THE LAB

Three things to make and do

INTERNATIONAL DAY OF WOMEN AND GIRLS IN SCIENCE

Kitchen chemistry

WOW!
If all the DNA in your body were unravelled, it would stretch to the edge of the solar system and back.

1 Make an edible DNA model

Follow in Rosalind Franklin's footsteps to discover the secrets of DNA – with sweets!

What you need

- 16 midget gems or gum drops (four different colours)
- 8 toothpicks
- 2 fizzy laces or strawberry pencils

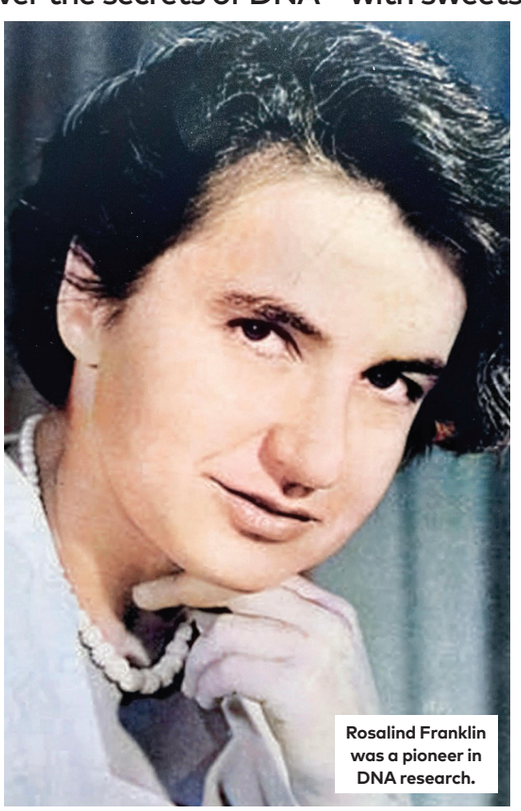
Instructions

1 Pick four colours of sweet. You will need four sweets of each colour, totalling 16 sweets. Each colour represents a different chemical "base", which DNA uses to connect each side of its twisted "double helix" (spiral shape): adenine (A), thymine (T), cytosine (C) and guanine (G). We chose yellow (A), red (T), green (C) and purple (G).

2 These chemicals always pair up in specific combinations. A only pairs with T, and C only pairs with G. So in this model, only combine yellow (A) with red sweets (T), and green (C) with purple (G). Make eight coloured base pairs by pushing a sweet onto either end of the toothpick, taking care to get the chemical pairings correct.

3 Your DNA model uses fizzy laces or strawberry pencils to make up the spiralling sides. Connect each side using your sweet base pairs like the rungs of a ladder.

4 Your model is almost finished, but one detail is missing. DNA twists in a right-handed spiral. To do this, lay it flat and turn the long fizzy lace on the left-hand side over to the right.



Rosalind Franklin was a pioneer in DNA research.

How does it work?

To celebrate International Day of Women and Girls in Science (11 February), we are dedicating The Lab to some incredible women in science. This activity honours Rosalind Franklin. She took X-ray photographs of DNA molecules in 1953, which played a big part in working out DNA's shape. DNA is found in nearly all your body's cells. It contains the information needed to build and run your body. It has two long strands (represented here by fizzy laces), connected by four different chemicals (midget gems), and has a twisted spiral shape.

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