More

DNA Factoids

DNA stands for **Deoxyribo Nucleic Acid** (DEE - OX - EE - RI -BO NEW - KLAY -ICK A - SID).

The 4 chemical components that make up the "ladder rungs" of DNA are called nucleotides. (NEW - KLEE - OH -TIDES) Their names are:

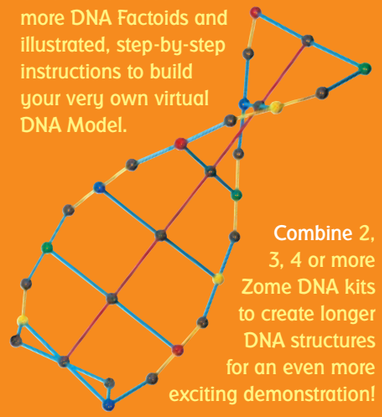
Thymine (T) — **(A) Adenine**

Thymine is always opposite Adenine in the "rungs" of DNA, so the Yellow Ball will always be opposite the Blue Ball in your model.

Cytosine (C) — **(G) Guanine**

Cytosine is always opposite Guanine in the "rungs" of DNA, so the Green Ball will always be opposite the Red Ball in your model.

Unfold this sheet to find more DNA Factoids and illustrated, step-by-step instructions to build your very own virtual DNA Model.

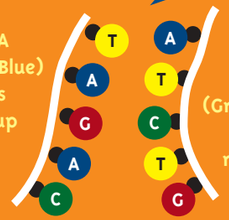


Combine 2, 3, 4 or more Zome DNA kits to create longer DNA structures for an even more exciting demonstration!

The special "partner-pairing" of these 4 components makes possible over 3 Billion (3,000,000,000) instructions of genetic code!

Proteins attach to the DNA and help the strands coil up into a chromosome when a cell gets ready to divide.

T and A (Yellow & Blue) always match up



C and G (Green & Red) always match up

Here's how the DNA programming works: In real life, when DNA code begins making new proteins to build eyes, muscles and brains, it works a little like a zipper. As each strand of DNA pulls apart, each half connects with its matching pieces to make an exact copy. Presto!

Get with the program! Finding every combination which exists in a DNA helix (ladder rungs) is the key to solving the genome puzzle. Imagine an even-more-accurate blueprint of how DNA "programs" your body!

Build the most geometrically-beautiful model of a DNA ever!

Zome DNA model is a simplified approximation of the actual DNA molecule. It's easy to build, with simple, step-by-step illustrations and fun facts inside! Part of the award-winning ZOME SYSTEM!

WINNER OF 15 National Toy Awards

Ladders have 6 or 7 rungs. But all 46 DNA "ladders" found in one human cell have OVER 6 Billion (6,000,000,000) rungs!

Warning: Swallowing Danger
CONTAINS SMALL PARTS that are NOT suitable for children under 3 years of age.

Zome DNA

Ages 10 to Adult

It makes us what we are!

More than just a pretty molecule, DNA contains all the information needed to construct and operate the human body.

Meet Felix, the Double Helix!

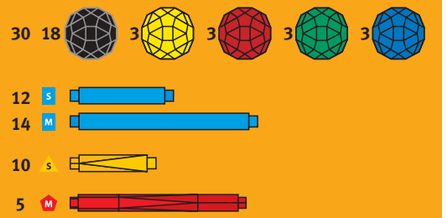
Explore the mystery of DNA — the blueprint of life — and discover a whole new world — for SCHOOL SCIENCE PROJECTS or just plain fun!

Unwind the DNA of one cell, and this thread-like molecule stretches over 6 feet long!

ZOME DNA

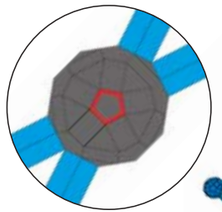
PARTS LIST:

The Zome DNA Kit contains 71 Zome Pieces, with 30 Zome Balls and 41 Struts in the indicated lengths (short or medium) and colors shown below. Zome DNA uses 5 colors of Balls. (The black Balls and the center axis of red and blue struts do not represent actual parts of DNA.)

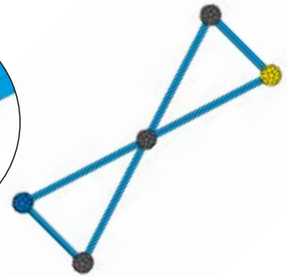


IMPORTANT! As you build your model, MAKE SURE THAT EACH CONNECTION IS VERY TIGHT!

