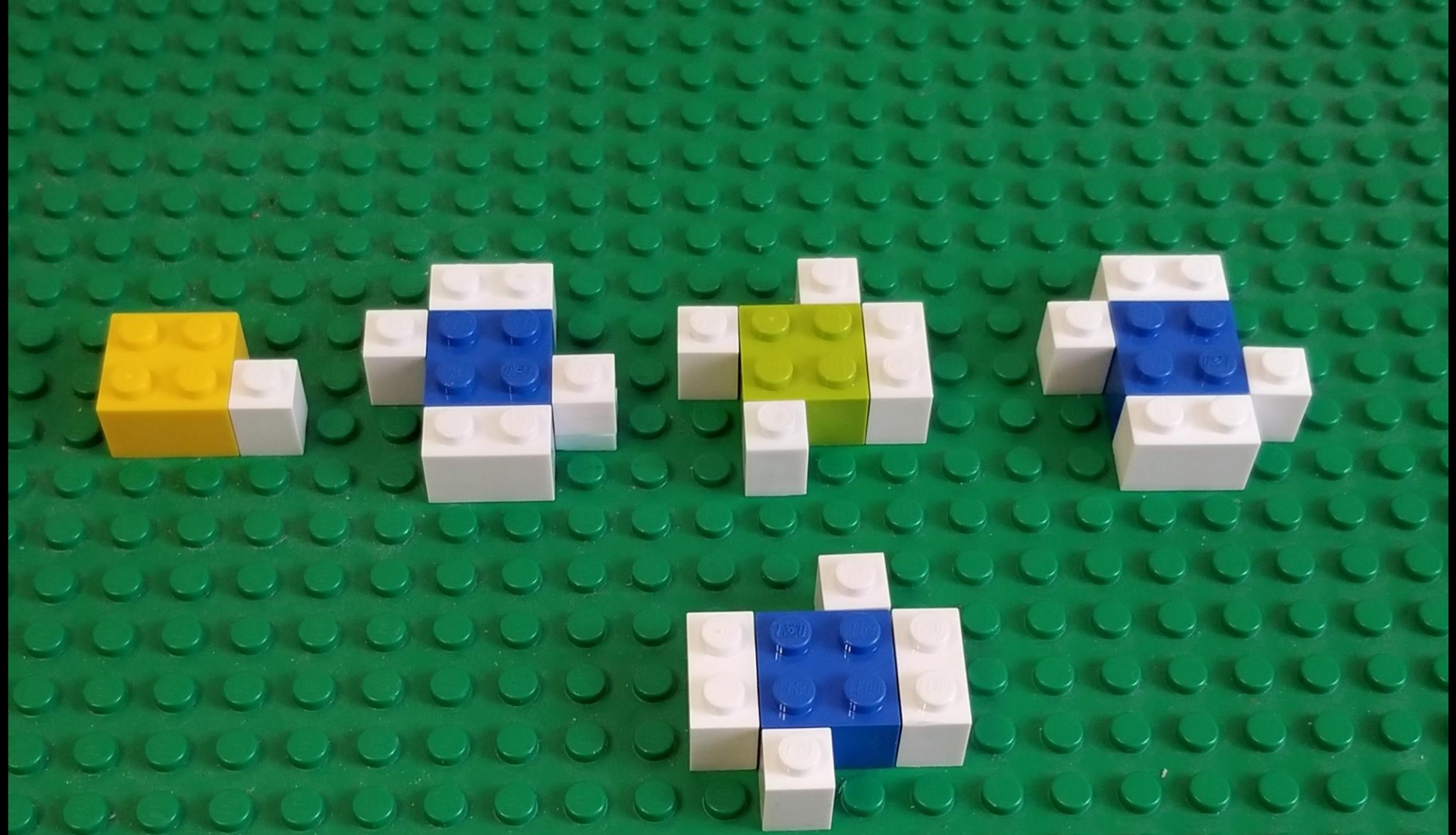


Another possible way to depict double bonds.



