

**Introduce your students to the structure of DNA with this fun modelling activity using sweets.**

**Age:** 7 - 11

**Time:** 15 - 20 min

**Topics:** DNA

**Learning objectives:**

- DNA is found in all living things.
- DNA is a molecule with a double helix structure.

## BACKGROUND

All the biological instructions for making an organism are contained in a long molecule called DNA (deoxyribonucleic acid). All living things, from humans and mice to plants and bacteria, have a unique set of instructions written in the four chemical letters of DNA: A, C, G, and T. It's like a recipe book written in code!

Although it's not visible to the human eye we know that DNA has a unique shape. It is a double helix, and looks a bit like a twisted ladder. Each strand of the ladder is made of a long string of four DNA letters: A, C, G, and T.

These DNA letters known as bases always pair up in same way:

- **A** always pairs with **T**
- **C** always pairs with **G**

So we know when we have a T on one strand of the ladder, the other side will always be A, and if we have a G, the letter opposite it will be a C.

This activity will enable participants to find out more about the structure and shape of DNA by making an edible DNA model from sweets and cocktail sticks.

### Find out more

Read this fact page on DNA: [www.yourgenome.org/facts/what-is-dna](http://www.yourgenome.org/facts/what-is-dna)

## ACTIVITY PREPARATION

### Materials

- ☐ PowerPoint slides
- ☐ Small Jelly babies, gummy bears, dew drops or midget gems
- ☐ Strawberry cables or long flexible sweets like liquorice cables
- ☐ Cocktail sticks
- ☐ Pots or containers for sweets
- ☐ Instruction sheet

### Set up

To set up for this activity carry out the steps below:

1. Follow the instruction sheet supplied to make a Delicious DNA Helix in advance. You can use this as a working example later in the activity.
2. Set up each table with:
  - A bowl of sweets
  - A bowl with the strawberry cables
  - A bowl of cocktail sticks
  - Instruction sheet

## ACTIVITY GUIDANCE

### Warm up

Start with a quick discussion:

1. Using the PowerPoint slides provided show the group the image of DNA. Ask the students if they know what this is. Ask them to describe its shape.
2. Using the next slide, explain that DNA is made up of 4 letters (A,T,C, G) and the letters pair up in a particular way: A with T and C with G.
3. Using the next slide, explain that DNA is found in all living things. Ask if they can name a living thing that has DNA? Can they name any of the animals on the slide?

### Run the activity

Get going with the activity by following these steps:

1. Now the group is familiar with DNA explain, using the final PowerPoint slide, that they are going to make an edible model of DNA using sweets.
2. Show them the instruction sheet to follow and the model you made earlier – just like Blue Peter!
3. Walk the group through each step so they are clear on how to make their Helix. Remind students to be careful when pushing the sweets onto the cocktail sticks.
4. When everyone has finished take a picture of your creations.

### TAKE IT FURTHER

Want to explore the topic of DNA further? Why not try extracting DNA from fruit – all you need is fruit such as strawberries or blackberries, washing up liquid, salt, water, and vodka. Turn it into an investigation by comparing different fruits. For instructions and more information look at our **DNA Extraction** activity.

### SHARE IT

Don't forget to share your work with us by posting images on Twitter or emailing us at:

**[engage@wellcomegenomecampus.org](mailto:engage@wellcomegenomecampus.org)**

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