Midlothian Science Festival

#MSFSCHOOLS2021

MIDLOTHIAN SCIENCE FESTIVAL ONLINE

SCHOOLS PROGRAMME 2021

PRIMARY SCHOOLS

11th - 29th October 2021

THE UNIVERSITY of EDINBURGH
Easter Bush
Science Outreach Centre

organiser of the MSF Schools Pro

Welcome to the Midlothian Science Festival Online Schools Programme 2021

The Midlothian Science Festival Schools Programme is part of the **Midlothian Science Festival**, a volunteer-led charity that aims to share science with people across Midlothian. The schools programme is coordinated by the University of Edinburgh's **Easter Bush Science Outreach Centre** and is made possible by **local scientists and STEM organisations** that offer exciting, interesting and inspiring workshops for our Midlothian learners.

The aims of the MSF schools programme are to:

- **Inspire and engage** Midlothian learners in science and discovery.
- **Cultivate curiosity** and communicate the power of knowledge and creativity to change our world view.
- Encourage young people to **understand the real-life application of science** and **discuss the issues surrounding it**, to equip them to become well-informed citizens, involved in decision making.
- **Raise the aspirations** of local young people, giving them opportunities to meet and speak with scientists, and helping to cultivate the next generation of scientific explorers.

For the second year, we are delighted to be able to bring an online version of the festival to your classroom. All of the activities in this year's programme are offered **free of charge** and include live online workshops, *Meet our Scientists* digital sessions, outdoor learning activities, teacher CLPL sessions and resources to use in your classroom. All of this from organisations doing innovative science right here on the doorstep of your school!

How to book

To book please **email the contact for the workshop** then tweet about your involvement using **#MSFSchools2021**
Please note that session numbers are limited, so **book early** to avoid disappointment.
For general enquiries email **ebsoc@ed.ac.uk**
You can download a digital version of this programme at **www.ebsoc.ed.ac.uk**

Book Now!

Midlothian Science Festival

#MSFSchools2021

Online Workshop

Midlothian Science Festival

Embodied Learning & Gesture — Nursery to P3

Moray House School of Education | University of Edinburgh

This session is about the role of the body in the way children and adults understand and communicate science concepts. The session will be led remotely by Dr Andrew Manches (former infant teacher turned Learning Scientist), who will engage children with questions and activities to consider why they and their teachers often gesture when talking. Children will play STEM Charades with resources provided and even make their own!

Before the live, online session, teachers will be sent with our STEM Charades cards. We ask you to use these cards to explore with your children "What does a scientists do?" These cards are a brand new product produced by Moray House and we would appreciate your feedback after the session.

magnet

DIFFICULTY LEVEL

During the session, we will begin by hearing children's thoughts about scientists, and then introduce the idea that some scientists study how we think and learn – these scientists are called Learning Scientists. Through a series of games and interactive activities we will explore what Learning Scientists do, and how we do our science!

This will be a fun, interactive session exploring the role of action and gesture in how big and little people explore, learn and communicate their science ideas!

- **Key subject links:** Science
- **Key topics:** communication, embodied learning, scientific thinking
- **Duration:** 30 minutes with optional 10 -20 minute teacher-led extension activity
- **Number of classes per session:** More than one class can **from your school** can join this session
- **Please note:** The session will be beamed into your classroom via the class teacher´s computer and via your school´s online platform.

Dates available: Monday 11th October, Tuesday 12th October, Thursday 14th October, Friday 15th October, Tuesday 26th October, Thursday 28th October, Friday 29th October

To book this session, please contact Andrew Manches a.manches@ed.ac.uk

THE UNIVERSITY of EDINBURGH
Moray House School of Education

Online Workshop

Midlothian Science Festival

RZSS Bringing the Zoo to You — P3 to P7

Royal Zoological Society of Scotland

"It was brilliant! Great links to the curriculum and real life examples throughout! The active learning really encouraged enthusiasm for the topic!"

Find out about our amazing animals and the exciting work that we do to protect them in the wild. A fun workshop live from Edinburgh Zoo hosted by one of our Discovery & Learning Team.

An interactive online workshop* hosted by one of our Discovery & Learning Team. The session will be live from Edinburgh Zoo and will feature live animals, conservation information and quiz questions for the class. They will find out what zoos do, amazing animal facts and have the opportunity to ask questions.

