

WHO AM I?

I helped take the first picture of a black hole, Capturing its shadow with algorithms' role.

BLACK HOLE LIGHT BENDING

Instructions

Shine a torch through the water and use the bowl to show how light bends. This mimics the bending of light around a black hole's immense gravity, as seen in the famous black hole image Katie helped create.

Materials

- Glass bowl
- Water
- Small torch
- Dark paper



Tag @stemettes
#StemettesFestiveChallenge



Katie Bouman
Assistant Professor of Computing and
Mathematical Sciences

STEMETTES

Festive Challenge



SHORTBREAD VS SUGAR COOKIES

THE POWER OF PROPORTIONS!

Find a recipe for simple shortbread (unflavoured) and sugar cookies. Calculate the different proportions for each recipe using FLOUR as the base... "x" butter / "y" flour & "x" sugar / "y" flour. Play around with the proportions to see if you can create your ideal cookie!

#StemettesFestiveChallenge

WHO AM I?

I was one of NASA's first Black engineers, My equations sent astronauts out of Earth's sphere.

WHO AM I?

With X-rays, I studied a structure so fine, A double helix – life's design.

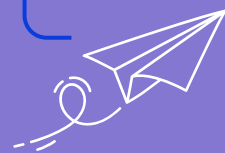
PAPER PLANE AERODYNAMICS

Instructions

Fold different paper aeroplane designs and test which flies best. Experiment with wing shapes to learn about the basics of aerodynamics and how engineers optimise designs for flight.

Materials

- Paper
- Scissors
- Pens - for decoration



We'd love to see your challenge results! Please share your photos with us on social media!



Mary Jackson
Mathematician and Engineer

EDIBLE DNA MODEL

Instructions

Build a simple DNA model by pairing "bases" (marshmallows/gummies) with toothpicks and attaching them to the liquorice "backbones".

Materials

- Liquorice sticks
- Marshmallows or gummies
- Toothpicks



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Rosalind Franklin
Chemist and X-ray crystallographer