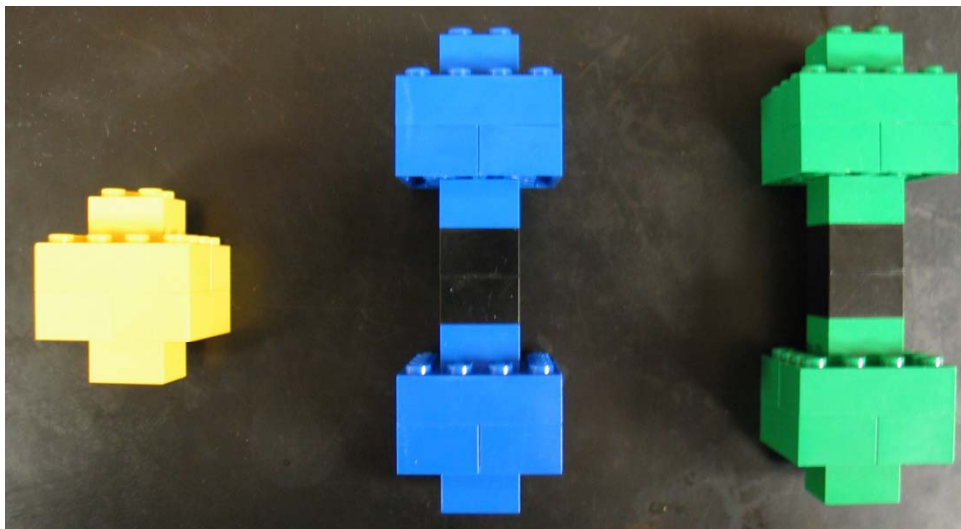


Atomic Orbitals

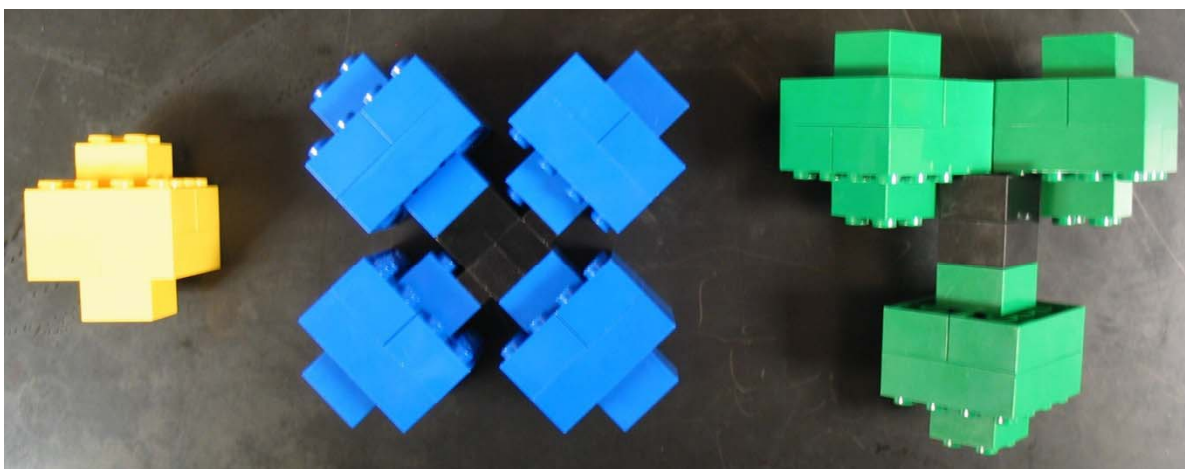


s orbital + p orbital = sp orbital

This model requires:
4 yellow 2x4 bricks
2 yellow 2x2 bricks

This model requires:
8 blue 2x4 bricks
4 blue 2x2 bricks
2 black 2x2 bricks

This model requires:
8 green 2x4 bricks
4 green 2x2 bricks
2 black 2x2 bricks



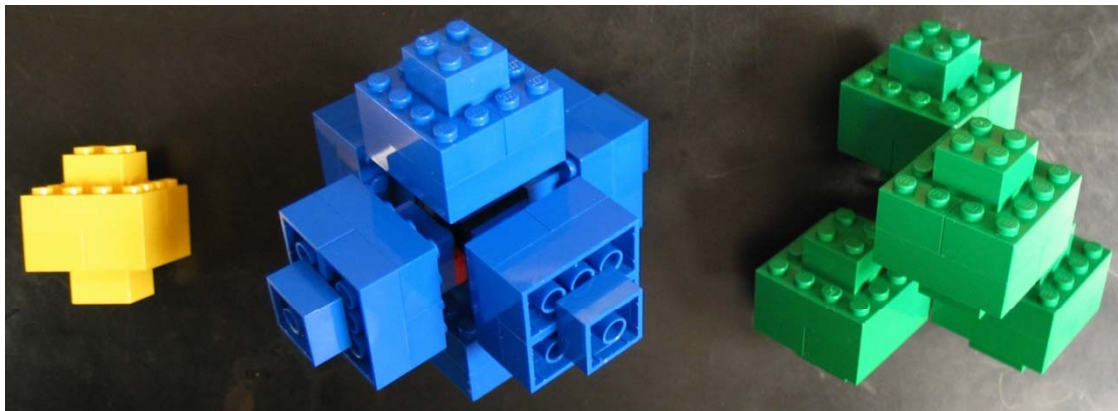
s orbital + two p orbitals = sp² orbital

This model requires:
4 yellow 2x4 bricks
2 yellow 2x2 bricks

This model requires:
16 blue 2x4 bricks
8 blue 2x2 bricks
2 black 2x2 technic bricks
2 black 1x2 plates w/ 1 knob

This model requires:
12 green 2x4 bricks