- **Key subject links:** Biology
- **Key topics:** nature, wildlife, animals, conservation, biodiversity
- **Duration:** Depends on age of pupils, 60 minutes max.
- **Number of classes per session:** More than one class can **from your school** can join this session
- **Please note:** The session will be beamed into your classroom via the class teacher´s computer and via your school´s online platform.

* Content of session is differentiated depending on the age of the group booking

Dates available: Monday 11th October pm, Wednesday 13th October, Friday 15th October, Monday 18th October and Wednesday 27th October

To book this session, please contact Karen Swift
education@rzss.org.uk

Online Workshop

Midlothian Science Festival

Marvellous Microscope Tricks - Experiment-along — P3 to P7

Wellcome Centre for Cell Biology | University of Edinburgh

In this fun, hands-on, session you will learn about the range of microscopes researchers at the Wellcome Centre for Cell Biology use to access the tiny building blocks of life- cells! This workshop is a hybrid between a science show and workshop, participants will watch some demonstrations and "experiment-along" with us.

Microscopes are a vital tool in scientific research and this is particularly true for researchers at the Wellcome Centre for Cell Biology research. Each demonstration will relate to a different type of microscopy including magnification, fluorescence and electron.
For the "experiment along" section, teachers will need to collect the easily found, household, resources in advance of the workshop.

A full kit list will be sent to you before the live session, so that you have enough time to collect all the items. The workshop can be run with every pupil having their own kit, in small groups, or with one kit and having the teacher selecting pupils to take part at different stages.

- **Key subject links:** Biology, physics, cells, world of work
- **Key topics:** cells, microscopes, working in science, hands-on investigation
- **Duration:** Depends on age of pupils, 60 minutes max.
- **Number of classes per session:** More than one class can **from your school** can join this session
- **Please note:** The session will be beamed into your classroom via the class teacher´s computer and via your school´s preferred online platform.

Dates available: Monday 11th October, Tuesday 12th October, Wednesday 13th October, Thursday 14th October, Friday 15th October, Tuesday 26th October, Wednesday 27th October, Thursday 28th October, Friday 29th October

To book this session contact Sarah-Jane Judge
s-j.judge@ed.ac.uk

wellcome centre cell biology

Online Workshop

Midlothian Science Festival

Fun and Puzzling Maths — P4 – P7

School of Mathematics | University of Edinburgh

University staff and students will *visit* your school and share their passion for Maths. By showing magic tricks and engaging the class in problem solving activities, they will make everyone excited about Maths.

The Edinburgh Maths Circle has been an immensely popular event over the past few years. In 2018, thanks to funding from the Glasgow Mathematical Journal Trust and Edinburgh City Council, we have begun a programme to spread the Maths Circle initiative widely across Scotland. During this is a virtual school visit we will use some of our most popular activities to spark curiosity in you learners and help them develop their mathematical thinking skills.

- **Key subject links:** mathematics
- **Key topics:** numeracy, problem solving, maths games
- **Duration:** 30- 50 minutes (depending on age of pupils)
- **Number of classes per session:** More than one class can **from your school** can join this session.

If you are interested in running a Maths Circle at your school click here for more information. To see how Maths Circles work in a primary school setting see what the pupils of Preston Street Primary School.

Dates available: Tuesday 12th October, Wednesday 13th October, Thursday 14th October, Wednesday 27th October, Thursday 28th October

To book this session contact Francesca Iezzi Francesca.iezzi@ed.ac.uk

THE UNIVERSITY of EDINBURGH
School of Mathematics

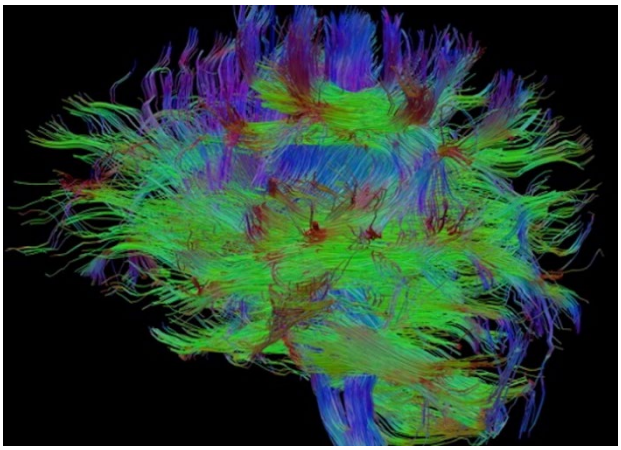
Online Workshop

Midlothian Science Festival

Brain Matters: Explore your Senses — P4

Lothian Birth Cohorts, PPLS| University of Edinburgh

The workshop was fantastic! All children were given a role in the group, keeping them involved and motivated. All children had lots of opportunities to experiment, it was accessible for every pupil.



