

## Delicious DNA Activity

### Overview:

This activity asks students to create DNA models. During this activity, point out some of the similarities and differences between the model students are building and actual DNA.

Some basic examples are listed below:

- DNA is so small that you cannot see it with your naked eye. Therefore, we use powerful microscopes to learn more about it and understand its structure.
- DNA is in every living thing!
- DNA contains the information that makes up organisms.
- Although the DNA models we are building represent DNA when it is stretched out, normally, it is bunched up tightly within our cells.

### Learning Objectives:

- Students will be able to explain basic base-pairing “rules.”
- Students will be able to describe the structure of DNA and understand that it is normally stored in the form of a double helix.
- Students will understand the importance of the sugar-phosphate backbone and the nitrogenous bases.

### Activity Materials:

- Gummy bears (4 colors)
- Sour punch ropes
- Toothpicks
- Paper Plates

*\*Please note, if you do not have the above materials, get creative! Think about what could be substituted for these materials and still represent DNA.*

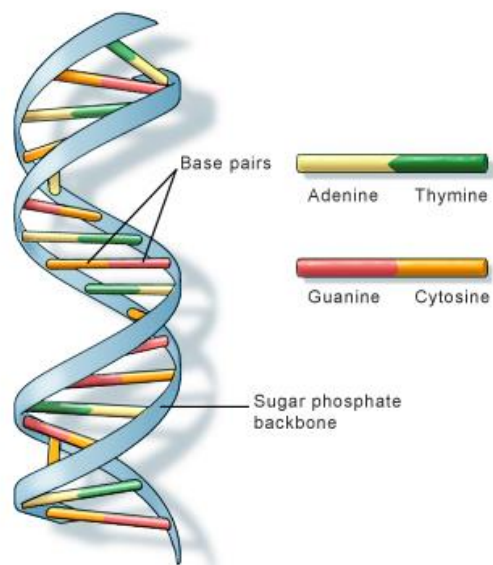
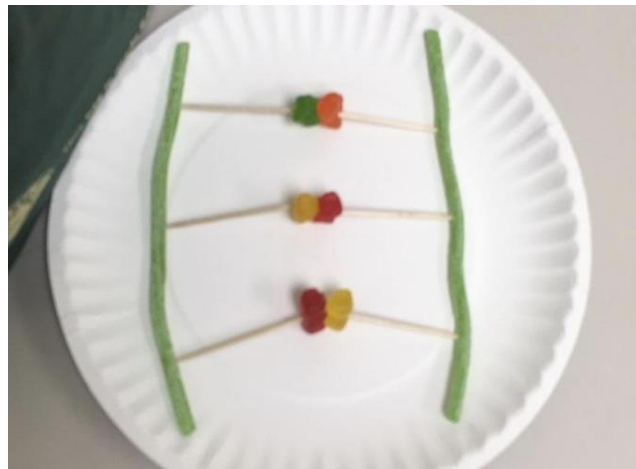
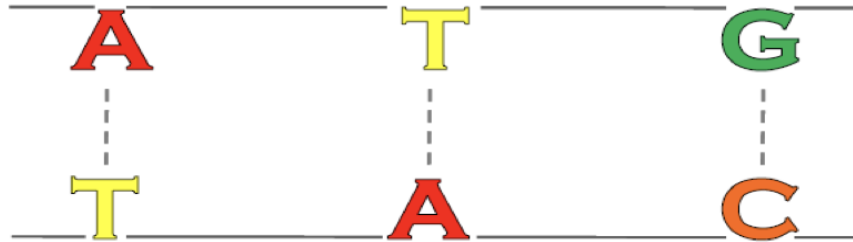
### Procedure:

1. Students will learn the bases of DNA: adenine (A), red; thymine (T), yellow; guanine (G), green; cytosine (C), orange *\*Although you can substitute materials and colors that represent the bases, the pairing rules should remain consistent*
  - a. Students will understand that A binds with T, and G binds with C.
  - b. Make sure students understand that these colors were just picked by us to be representative of these bases.
2. Students “bind” their gummy bears/bases together using the proper coinciding base. They can model the bond between bases by having their gummy bears “hug” to represent the bond.
3. Students will then use the sour straws as a phosphate backbone and connect the “base pairs” to the sugar-phosphate backbone.
4. Explain to students that DNA typically twists into something called a *double helix*, which helps protect the base pairs from external factors that could potentially harm the important genetic information.

### Possible Follow-Up Questions:

1. What base pair letters pair with which?
2. What is the structure of DNA, and why is it in the conformation it’s in?
3. How is information stored in a molecule of DNA?

# DNA



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