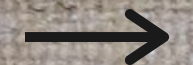


# **MINDS UNDERGROUND™**

# **JUNIOR STEM CLUB**



**EXAMPLE AGENDA**

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# Overview

Our STEM club aims to widen students' knowledge under the expert guidance of our Oxbridge-educated specialists, giving them the opportunity to acquire or develop skills and expertise relevant to their subject interests. We aim to develop the next generation of young scientific minds - classes are centred on thinking about how to solve the world's most pressing problems such as climate change, viruses and AI ethics.

## What to Expect

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Each class aims to develop students' STEM skills and widen knowledge through a combination of exciting content that transcends STEM disciplines, and practical project / presentation work. Students will develop research skills, be inspired to think out of the box and challenge facts, ask questions and invent solutions to tackle some of the world's most pressing problems.

## Logistical Details

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All classes will take place online over Zoom or Microsoft Teams. A recurring link is provided.

Students are set tasks between sessions to ensure they are engaged between classes - there may even be the chance to be entered for a Crest Award!

**Dates:** Classes will be 1 hour in duration, held weekly.



## STEM Club Example Host

# Our Host

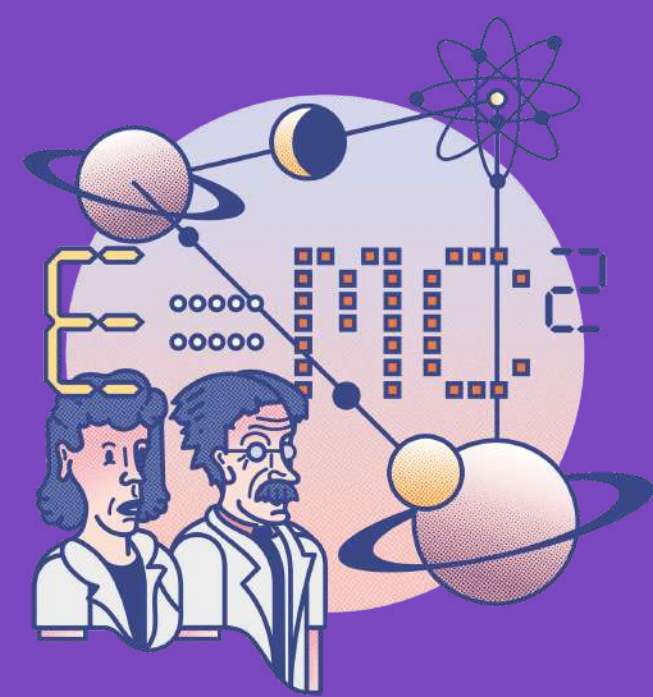


## Rhea

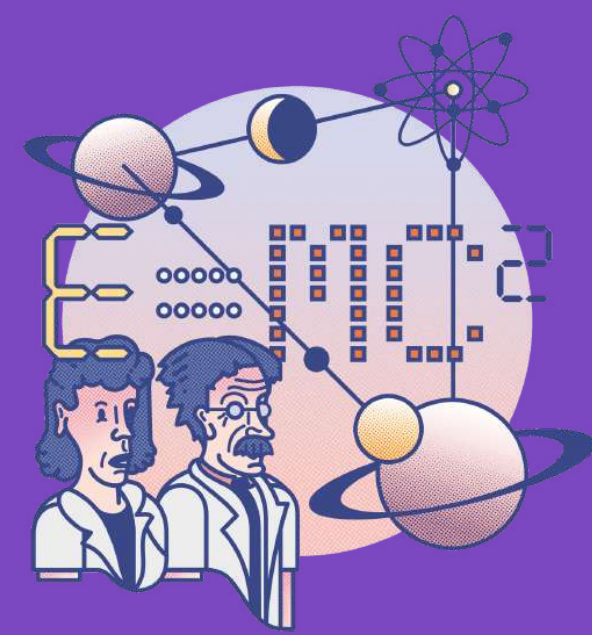
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The primary host for the STEM Club is Rhea, author of our blog: [Exploring the Realms of Off-Curriculum Scientific Learning](#). Rhea is a 1st Class Medic from the University of Oxford and excels in all fields of science - She was the winner of Peterhouse College, University of Cambridge's prestigious essay competition, with her answer to the question, "Why isn't there a cure for cancer?" She was also awarded the Silver Crest Award by the British Science Association for her research project on the effects of different foods on cardiovascular disease, was presented the British Physics Olympiad Gold Award at the Royal Society in London, achieved three Maths publications in NRICH with the University of Cambridge and was invited to the UKMT Maths Summer School at Oxford University.