Explore your senses and discover just how amazing your brain is! A hands-on workshop for P4s to discover more about their brain. The brain gets information from our senses, which it then has to process, but as we get older connections get broken and certain kinds of thinking becomes more difficult. The pupils will go through five activities, to explore one of each sense, while they discover how scientists can find things out about the brain and test the way we use our own brains!

This is a two-part workshop with an initial hands-on offline session delivered by teachers with resources from our team with a workbook, instructions and equipment provided, followed up by an online session with our scientist who will review pupils' experiments and findings!

- **Key subject links:** science, world of work
- **Key topics:** body systems, senses, working scientifically
- **Duration:** Offline session with class teacher 30-40 minutes, follow-up online session with scientist 20-25 minutes
- **Number of classes per session:** More than one class **from your school** can join this session.

If you want to find out more about Lothian Birth Cohorts click here.

Dates available: Wednesday 13th October, Thursday 14th October, Wednesday 27th October, Thursday 28th October

To book this session contact Barbora Skarabela B.Skarabela@ed.ac.uk

THE UNIVERSITY of EDINBURGH
Lothian Birth Cohorts

Online Workshop

Midlothian Science Festival

Language Evolves! P4 – P7

Centre for Language Evolution | University of Edinburgh

"It was FAB! " The games were relevant and very fun.""

Languages are constantly evolving; the English spoken by Shakespeare 500 years ago sounds very different from how we speak today, and the first languages of our ancestors 1 million years ago were probably very different indeed!

In this online session, we will introduce the scientific study of language evolution through a series of fun activities and games, exploring how languages evolve as we learn and use them in our everyday lives.

Our session is comprised of video snippets from a team of Edinburgh linguists. There are also two games that the pupils will play in their classroom. The first is a drawing game, similar to Chinese whispers, designed to show children how information can change--just like language! The second is an alien naming game designed to illustrate why frequent words are shorter than infrequent words in all languages. We will send teachers game packs with all they need to run the games.

- **Key subject links:** Literacy
- **Key topics:** Modern language, communication
- **Duration:** 45 minutes
- **Number of classes per session:** More than one class can **from your school** can join this session.

Dates available: Tuesday 12th October, Wednesday 13th October, Thursday 14th October, Tuesday 26th October, Wednesday 27th October, Thursday 28th October

To book this session contact Jennifer Culbertson
jennifer.culbertson@ed.ac.uk

CENTRE for LANGUAGE EVOLUTION

Online Workshop

Midlothian Science Festival

Climate Change: Energy — P5 to P7

National Mining Museum Scotland

National Mining Museum Scotland is the Midlothian Climate Beacon for COP26! Join us to explore the science behind climate change and the impact climate change is having today. You'll also have the chance to contribute to the Climate Beacon through our STEAM clay art project.

This STEM workshop explores the science behind climate change, with a focus on water and energy. The workshop will include video call and physical resources; either delivered to your school or in the Museum depending on restrictions.

In addition, each class will take part in STEAM clay art project from artist and hydrologist Nicole Manley. They will each receive a piece of clay, representing the earth, and mould this into what they think of climate change. These clay pieces will be left outside in the elements (sun and rain!) to show the changes that take place and how mankind impacts this.

This new Climate Change workshop is launching in October as part of the **Midlothian Climate Beacon** for COP26 activities and we're thrilled to offer it for our local schools for MSF!

- **Key subject links:** Science, numeracy, art
- **Key topics:** climate change, water, energy
- **Duration:** 45 - 60 minutes
- **Number of classes per session:** More than one class can **from your school** can join this session.
- **Please note**: The National Mining Museum's Education Manager will organise a private non-recorded video call via Microsoft Teams, please use your staff email address when booking.

