

SUMMER SCIENCE EXHIBITION 2019

Student visit planner

The Summer Science Exhibition is spread out over two floors of the Society's building in London. There are 22 exhibits presenting research across biology, computing, chemistry, maths and physics.

Before you visit:

- Make a list of the exhibits in each room that you want to see.
- Use the space provided on this sheet to write down key questions you have for the exhibitors regarding their research or careers.
- Think about the rooms you want to visit and how long you might need in each area.
NOTE: it can get busy in the building, so be prepared to move to a different area and come back to an exhibit if it's too crowded.

Find out more about the exhibits online: royalsociety.org/summer-exhibits.

THE
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During your visit:

Get your limited edition badge

The exhibits have provided a question that relates to the research they are presenting at the Summer Science Exhibition.

Find the answers to all the questions on this sheet by talking to the exhibitors, and then return your completed sheet to the Schools hub to receive a limited edition badge.



The badge design is based on images from the Royal Society's historical archive.

First floor – Wolfson Rooms

1. In your element

University of Warwick

Celebrate the 150th anniversary of the periodic table with an investigation into the elements that are essential for life.

Chemistry Biology

Question: What chemical elements essential for human life cannot be found in a cupcake?

Answer: _____

2. A recipe for primordial life

UKRI - MRC Laboratory of Molecular Biology

Dive into the primordial soup to reveal the fundamental building blocks of life.

Biology Chemistry Maths

Question: What molecule, also found in meteorites, could represent the major source of carbon, supporting early life on Earth?

Answer: _____

3. The great Bristol shake off

University of Bristol

Shake, shake, shake those fake earthquake tremors to help safeguard our nuclear reactors against natural disasters.

Chemistry Physics Maths Computing

Question: How many earthquakes have there been in the UK in the last 100 days?

Answer: _____

4. It's a knockout

Royal Veterinary College

Explore how tuberculosis is becoming a disease of the past through the use of genetic technologies.

Biology Maths

Question: Is tuberculosis caused by a bacterium, a virus or a parasite?

Answer: _____

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5. Surface matters

Cardiff University

Detect how changes on the surface of materials can dramatically alter their properties.

Chemistry Physics

Question: What does the X in XPS stand for?

Answer: _____

First floor – Council Room

6. Lighting the brain after birth

University College London (UCL)

Glimpse how light can be used to monitor the brain activity of babies and even save the lives of newborn infants.

Biology Physics Maths Computing

Question: What type of light can we use to measure the brain through the skull?

Answer: _____

7. BepiColombo: x-ray eyes on Mercury

University of Leicester

Voyage to this mysterious and uncharted planet and explore how its secrets are being revealed using x-ray imaging.

Physics Maths Computing

Question: What is the name of the largest impact crater on Mercury?

Answer: _____

8. Molecular music: the sound of chemistry

Ilkley Grammar School / University of Bradford

Join Ilkley Grammar School as they create musical masterpieces to show what's happening in a chemical reaction.

Chemistry Physics Maths

Question: What is the name of the scientific instrument featured on the stand and used to measure molecules?

Answer: _____

My key questions for the researchers:

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Ground floor – City of London Rooms

9. Green light for chemistry

University of Nottingham

Find out how light can be used as a clean, green alternative to chemicals in manufacturing methods.

Chemistry Maths

Question: Which compound, that is used to treat malaria, can be made using light?

Answer: _____

10. Magnetic to the core

University of Liverpool

Discover what the Earth's ancient magnetic field tells us about the hidden depths of our planet.

Physics Maths

Question: When did Earth's magnetic field last change polarity?

Answer: _____

11. Breathing with your brain

University of Oxford

Why do we get breathless? Explore how and why the brain can influence the breathing process.

Biology Physics Maths

Question: Which part of the brain is active when you feel afraid of being out of breath?

Answer: _____

12. Do you feel me?

Goldsmiths, University of London

Discover how words can have a taste and sounds have a colour for people with synaesthesia, a condition that blends the senses.

Biology Maths

Question: What does Piccadilly Circus taste like to a synaesthete?

Answer: _____

13. Seeing with atoms

University of Cambridge

See how helium can be used in microscopy to open a new world of discovery.

Biology Physics Maths

Question: What element is used in the neutral atom beam microscope to make images?

Answer: _____

14. Living on the Moon

Open University

Prepare for the next big lunar challenge, 50 years after the historic Apollo 11 Moon landing.

Chemistry Physics Maths

Question: Where on Earth was the Lunar Meteorite on our stand found?

Answer: _____

Ground floor – Wellcome Trust Lecture Hall

15. Timber towers of tomorrow

University of Cambridge

Explore the science and engineering of super tall timber, from the smallest of cells to the highest of skyscrapers.

Biology Chemistry Maths

Question: How long does it take to grow a 300 metre timber tower in the sustainable forests of Europe?

Answer: _____

16. A message from afar

University of St Andrews

Join the debate on whether we should try and communicate with extra-terrestrial civilisations.

Biology Physics Maths

Question: What name has been given to the UK's largest radio telescope?

Answer: _____

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17. Take a bite out of climate change

University of Manchester

Uncover the surprising truths about what we eat in this myth-busting look at the food on our plate, and how it gets there.

Biology Chemistry

Question: Roughly what fraction of greenhouse gas emissions are from food?

Answer: _____

18. Art of isolation

Lancaster University

Is the quietest place in the Universe really next to the M6? Investigate how the removal of 'noise' is enabling the development of brand new technology.

Chemistry Physics Maths Biology

Question: What type of microscope is used to see a single atom?

Answer: _____

19. Trusted autonomous vehicles

University of Leicester

Would you trust a driverless car? Put your views to the test and see what it takes to establish trust in this up and coming technology.

Physics Maths Computing

Question: Name two different sensors utilised by autonomous vehicles?

Answer: _____

20. The mathematics of cancer

University College London (UCL)

In the search for a cure for cancer, see how mathematical modelling is providing valuable insight into the complex structures of tumours.

Biology Physics Maths Computing

Question: What imaging tool do we use to create virtual tumours?

Answer: _____

21. Robots in the danger zone

Heriot-Watt University

Meet the real-world robots unlocking new possibilities in areas too hazardous for humans to work.

Physics Maths Computing

Question: What type of robot can you control and race on our stand?

Answer: _____

22. Super biomaterials to fight superbugs

University of Nottingham

Discover the amazing materials helping to battle the rise of superbug infections in medical devices.

Biology Chemistry Maths

Question: What is a biofilm?

Answer: _____

My key questions for the researchers: