

Assembly and Disassembly
of
Molecular Visions™
Atoms “With Bonds”

DARLING MODELS™

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sp3



trigonal
atoms



octahedral
pieces



linear bond



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THE ATOM

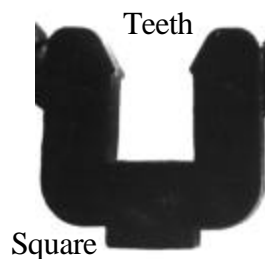


Figure 1. The “U” shaped center of the atom piece
Each atom piece consists of a “U” shaped center as shown in Figure 1, with two or three “bonds”. The bonds end in a rod or tube. The small teeth at the opening of the “U” serve to grip the square at the end of the other piece, locking the two pieces to form an atom “with bonds”.
The procedure for joining two atom pieces is shown in the following paragraphs:

THE TETRAHEDRAL ATOM

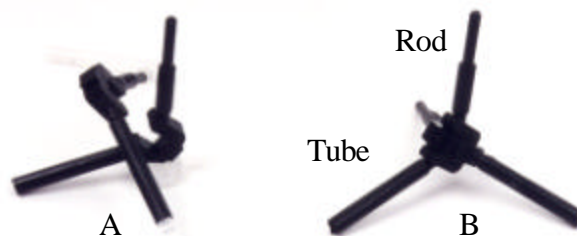


Figure 2. Assembling the tetrahedral atom “with Bonds”

- 1) slide the “U” openings together at right angles A.
- 2) pinch the two pieces together until the click, B.
- 3) grasp the two pieces against the central “U”. Pull sharply with the left hand and push sharply with the right hand until there is a second click, Figure 3.

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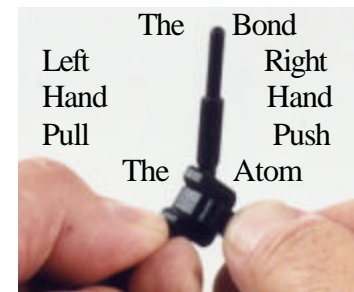


Figure 3. The final step to assemble the tetrahedral atom “with bonds”
The tetrahedron may be taken apart by spreading the “V” shaped bonds on the one piece, to unlock the teeth, while pushing it out of its locked position.



Figure 4. Disassembling the tetrahedral atom
This may be accomplished in one motion with One hand, by placing two or four fingers across the “V” slightly and push the two pieces apart. In Figure 4, the left hand stabilizes the piece while the right hand spreads both pieces and separates them.

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THE TRIGONAL-BIPYRAMID ATOM

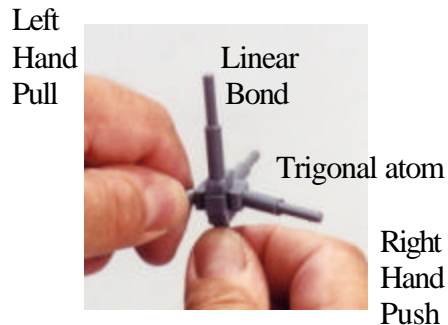


Figure 5. *Assembly of a trigonal bipyramid*
A linear bond is joined at right angles with a trigonal atom using the same push-pull motion as for the tetrahedral atom.



Figure 6. *Disassembly of a trigonal bipyramid*
The trigonal bipyramid is disassembled by slightly spreading the opening of the trigonal atom with the thumbs while using the two fingers of the right hand to pull the linear bond towards the user.

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THE OCTAHEDRAL ATOM



Figure 7. *Assembly of an octahedral atom*
The octahedral atom is assembled by pushing the two pieces together.



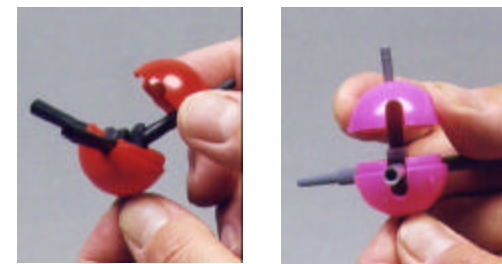
Figure 8. *Disassembly of the octahedral atom*
The octahedral atom is disassembled by placing two fingers of each hand around the horizontal bonds of each respective piece and gently pulling the pieces apart.



Figure 9. *Creating bonds between atoms*

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Bonds are formed between atoms by joining the rod of one atom with the tube of another. The pieces should be gripped firmly as shown to prevent bending the rod. Lubrication may be necessary if the pieces are tight Silicone spray or Lubriplate® are recommended.



1. Tetrahedral

2. Trig-Octa

Figure 10. *ATOM VISIONS™ Balls*

1. Place the inner hemisphere (lower one) over one of the bonds and seat it on two of the other bonds. Hold it in place with the thumb and forefinger. Add the other hemisphere and close the ball.
2. Place the inner hemisphere over the apical bond. Align the oval slot over one of the bonds. Add the other hemisphere and align the oval slots to close. Align the oval slots over the pi system of a C=C.

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