* Should restrictions allow all classes will be invited into the Museum to view the Climate Beacon exhibition from the British Geological Survey

Dates available: Monday 11th October, Tuesday 12th October, Wednesday 13th October, Thursday 14th October, Friday 15th October, Tuesday 26th October, Wednesday 27th October, Thursday 28th October, Friday 29th October

To book this session contact Victoria Robb
education@nationalminingmuseum.com

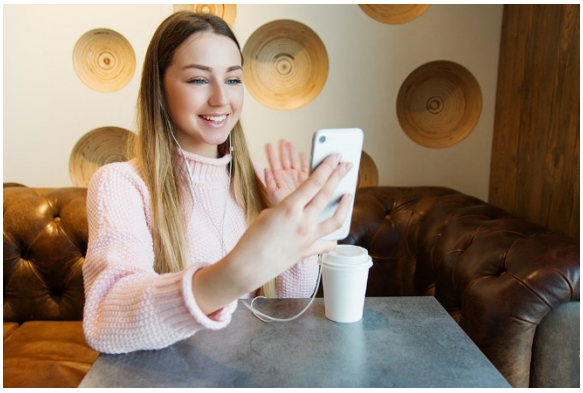
NATIONAL MINING MUSEUM SCOTLAND

Online Workshop

Midlothian Science Festival

Citizen Science with the Lothian Diary Project P7

Lothian Diary Project | University of Edinburgh



Explore video and audio diaries from the Lothian Diary Project, a unique archive of personal accounts of the pandemic and lockdown (https://lothianlockdown.org). Some of the diary makers will have experiences similar to your own, and some of their experiences will be very different. We will reflect on what lockdown has meant for you and your community, and learn how data provided by citizens in this way can be used by social scientists.

This workshop has three parts which will be completed on different days:

1. The first part is teacher led and to be completed before the live session. Pupils spend time in class learning about The Lothian Diary Project and listening to excerpts from the audio and video diaries. Each will be accompanied by a sheet of prompts for reflection and discussion. We ask that these thoughts are sent to us before the live session so that we have time to read them.
2. This is a live online session with researchers from the Lothian Diary Project. We will discuss pupils' reactions to the diaries, demonstrating how everybody's experiences are valuable to social scientists and to policy makers. We will present some data collection challenges for trouble-shooting!
3. Teacher led section to be completed after the live session. Pupils are invited to contribute to the ongoing Lothian Diary Project Map of Lockdown (contributions will not be identifiable). Pupils can write about places that have been of some significance to them. These may be places that have been inaccessible to now, or that represent a new pastime or activity that they have taken up since the pandemic began.

- **Key subject links:** literacy, health and wellbeing
- **Key topics:** COVID-19 pandemic, social science, exploring recounts, recount writing
- **Duration:** part 1- teacher led 40 minutes, part 2- live session 40 minutes, part 3- teacher led 40 minutes
- **Number of classes per session:** More than one class can **from your school** can join this workshop, but **each class will have its own live session** with the Lothian Diary Project team.

Dates available: Monday 11th October, Tuesday 12th October, Wednesday 13th October, Thursday 14th October, Tuesday 26th October, Wednesday 27th October, Thursday 28th October, Friday 29th October

To book this session contact Claire Cowie claire.cowie@ed.ac.uk

Online Workshop

Midlothian Science Festival

Digital Delivery Workshop for Educational Professionals — Teacher CPD

Royal Zoological Society of Scotland

Join us for a workshop on digital delivery, what works, what doesn't, what to try and what to avoid. Perfect for teachers everywhere.

An interactive online workshop hosted by one of our Discovery & Learning Team, is for teachers of all age groups.

There's been a theft at the Zoo... an important birthday cake is missing... but who dunnit??! This Digital Delivery workshop for education professionals is looking for investigators unafraid to take *whisks*, and will give you hands-on experience using a range of technology to *batter* solve the cakey mystery - and explore digital storytelling, remote presentation skills and ways to engage online audiences along the way.

We'll investigate budget friendly (mostly free!) tips and tools including Virtual and Augmented Reality, QR codes, audience interaction, digital wellbeing, video editing, online quizzes and more crumby cake puns, to solve the mystery and bake sure everyone gets their just desserts!

- **Key topics:** Digital storytelling, online engagement, digital education tools
- **Duration:** 2 hours, and will run in the afternoons of the two Fridays during the festival.

Dates available: Friday 29th October*

To book this session, please contact Karen Swift at education@rzss.org.uk

*If you cannot make this session please let Karen know and we will try to accommodate you in a future session.