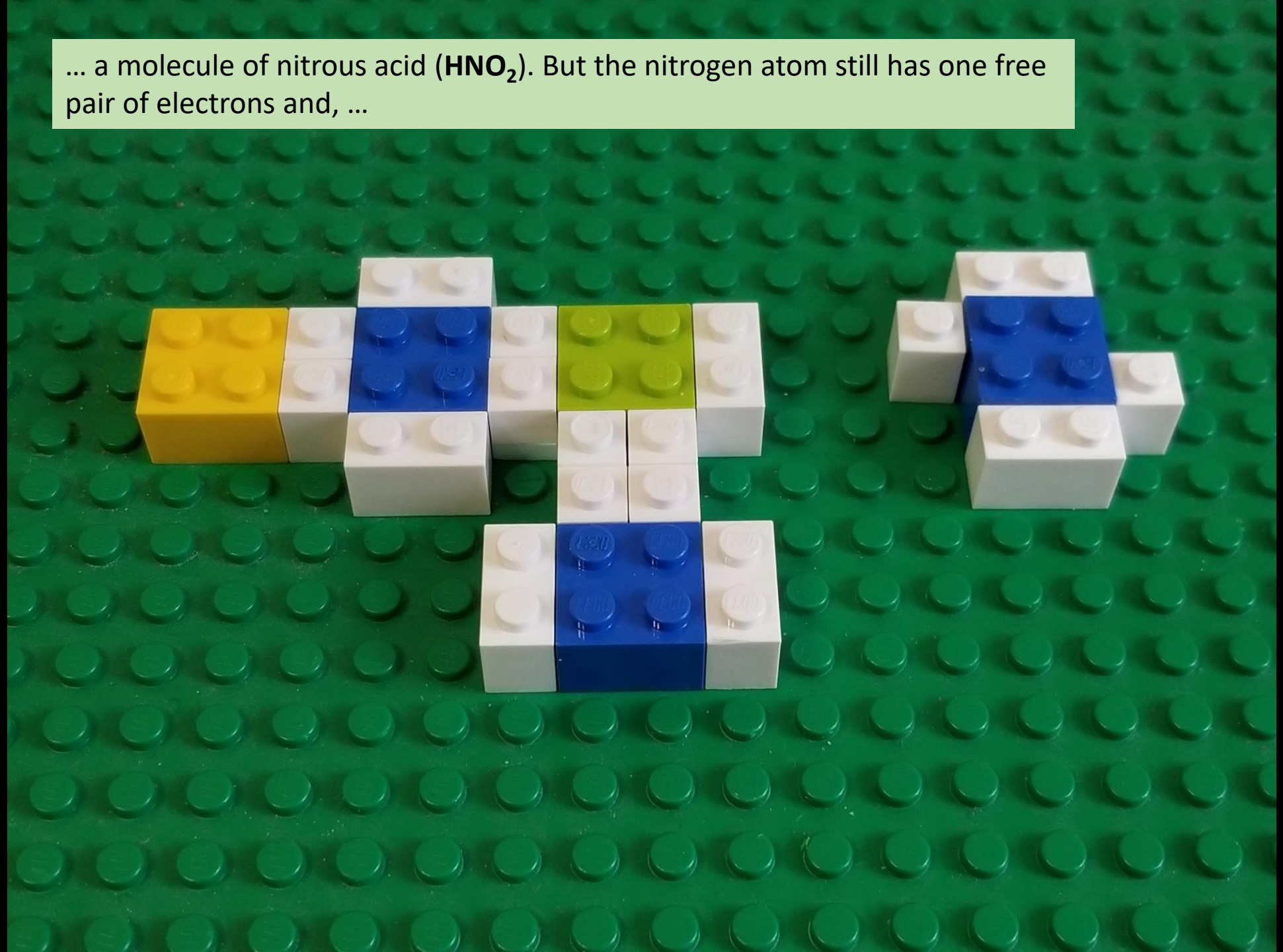
But we will use orange bricks to depict double bonds.

