

Create Your Own DNA Sequence

Materials:

1. 2 strings of Twizzlers candy
2. Pink, white, yellow and green mini marshmallows
3. Toothpicks

Instructions:

Imagine that the 2 strings of Twizzlers represent the backbones of the DNA strands (i.e. the sides of the DNA ladder).

Let the following colours of marshmallows represent the following nucleotides:

- a. Pink marshmallow = A nucleotide



- b. Yellow marshmallow = T nucleotide



- c. White marshmallow = G nucleotide



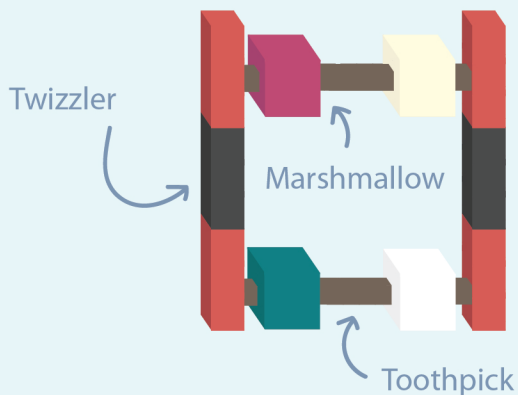
- d. Green marshmallow = C nucleotide



1. Take a toothpick and stick one marshmallow at each end of the toothpick. Make sure that the two marshmallows can pair up. Then repeat for 7-12 toothpicks.



2. Stick one end of the toothpick onto one of the Twizzlers strings and the other end onto the other string. Make sure that the toothpick positions are equal distance away from the end of the string on both sides.
3. Repeat for each of the toothpicks. Then slightly twist your gene sequence.
4. Congrats! You have successfully created your own DNA sequence.



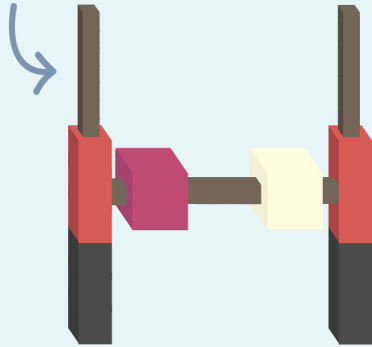
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Materials:

Now you will engineer a plant, which will have 2 distinct characteristics. To do so, you will combine your own genetic sequence with the genetic sequence of another group.

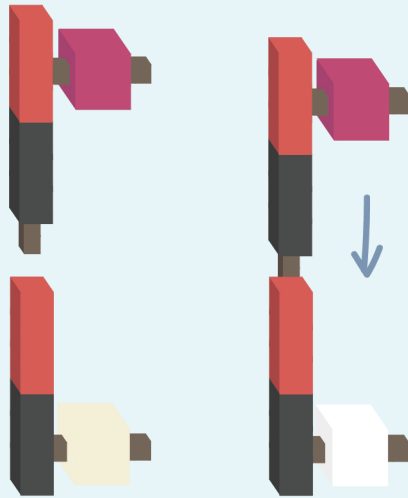
Instructions:

1. Take two toothpicks and stick them at the end of each Twizzler candy.

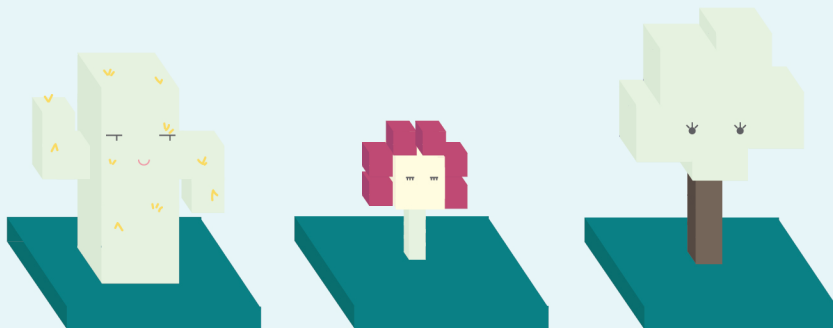


2. Find a pair that designed a gene that codes for a different characteristic.

3. Join the two genes by sticking the one end of your gene to the end of another gene (refer to the picture below).



4. Name the 2 characteristics that your plant would possess.



Examples:

Spines?

Flowers?

Height?