Outdoor Learning

Midlothian Science Festival

Minibeasts - outdoor trail

Nursery to P4

National Mining Museum Scotland

Pupils absolutely loved the creation of their own minibeast after hearing about what lurked/lurks down in the mines.

Did you know there were spiders in the coalmines?

Discover other bugs, insects and animals associated with coalmines then head outside to make your own nature discoveries!

This activity is an illustrated worksheet and trail sheet, which can be completed at the Mining Museum or in a local green space. There is also a follow up craft activity instruction sheet to make and record your own minibeast!

- **Key subject links:** Science, literacy, numeracy, world of work
- **Key topics:** planet earth, biodiversity, living things, environment, interdependence
- **Duration:** 30 – 45 minutes
- **Please note**: This is an outdoor activity, resources will emailed* to you directly.

Dates available: throughout Festival

To get this resource please email:
Victoria Robb education@nationalminingmuseum.com
With the name of your school, year of classes and number of pupils

NATIONAL MINING MUSEUM SCOTLAND

* If you require the worksheets and trail sheets printed you can ask ebsoc@ed.ac.uk to send you copies for free.

Meet our Scientists

Midlothian Science Festival

About the sessions

Meet our Scientists is a virtual interactive session where you can *beam a scientist* live into your classroom (well almost!).
The session will give your pupils a unique opportunity to learn about some of the local science happening on their doorstep, hear about different career paths and give them the opportunity to ask their own questions. Sessions like this can increase pupils´ curiosity in STEM, help raise awareness of STEM careers and support pupils to reflect on their own science-related skills.

Every session will:

- Begin with a 5 minute video or talk from the scientist, followed by a Q&A with pupils via the class teacher
- Last for 20 - 40 minutes (depending on age of pupils and number of scientists participating in the session)
- Cover a specific area of science/research
- Feature at least one scientist

To book a session, **contact the person noted in programme** via your staff email account and await confirmation of your place.

How will it work? The tech bit…

How will the virtual video call be set up?

- ✓ You will be invited to join a session hosted by a **University of Edinburgh approved secure platform** i.e. Teams, Zoom or Blackboard Collaborate
- ✓ The **teacher computer will be the only computer from the school connected to the virtual session**. Connect the computer to your digital whiteboard so that your pupils can see and hear the scientist.
- ✓ The **teacher is responsible for coordinating and communicating the questions from their pupils** to the scientists, whether this is via submitting the questions beforehand via the online form, a teacher controlled microphone or typing questions in the meeting's chat box.

How will the pupils be able to chat with the scientists?

- ✓ The session can be conducted through the **chat box function** i.e. the teacher can type in questions on behalf of the pupils.
- ✓ If your school permits, you can invite a pupil to the microphone (with or without webcam) to ask a question.

Meet our Scientists

Midlothian Science Festival

How to get the most out of Meet our Scientists

Meeting "real" scientists was one of the things the kids commented on when they fed back about the experience. It is so important to have visitors coming in as they link the learning to the world of work and jobs out there.
Midlothian Primary Teacher

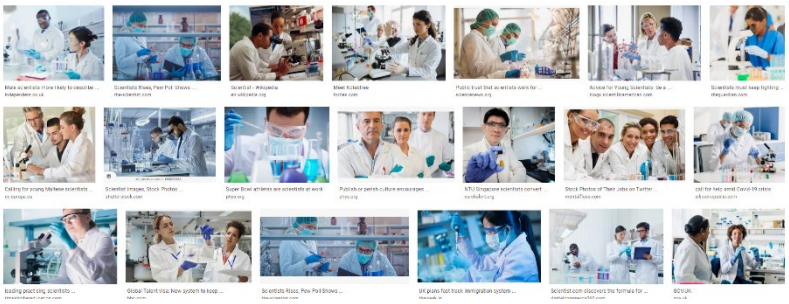
Meeting scientists is an **opportunity for your pupils to learn about the world of work** in scientific research and **explore the skills** needed to work in science.

To make the most out of *Meet our Scientists* we have suggested some activities that could be done to:

- ✓ encourage **meaningful discussion** about pupils' own skills
- ✓ explore their i**mpressions of science jobs**
- ✓ challenge some typical **stereotypes associated with scientists**
- ✓ help you and your pupils explore the *Developing the Young Workforce* "I can" statements

Activity 1- What do scientists look like?