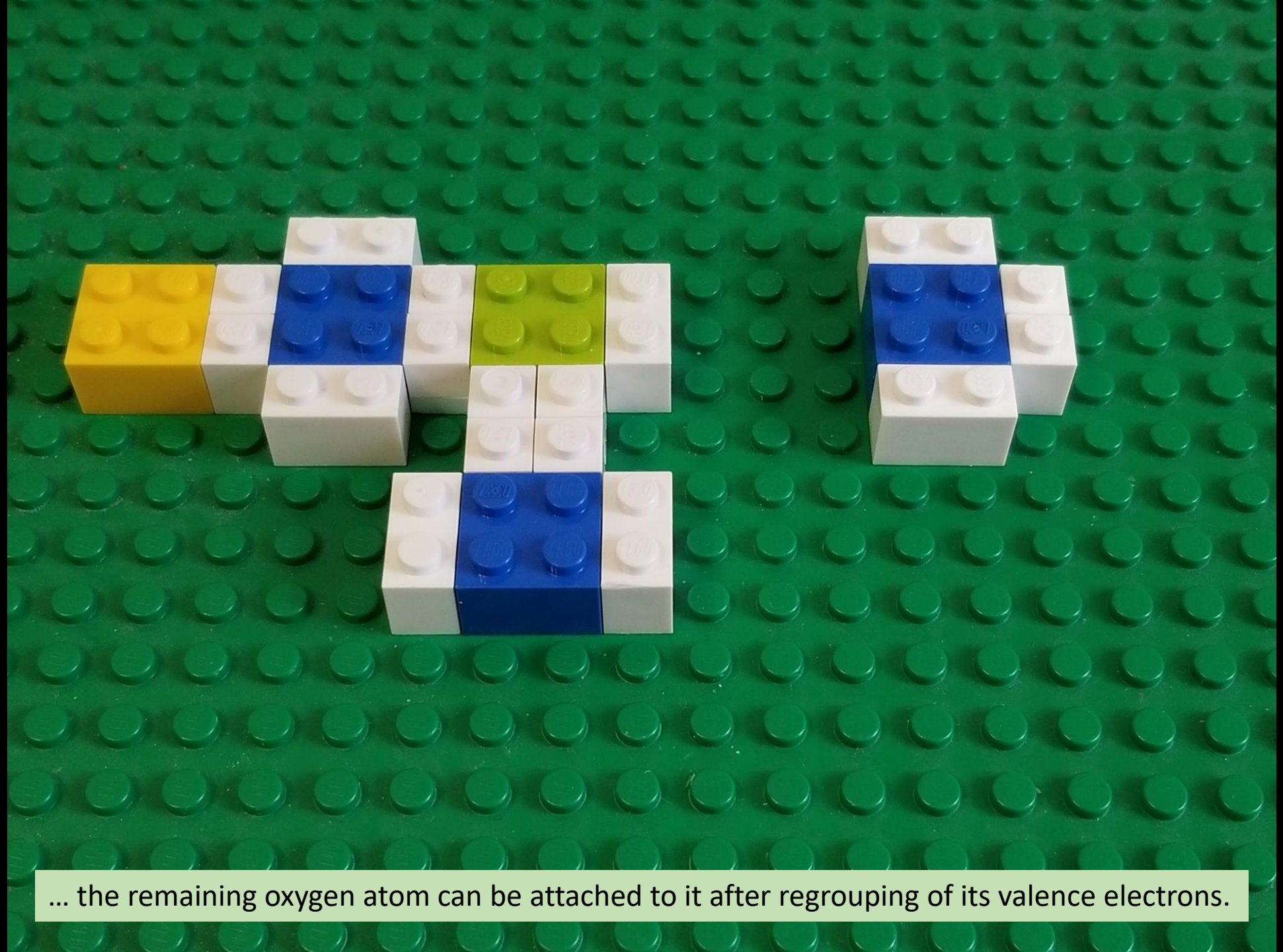

Here are colors for single, double, and triple bonds.



