

Build Whale DNA

Discover the structure of a DNA molecule and make your own model!

Materials Needed Cornstarch building blocks (e.g. Magic Nuudles) in 4 colors*, Whale DNA Sequences sheet, white paper, scissors, sponge, water.

* If your colors are different from those on the sheet, decide which color will represent each letter.

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Step 4 Make the DNA strand Read the DNA sequence from left to right.

- x Start with the first base pair in your left hand.
- x Take the second base pair in your right hand and dab it onto the sponge to apply water on the long side
- x To make the DNA strand twist, hold the first base pair straight up and down, and tilt the second base pair slightly towards you and the bottom of it slightly away from you.
- x Stick the wet side of the second base pair onto the first.
- x Stick the second and third base pair together in the same way.
- x Repeat for every base pair until you reach the end of the strand. As you build your DNA, the strands will slowly form a double helix twisting to the right.

Step 5 Add a backbone, which holds the DNA molecule

Whale DNA Sequences

This DNA sequence is from the same COI amplified mitochondrial gene for each of the species of whales.

Bowhead Whale DNA

ñ [AGT TCT AGT CAC i [
 i [TCA AGA TCA GTG ñ [

Beluga Whale DNA

ñ [GT CTT AATAC i [
 i [TCA GAA _____ ñ [

Humpback Whale DNA

ñ [GT CCTAGT CAC i [
 i [_____ ñ [