Do a Google Image search for the word "scientist" and look at the images as a class (you can screenshot the screen and show this in class).



- ➢ **Discussion prompts:** *What do all the pictures have in common? Do these pictures represent all scientists? Do scientists only work in labs and wear white coats?*

Now ask pupils to think about any real scientists they know or have seen:

- ➢ **Discussion prompts:** *Where else do scientists work? What do they do? What do they look like? Have you met a scientist before? What equipment might they use? What might they wear?*

Meet our Scientists

Midlothian Science Festival

Activity 2- Asking your question

Read the profile of the scientist (in this programme) together as a class and watch the video that they have made. Have a discussion about the scientist in small groups or as a class.

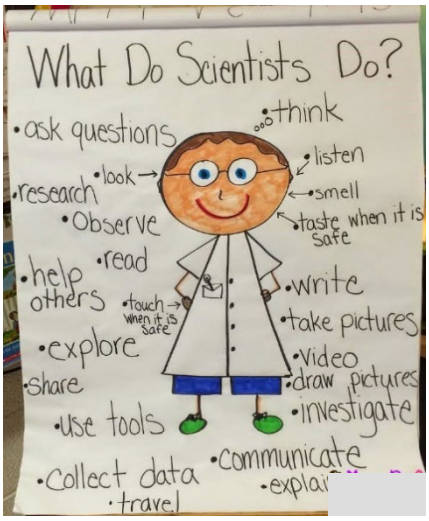
- **Discussion prompts:** *What does …. do? Where do they work? Did anything surprise you? What skills do you think …. needs to do his/her/their job? What do you already know about this area of science? What else would you like know?*

Ask pupils to work individually, in pairs or groups to come up with a question they would like to ask. The question could be about the scientist's work, their career, their likes and dislikes, their favourite animal etc.

Please **submit the questions via this link before the session**. During the live session we will answer as many as possible, and we will also be taking some questions live!

Activity 3 – Post Session Activities

1. Write the question *What do Scientists Do?* on the board.
2. Give each group a large piece of paper and colouring pens. Encourage them to think back to the scientist(s) they met and the science investigations they do in class.
3. Prompt the pupils to think about the skills they need to do an experiment.
4. When finished, ask the pupils to swap their poster with another group and to compare them.
5. Give each group their poster back and give them five minutes to add to it, if they wish to.
6. Stick all posters up on the wall and discuss their findings.



- **Discussion prompts:** *Which of these skills do you have? Would you like to work in science? Would you like to be a scientist? Could you be a scientist if you wanted to be? What science do use/do every day?*

Take pictures of your pupils' creations and post them on Twitter

#MSFschools2021

@EBSOClab @MidlothSciFest

Meet our Scientists

Midlothian Science Festival

Meet our Scientists: Nelly Mak & Sarah Yusoff — P6 & P7

Infection Medicine, University of Edinburgh

In this *Meet the Scientist* session your pupils can talk with two scientists! Both are PhD students, which means that they are studying to become a professional scientists.

THE UNIVERSITY of EDINBURGH
Infection Medicine

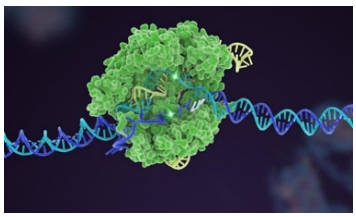
They will talk about their studies and explain how they work in the lab. After this short talk your pupils will be able to ask them questions during a 10-15 minute Q and A.

Job title: PhD Students

Hello, I'm Sarah! I travelled from Malaysia to the UK to broaden my knowledge and become a better virologist. My motivation is to protect people from viruses, especially the one I am working with called Herpes simplex virus type 1, which can cause cold sores and blisters around the mouth. I enjoy hiking and exploring new cities when I need inspiration.

I'm Nelly, I moved here from Hong Kong when I was 16 to study microbiology. Viruses fascinate me because they can make us really sick even though they are tiny and can only be seen under powerful microscopes! I am now trying to understand how cells in our body protect themselves from viruses like influenza virus and coronavirus. Outside the lab, I like having fun with animals and learning languages.

Both of us use **CRISPR** in our work, a technology that won the Nobel Prize in 2020. CRISPR works like a pair of scissors that can be used to **cut and edit DNA**. In our projects, we use CRISPR to look for important regions in our DNA that help us **fight off viruses**.