6 green 2x2 bricks
2 black 2x2 bricks

Atomic Orbitals



s orbital + three p orbitals = sp^3 orbital

This model requires:

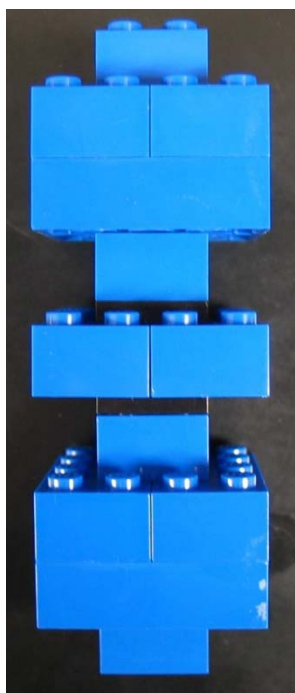
4 yellow 2x4 bricks
2 yellow 2x2 bricks

This model requires:

24 blue 2x4 bricks
12 blue 2x2 bricks
4 black 2x2 technic bricks
4 black 1x2 plates w/ 1 knob

This model requires:

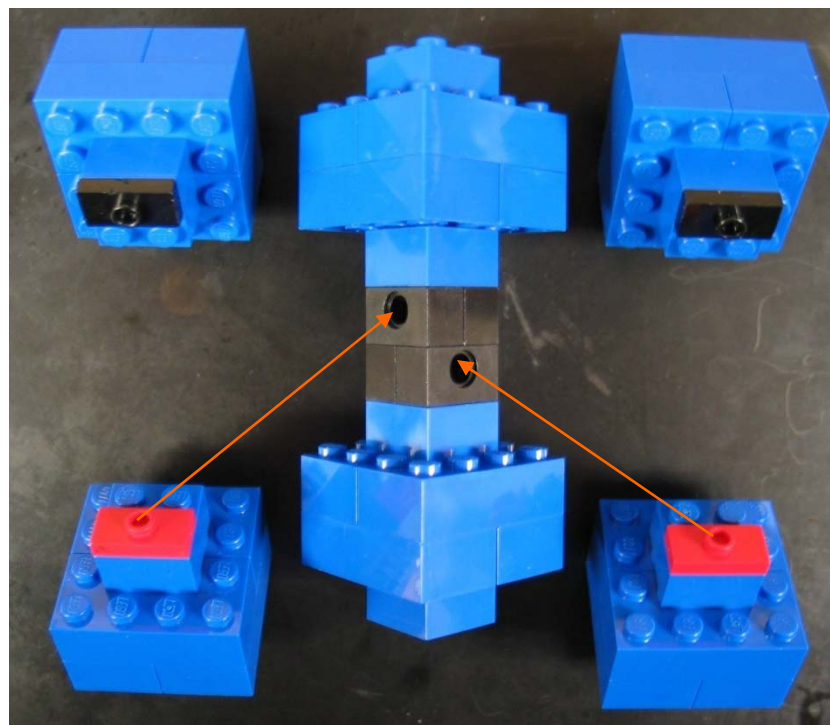
16 green 2x4 bricks
8 green 2x2 bricks
2 black 2x2 bricks



d_{z^2} orbital

This model requires:

10 blue 2x4 bricks
4 blue 2x2 bricks
2 black 2x2 plates



“three p orbitals” model
(taken apart for clarity)

same concept used for “two p orbitals” model