Rhea's extra-curricular endeavours were undertaken alongside a highly successful academic career, which saw her achieve a full board of A\*'s across her GCSE and A-Levels. Rhea's passion for science and unusual success across numerous scientific disciplines makes her an extremely inspiring mentor for younger students looking to achieve similar accolades.



# Example Agenda



## Investigating Our Extra-Curricular Activities: How Is Science Present In Our Daily Lives?

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Why is exercise important for the body? What happens to our body when we exercise? How do musical instruments produce different sounds? Why do some notes work together, whilst others do not? In this interactive session, students will unravel the use of science concepts in their daily lives.



## Tackling Climate Change: What Novel Solution Could Tip The Balance?

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In this session, students will be quizzed on the causes and negative impacts of climate change. The majority of the session will be focused on thinking about novel solutions - What can we do to stop it? Students will be encouraged to propose an idea that could tip the climate change balance. After the session, students will be set work for the next session challenge.



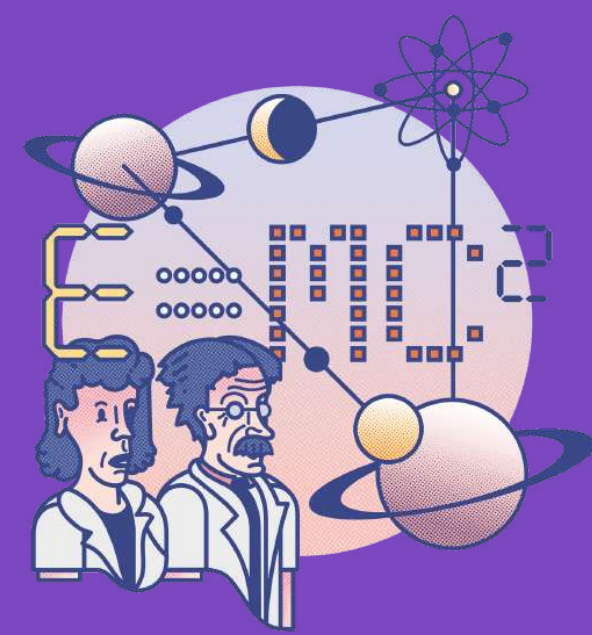
## Tackling Climate Change: Flood Management - Could You Win a Crest Award?

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Before the session, students will be asked to research the risk of flooding in their local area. During the session, we will discuss flood management, and the wider implications of flooding. By the end of the session, students should be equipped to write their own flooding risk assessments for their local areas. Good reports can be submitted for a Crest Award (Crest Awards are given to students who submit a project addressing a real-world STEM problem).

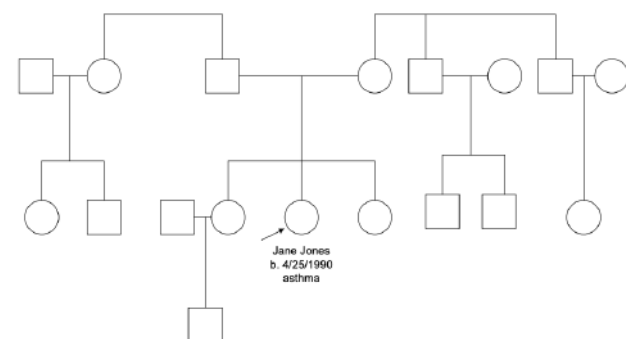


# Example Agenda



## Exploring Genetics: Family Tree Challenge

What are genes, and how are they inherited? Why is diversity in a population important? After the session, the challenge will be for students to construct their own family tree to investigate inheritance of a particular trait.