Find out more about where Nelly & Sarah work by clicking here.

- **Key subject links:** Biology
- **Key topics:** microorganisms, viruses, DNA, health, disease, STEM careers
- **Duration:** 45 minutes
- **Number of classes per session:** More than one class can from your school can join this session, the session will be beamed into your classroom via the class teacher´s computer and preferably via your school´s online platform.

Date available: Thursday 28th October, Friday 29th October

To book this session contact Crystal Lei yuhua.lei@ed.ac.uk

ASK YOUR QUESTIONS NOW
HTTPS://EDIN.AC/3JAKIFO

Meet our Scientists

Midlothian Science Festival

Meet our Scientist: Pujitha Raja — P6 & P7

Infection Medicine, University of Edinburgh

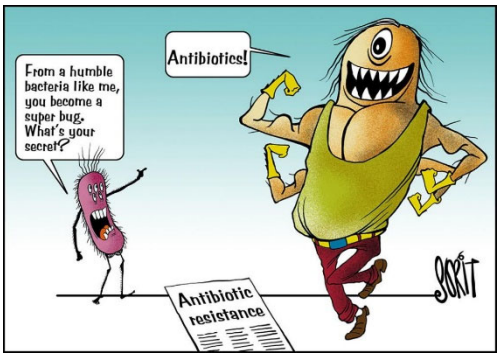
In this *Meet the Scientist* session your pupils can talk with Pujitha Raja, she is a PhD student, which means that she is studying to become a professional scientist.

THE UNIVERSITY of EDINBURGH
Infection Medicine

She will talk about her studies and explain how she works in the lab. After this short talk your pupils will be able to ask her questions during a 10-15 minute Q and A.

Job title: PhD Student

Hey! I am Pujitha Raja from India. I moved to Edinburgh when I was 24 to pursue a research career. I was back in 10th grade when I first came across something called “cloning”, and that was when I started dreaming about duplicates of human beings and mutants like we see in the movies! I learnt about “Dolly the sheep” and how the brilliant scientists managed to make a copy of her. This encouraged me to take up a PhD involving molecular biology and cloning techniques.



My research at Infection Medicine involves working with an infectious bug – *Klebsiella pneumoniae* and figuring out how it is so resistant against drugs, causing many untreatable antibiotic infections. In the lab, I do lots of cloning, using radioactivity (like Marie Curie) to track the genes inside the bug and studying why *K.pneumoniae* is such a powerful bug and can survive in such hostile conditions.

In my free time, I enjoy cooking, making beautiful cosmetics and going on “walks” around Scotland to enjoy some fresh air in the woods.

Find out more about where Pujitha works by clicking here.

- **Key subject links:** Biology
- **Key topics:** microorganisms, bacteria, antibiotics, health, disease, STEM careers
- **Duration:** 45 minutes
- **Number of classes per session:** More than one class can from your school can join this session, the session will be beamed into your classroom via the class teacher´s computer and preferably via your school´s online platform.

Date available: Thursday 28th October, Friday 29th October

To book this session contact Crystal Lei yuhua.lei@ed.ac.uk

ASK YOUR QUESTIONS NOW
HTTPS://EDIN.AC/3JAKIFO

Meet our Scientists

Midlothian Science Festival

Meet our Animal Scientists — P5 to P7

Easter Bush Campus, University of Edinburgh

In this *Meet the Scientist* session your pupils can talk with one of our animal scientists that work at the University of Edinburgh´s Easter Bush Campus which is home to **animal science** and **animal care**.

It is Europe's largest concentration of animal science related expertise anywhere in Europe- and it is right **on your doorstep in Midlothian**!

After watching a **short video** about our scientist, your pupils will be able to ask them questions during a 20 – 25 minute **Q and A**.

The video and profile of each scientist will be sent 2 weeks before the session and link shared with you so that pupils can submit questions before the session.

Our scienist will also do a live demonstration for you and your pupils!

- **Key subject links:** Science, World of Work
- **Key topics:** animals, disease, health, STEM careers
- **Duration:** 40 minutes
- **Number of classes per session:** Loads! Classes from all over Midlothian can tune into this session!

➢ **Megan doing a demo with chicken eggs!**

Date and Time of session: Thursday 28th October, 11am and 2pm

To book this session email Lisa Ritchie ebsoc@ed.ac.uk

THE UNIVERSITY of EDINBURGH
The Royal (Dick) School of Veterinary Studies

ROSLIN

Online Activites

Midlothian Science Festival

We have collated online resources **specifically for the Midlothian Science Festival Schools Programme**, there is something for everyone!

