



## Home Science Resources:

## Edible DNA

This video explores **DNA** (deoxyribonucleic acid) as the important chemical that contains our genetic information, and is necessary for us to grow, reproduce and function. It demonstrates that **DNA is responsible for the visible differences** between people, such as eye colour, hair colour and skin colour. By the end of the video you should have an understanding of:

- What DNA is
- Why there are visible differences between people
- The structure of DNA, including its shape and the different bases

We can't wait to see your creations!

What will you need for this video:

- **Cocktail sticks:** These are needed for our bonds between the base pairs
- **Thick, long sweets:** These are our DNA backbones, to make double stranded DNA
- **Sweets with four different colours/varieties:** These represent our four different base pairs, so you need to use for example jelly beans, jelly babies, fruit pastilles, dolly mixtures etc

How does this experiment fit with the curriculum:

Fit with the GCSE biology curricula:

- Understand the simple structure of DNA (**KS3 Biology**)
- Know that DNA holds genetic information and have an understanding of its structure – including complimentary base pairs (**KS4 Biology**)

**If using jelly beans, or harder sweets, you may find it easier to heat the sweets in the microwave for a moment (less than 10 seconds) so they are softer. But please do be careful, and don't leave them in the microwave for too long as the sugar will boil! Please also be careful using the cocktail sticks as they contain sharp edges.**

**Please do send us in your creations! [ncbe@reading.ac.uk](mailto:ncbe@reading.ac.uk), or Tweet/Instagram**

We'd love to know how you got on!



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## Glossary - in case you need a recap of any of the terms!

**DNA** – Deoxyribonucleic acid, a chemical molecule that contains genetic information, found in the nucleus of cells.

**Base**– a unit of DNA, there are four bases (A for adenine, T for thymine, C for cytosine and G for guanine). The sequence of bases are what makes up the genetic code, each person's DNA is made up of different sequences of bases.

**Complimentary base pairing** – in DNA, A (adenine) always bonds via hydrogen bonding to T (thymine) and C (cytosine) always hydrogen bonds to G (guanine).

**Phosphate** – a molecule that makes up the backbone of DNA along with sugar molecules, it is part of the DNA double helix which is made up of two strands.

**Double Helix** – the molecular shape of double stranded DNA



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