The Buckyball Assembly Steps

AltDynamic

Assembly Notes

1. Assembly should be completed by an adult. It can take up to 1-2 hours to complete.
2. The arrows ⟶ point to the directional bumps referenced on the other side of this sheet.
3. Do not squeeze the carbon fiber tubes with a pliers or hand tool as they could scratch or crush.
4. It is recommended to use a toothpick and apply a very small amount of glue to the inside of each node before the beam is inserted. The glue needs 12-24 hours to dry. Excess glue can be wiped off with a damp towel.

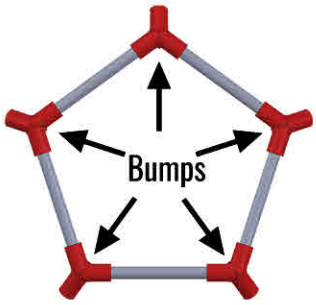
Assembly Steps

#1

Apply glue inside of the hole and slide one beam into the Bottom Right position.

#2

Repeat Step 1 to create a Pentagon. Make twelve Pentagons

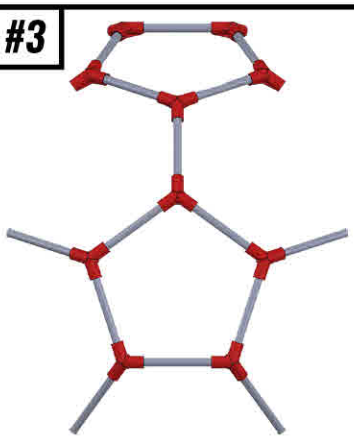


Lay the 12 pentagons flat and make sure the beams are pushed all the way in.

We recommend allowing the glue 30 minuntes to partially dry before continuing on to step #3.

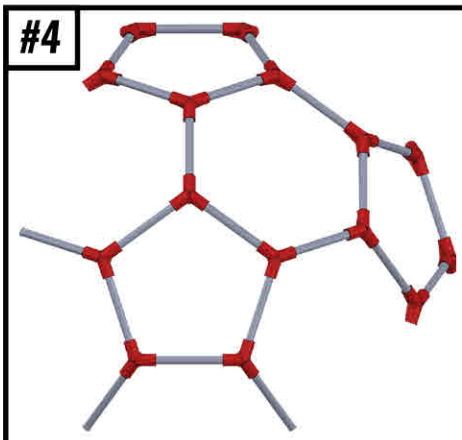
**Step 2 is the most important step.*

#3



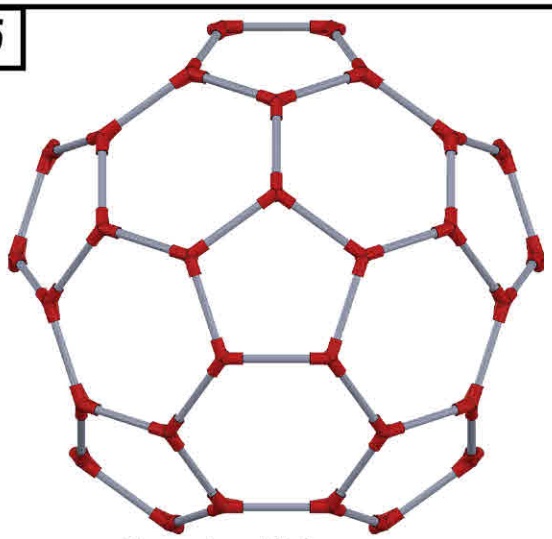
Insert five beams and add one pentagon structure.

#4



Add one beam and one pentagon structure.

#5



Repeat until there are 6 Pentagons and 5 Hexagons

#6 Repeat Steps 3-5.

Connect the two halves from Step #5 with the remaining 10 beams.

#7 Ensure all 90 beams are fully pushed into the nodes. A measuring device (ruler or caliper) is recommended to check. It is hard to visually determine.

#8

Congratulations!

You now have the model of the C60 carbon molecule known as the Buckyball.

Assembly Video: AltDynamic.com/Buckyball

Contact us for assembly support: AltDynamic.com/contact

AltDynamic

The Buckyball

A carbon fiber model
of the C60 carbon molecule

Assembly Instructions

Introduction

The Buckyball is based on the geometry of the truncated icosahedron. It has 32 faces (12 pentagons, 20 hexagons) and 60 vertices. Using Euler's Formula, the Buckyball therefore has 90 edges.

Euler's Formula: $F + V = E + 2$

F = Faces
V = Vertices
E = Edges

Parts List

60 Nodes 

90 Beams 

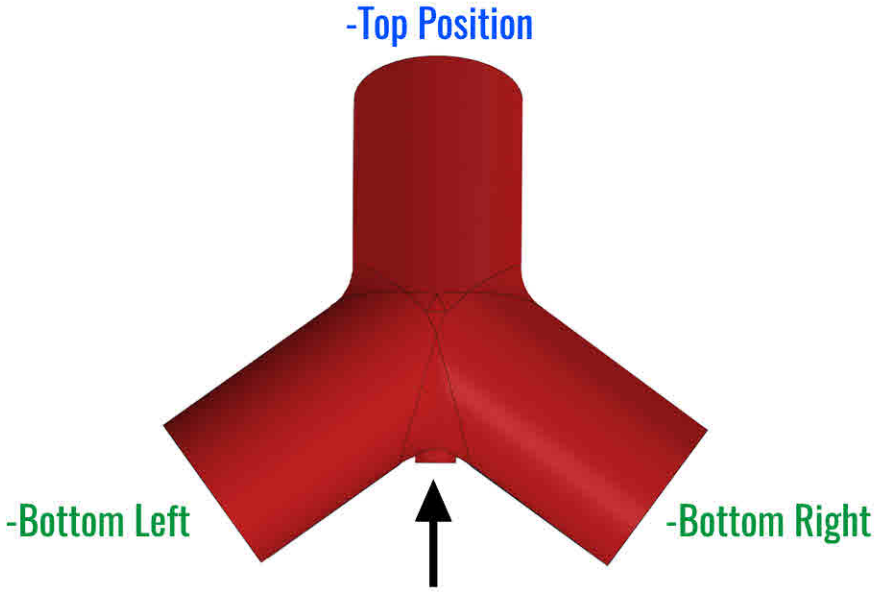
Toothpicks

Elmer's Liquid School Glue
(Water Soluble)

*3 Extra Nodes & Beams are included

Node Geometry

Important: The node is directional because it needs to connect the pentagons and the hexagons.



To distinguish direction, a small dot is built into the node. This is the "bottom" end of the node that is used to create pentagons. See Assembly Step #2 for more.

WARNING

Small parts may pose a choking hazard. This model is intended for adults 18 years of age or older. Assembly should be completed by an adult.

Visit AltDynamic.com/buckyball for a digital copy of this sheet and a video instructional.