Exploring Structures—Buckyballs

Can you fold a model molecule?

NanoDays
The Biggest Event for the Smallest Science!

whatisnano.org

NanoDays
The Biggest Event for the Smallest Science!

Exploring Structures—Buckyballs

Try this!

1. Take a precut paper shape.
2. Fold it along the scored lines to make a model of a nanoscale structure.
3. Put the tabs in the slots to hold it together. What does your model look like?

What's going on?

You've made a model of a buckyball, a tiny molecule made of 60 carbon atoms.

Buckyballs look like soccer balls or geodesic domes. They're named after the architect Buckminster Fuller, who made dome structures popular.

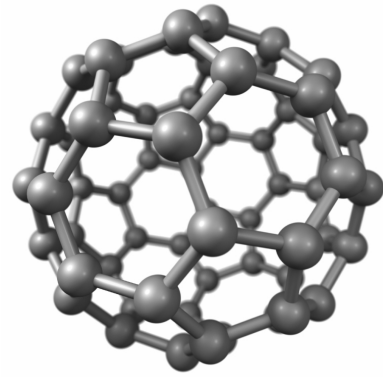
Buckyballs are just one form of carbon. Carbon can also form diamond, the hardest natural material known on Earth, and graphite, one of the softest materials.

Diamond, graphite, and buckyballs are all made entirely from carbon! They have different properties because the carbon atoms are arranged differently at the nanoscale.

Diamond ring

Pencil lead (graphite)

How is this nano?



Model of a buckyball

Buckyballs are tiny, soccerball-shaped molecules made of carbon. Buckyballs are only one nanometer across! (A nanometer is a billionth of a meter.)

In the field of nanotechnology, scientists and engineers study the world of the nanometer and make new materials and tiny devices. They use special tools and equipment to detect and manipulate nanometer-sized particles like buckyballs.

Buckyballs are good lubricants because of their spherical shape. Their hollow structure could make them useful for delivering medicine in the future.