

# DNA Jewelry

Directions for 12 repeats

## Materials

- 8 red tubular (thymine) pairs with
- 8 gold tubular (adenine)
- 5 blue tubular (guanine) pairs with
- 5 green tubular (cytosine)
- 26 gold ball beads (phosphate)
- 26 silver ball beads (deoxyribose)
- 28 gauge non-tarnish gold colored wire (86 cm)

1. Measure 86 cm of wire. Find the midpoint.
2. Place a blue tubular bead and a green tubular bead at the midpoint of the wire
3. Add a silver ball, then a gold ball, and then another silver ball on each end of the wire.
4. Add a red tubular bead on one end and a gold tubular bead on the other end.
5. Run the red bead wire through the gold tubular bead and silver ball on the other end (double wiring the pair). Then run the gold tubular bead wire in the same manner through the red bead and silver ball. Pull the wire through gently. **DO NOT ALLOW KINKS IN THE WIRE!** Pull until two steps of your ladder are apparent.
6. Add a gold ball and a silver ball on each wire.
7. Add a tubular bead (your choice) on one wire and its complement on the other.  
(Repeat steps 5-7. The sequences are up to you. Just remember to keep your base pairs correctly matched.)
8. Continue until you have 12 steps to the ladder.
9. Always remember to keep the wire taut when you pull the gold ball beads out to the sides of the molecule.
10. When you place the last pair onto the DNA molecule, allow for 1 cm of bare wire between the last tubular bead base pair. Twist here for the hanging loop using a paperclip as your “twist” tool. (Make sure to take up the slack as you twist the loop - also, be sure to use both of the wires that pass through the tubular beads.)
11. The remaining wire should be threaded down the sides of the ladder through the gold ball beads for reinforcement of the phosphate bonds. Cut off excess wire, and give the ladder a counterclockwise twist.
12. Thread a key chain ring through the hanging loop if desired.

Possible bead source:

General bead company

<b>JLB005 red 4.5 mm bugle bead, 20g/pkg</b>
<b>JLB008 green 4.5mm bugle bead, 20g/pkg</b>
<b>JLC002 gold 7mm bugle bead, 40g/pkg</b>
<b>JLC007 blue 7mm bugle bead</b>
<b>white round beads</b>
<b>gold round beads</b>
<b>WRH103 nonetarnish wire 28 guage</b>
<b>MFG047 1 loop safety pin            2/1.00</b>