

# Candy DNA

## You are who you are because of your DNA.

Deoxyribonucleic acid, DNA for short, is the genetic blueprint contained in the cells of all living things.

All humans have DNA that's 99.9% identical. The tiny sliver left, the differing 0.1%, contains the variations that make us unique. Some of the things determined by your DNA include your eye color, hair color, height, and the size of your nose.

The DNA molecule is made of two linked strands that wind around each other to resemble a twisted ladder — a shape known as a double helix.

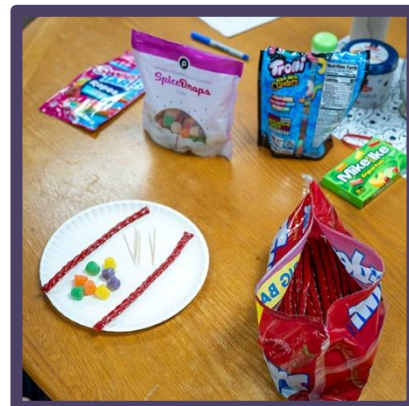
Each strand has a backbone made of alternating sugar and phosphate groups.

Attached to each sugar is one of four bases: adenine (A), cytosine (C), guanine (G) or thymine (T).

Learn how DNA determines traits by building your own yummy strand.

## Materials

- Twizzlers
- Bag of candy with multiple colors like marshmallows or gumdrops
- Toothpicks
- Paper Plate



# Instructions

1. Gather the pieces that will make your DNA strand
  - 1 paper plate
  - 2 Twizzlers
  - 6 toothpicks
  - 12 candy pieces
2. Each candy color represents a nitrogen base. For example:
  - Yellow = Guanine
  - Green = Cytosine
  - Orange = Adenine
  - Purple = Thymine
3. On the paper plate, place a yellow and a green candy on three toothpicks
4. Place an orange and a purple candy on the three other toothpicks
5. Place the toothpicks between the Twizzlers to make a ladder, alternating colors and direction. Twist the ladder to make a helix shape and you've made your DNA!