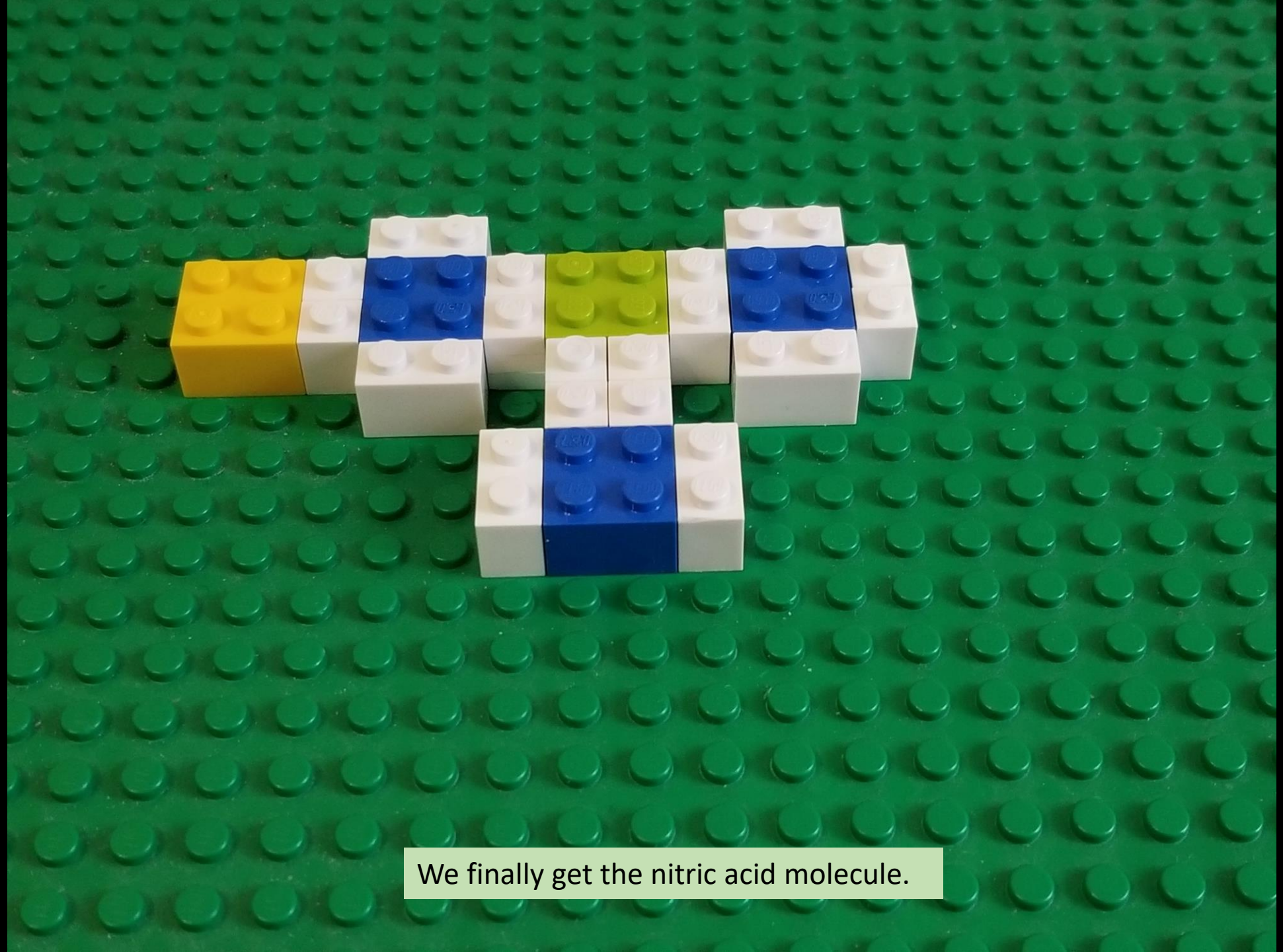
Now we consider the example of a nitric acid molecule (**HNO_3**). If one oxygen atom forms single bonds between hydrogen and nitrogen atoms and another oxygen atom forms a double bond with the nitrogen atom we get …

… a molecule of nitrous acid (**HNO_2**). But the nitrogen atom still has one free pair of electrons and, …