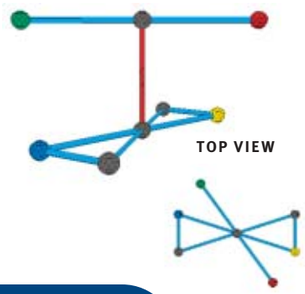
1 4 M



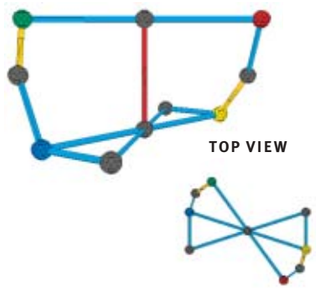
2 +2 S



3 +2 M +1 M

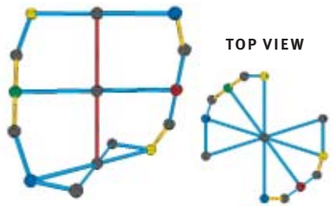


4 +2 S +2 S

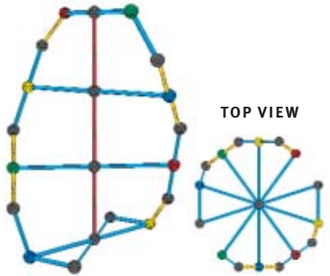


Note: Your model of DNA can use ANY arrangement of the colored Balls you want, so long as the Yellow is opposite Blue, and Red is opposite the Green, each time – just like DNA!

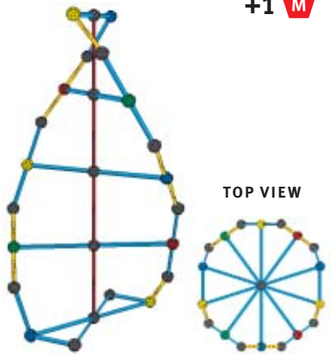
5 +2 S +2 M +2 S +1 M



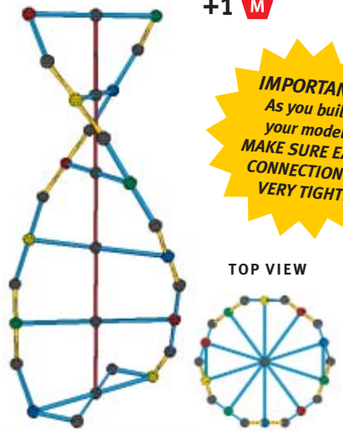
6 +2 S +2 M +2 S +1 M



7 +2 S +2 M +2 S +1 M



8 +2 S +2 M +2 S +1 M



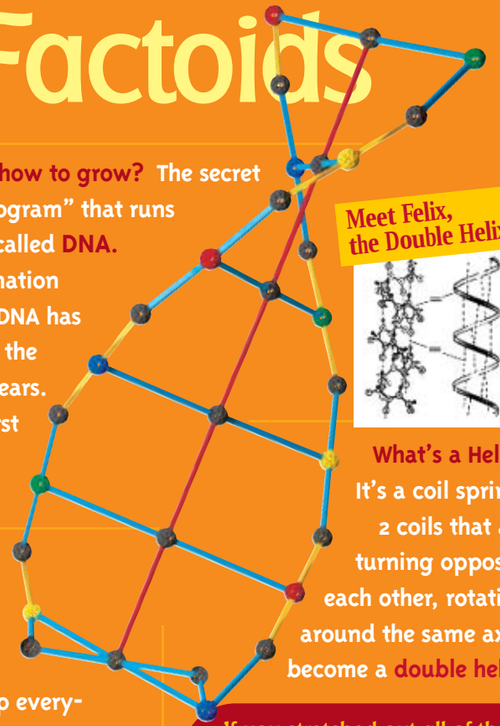
IMPORTANT! As you build your model, MAKE SURE EACH CONNECTION IS VERY TIGHT!

Visit www.zomesystem.com to get more information and parts! To speak with us, call 1-888-ZOMEFUN

Zometool, Inc., 1526 South Pearl St., Denver, CO 80210 303.733.2880

Did you know?

DNA Factoids



How does your nose know how to grow? The secret lies in a tiny "computer program" that runs in every cell of your body called DNA. The basic method of information storage for all living cells, DNA has contained and transmitted the data of life for billions of years. It is, in a sense, the very first example (or prototype) of human-made computers!

Who's got DNA? DNA is found in all plants, birds, animals and bugs — it's in all cellular lifeforms — and even viruses! DNA winds up everywhere, as it winds into two parallel spirals — like a circular staircase ladder. a double helix — like Felix!

Where's your DNA? DNA strands ride on "molecular horses" in the center of each of our cells called chromosomes. In every human cell, there are exactly 23 pairs of chromosomes.

Meet Felix, the Double Helix!

What's a Helix? It's a coil spring. 2 coils that are turning opposite each other, rotating around the same axis, become a double helix.

If you stretched out all of the DNA in your cells, it would reach to the moon – 6,000 times!

More DNA Factoids on other side.