Through our Padlet, you will find a selection of high quality, resources for teachers and families from **local STEM organisations** that have kindly contributed to this year's festival.

These activities can be **accessed at any time**, they are all **free** and can be done **in the classroom or at home**.

You can access this resource for Midlothian Schools by clicking here.

You will find activities from:

National Museums Scotland

CANCER RESEARCH UK

THE UNIVERSITY of EDINBURGH

SAVE A LIFE FOR SCOTLAND

MHDSS Mental Health Data Science Scotland

Bootstrap computing creatively + thriving mathematically

SUPERCYTES THE IMMUNE CELL STANDOFF

University of Glasgow

optima

EuroStemCell

University of Strathclyde Glasgow

ROYAL SOCIETY OF CHEMISTRY

RSE The Royal Society of Edinburgh KNOWLEDGE MADE USEFUL

ROYAL OBSERVATORY EDINBURGH

RZSS DISCOVERY & LEARNING

CoMorMent

UK SPACE AGENCY

Royal Society of Biology

If you use these resources with your class please do let us know by "liking" on the Padlet and using the hashtag **#MSFschools2021** and **@EBSOClab @Midlothscifest** on Twitter!

If you have any general questions about this resource please email ebsoc@ed.ac.uk

To share this Padlet on your school social media channels use this link https://bit.ly/2TMfzRO

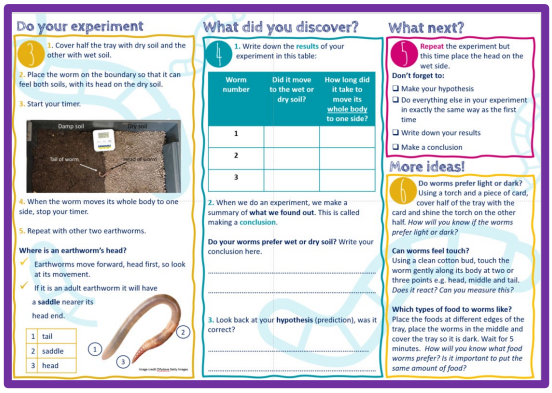
Family Learning

Midlothian Science Festival

During the Midlothian Science festival why not encourage some family learning. Science @Home is a series of simple, **hands-on activities for families** to do at home. Every activity is linked to **real-life research**, explores how science is done, encourages curiosity and is fun!

These step-by-step, fun, **curriculum-linked investigations** develop understanding of how science works and prepares young explorers (8-14 year old) to create their own investigations.

Each Science @Home Investigation pack includes:



Workbook with instruction guide
That can be downloaded and printed or used on a mobile device. With guiding questions to support your families through their investigation.

A critical reading text
About the work of our scientists, to help develop your pupils' scientific thinking.

A guide for grown-ups
That gives some tips and hints about the investigation and the scientific method.

A certificate
To reward young people's scientific achievement.

We have **three Science @Home activities** available to download for free from www.ebsoc.ed.ac.uk.

Acknowledgements

We would like to thank all the organisations and people that have contributed to the Midlothian Science Festival Schools Programme this year. It would not have been possible to create this programme and run the schools programme without them.

We would also like to thank the Scottish Government and Midlothian Council who support the festival.

Finally, a **big thank you to you** for bringing the Midlothian's Science Festival into your classroom! We are acutely aware of the continuing challenges and barriers that exist inside and outside the classroom, which you and your pupils are navigating on a daily basis. We sincerely hope that this programme is fully accessible and that you are able to embrace STEM and the opportunities on offer over the period of the Festival. Please do share what you get up to with your pupils by Tweeting #MSFSchools2021 @EBSOClab @MidlothSciFest.

The Midlothian Science Festival Schools Programme is coordinated by the Easter Bush Science Outreach Centre to keep in contact with us you can follow us on Twitter @EBSOClab or join our mailing list.

If you have any feedback about this year's programme we would like to hear from you! You can contact the Midlothian Science Festival Schools Programme Manager, Jayne Quoiani at jayne.quoiani@roslin.ed.ac.uk

THE UNIVERSITY of EDINBURGH
Easter Bush
Science Outreach Centre