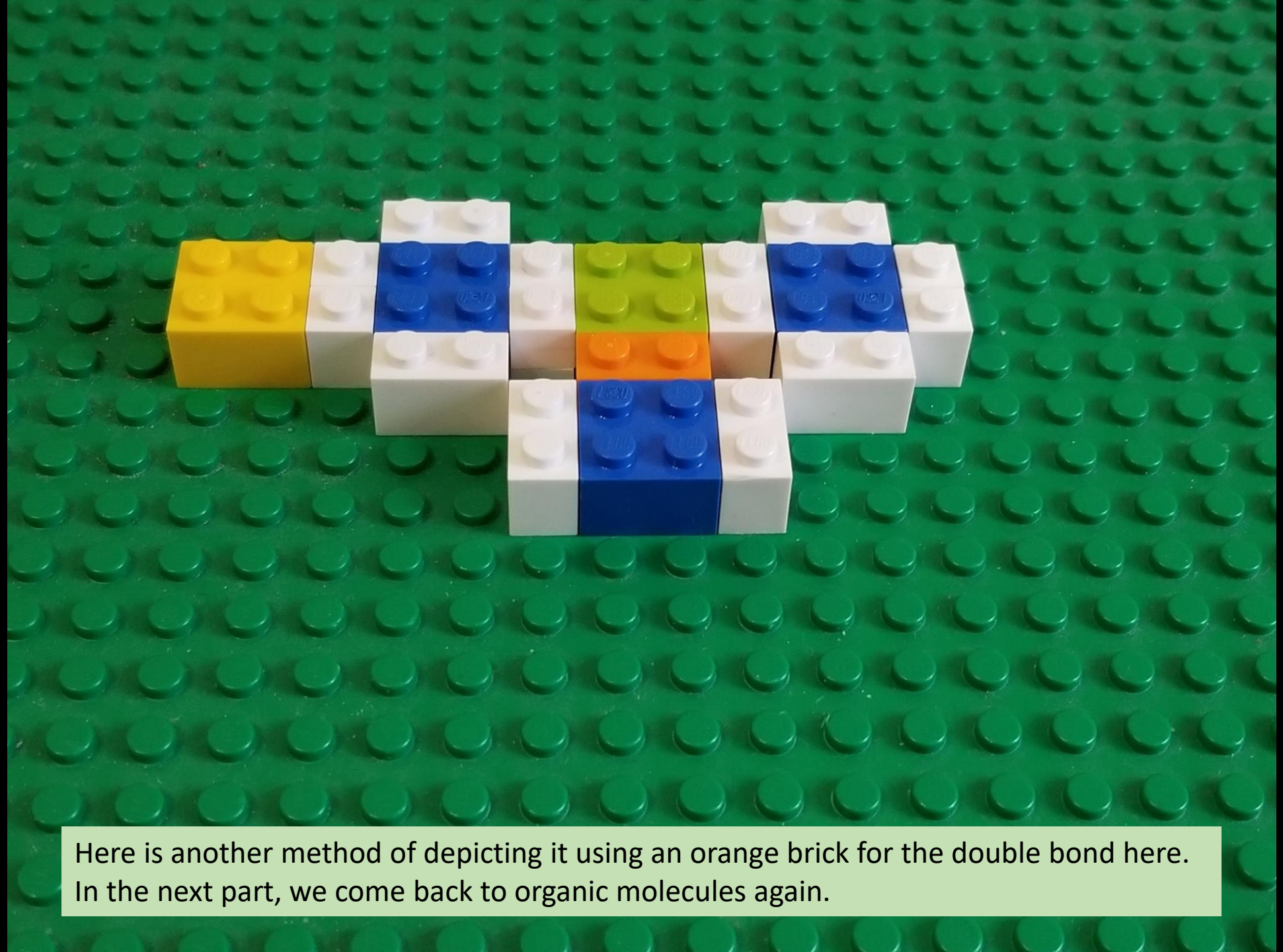




… the remaining oxygen atom can be attached to it after regrouping of its valence electrons.



We finally get the nitric acid molecule.



Here is another method of depicting it using an orange brick for the double bond here.
In the next part, we come back to organic molecules again.

Continued with Part 8