## Science Journal Club: Developing Our Next Gen Scientific Communicators

Each student will be asked to read a recent scientific article (ideally related to a topic covered in a previous session) and present it to the group, which we will then discuss. Students will gain an insight as to how to approach, critique, and understand scientific writing, as well as how to be a confident scientific communicator!

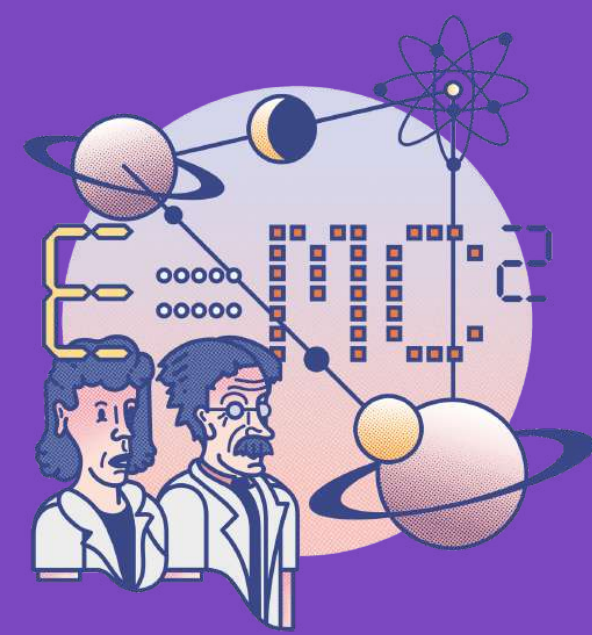


## Covid: The Ins and Outs

We will discuss basic virology and epidemiology of the virus, and how vaccinations and other treatments for the disease work. Delve into the science behind finding a vaccine for COVID-19!



# Example Agenda



## Covid-19 Scientific Article Challenge

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Each student will be asked to read a recent scientific article about Covid-19 and present it to the group, which we will then discuss. Students will be encouraged to build upon skills developed during the preliminary article presenting session and will be awarded certificates based on their performance.



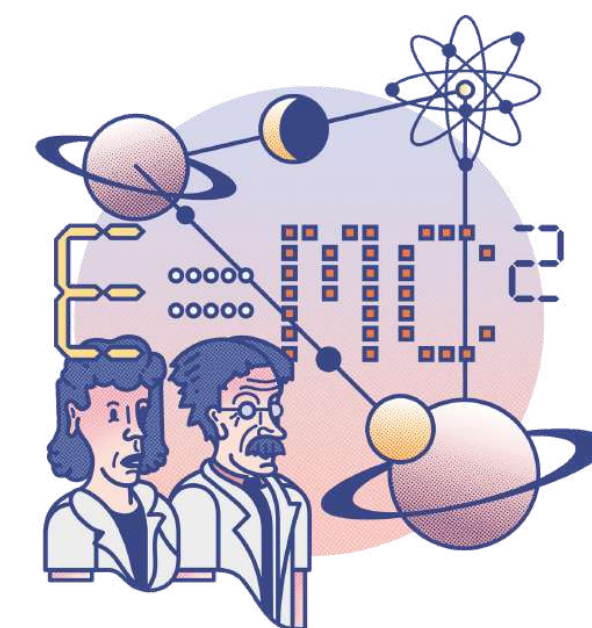
## Technology in the Future of Healthcare

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One of the most exciting aspects of medicine is the constant development of new technologies. How might advances in technology change the future of medicine? Can doctors really be replaced by robots? Students will be encouraged to look to the future, what will XYZ be like 10-20 years from now?


Any questions? Get in touch!

# Contact Us



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