

# Farm Detectives



THE UNIVERSITY of EDINBURGH  
Easter Bush  
Science Outreach Centre

Get hands on with microorganisms and stop the spread of dangerous bacteria that are making our farm animals sick.

**Learning Level:** S1 – S3

**Availability:** On demand

**Cost:** £3 per pupil

## Learning objectives

- To understand that microorganisms:
  - are very small living things
  - can be beneficial or harmful
  - exist as many different types
- To describe how infectious and disease causing microorganisms can spread
- To explain how the spread of infection and disease causing microorganisms can be stopped and/or prevented
- To describe the effect of mutations on bacterial growth rate
- To critically analyse the results of their own microbiological investigation
- To reveal the world of work in scientific research

## Workshop activities

- Pre-workshop experimental materials sent to each school so that the pupils carry out their own microbiological investigation
- Using microscopes to examine and identify different microorganisms
- Hands-on disease spread activity
- Critical thinking group activity to identify the source of a salmonella outbreak
- Bacterial evolution game
- Discussion with scientists from The Roslin Institute
- *Optional:* Behind-the-scenes tour of one of our farms (dependent on availability)

## Curriculum links

### Planet Earth

I can sample and identify living things from different habitats to compare their biodiversity and can suggest reasons for their distribution. **SCN 3-01A**

### Biological systems

Using a microscope, I have developed my understanding of the structure and variety of cells and of their functions. **SCN 3-13a**

I have contributed to investigations into different types of microorganisms and can explain how their growth can be controlled. **SCN 3-13b**

### Topical science

I can collaborate with others to find and present information on how scientists from Scotland and beyond have contributed to innovative research and development. **SCN 3-20b**

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## Developing the Young Workforce – “I can” statements

**The following statements are supported through EBSOC’s workshops:**

- ‘I can demonstrate and apply the skills I have learnt across the curriculum in relation to the world of work.’
- ‘I can demonstrate diverse thinking when exploring learning opportunities and pathways.’
- ‘I can investigate and assess ethical issues in business and trade decisions.’



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