



## Bug Fight Workshop (In Schools)

**Bug Fight!** Is a workshop for KS4 students to find out more about Antimicrobial Resistance (AMR) and what Oxford researchers are doing to combat this growing concern.

Bug Fight will introduce Year 10 and Year 11 students to antibiotics, enzyme, substrates and inhibitors. They will learn how antibiotic-resistant bacteria evolve and consider how we can make new drugs to fight antibiotic-resistant bugs. This workshop is offered in collaboration with the Ineos Oxford Institute for Antimicrobial Research (IOI).

### Audience

Year 10-11

### Duration

60 minutes

### Workshop Description

- Students will be introduced to antibiotic discovery using a disc diffusion assay activity.
- Students will model enzyme activity using blocks and determine the rate at which they 'catalyse' the substrate.
- They will then take part in an enzyme inhibitor practical, using pipettes to set up an experiment which determines the impact of an inhibitor molecule on enzyme activity.
- They will use stop clocks to time how long each reaction mixture takes, and interpret the results.

### Concepts covered

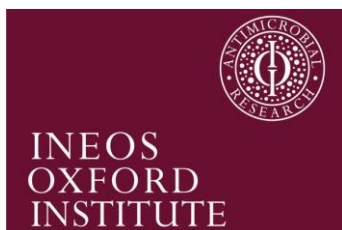
- Antibiotics
- Enzymes, substrates and inhibitors
- Antibiotic-resistant bacteria
- Drug development to fight antibiotic-resistant bugs

### Practical Skills covered

- Negative and positive controls
- Timing reactions
- Use of Eppendorf tubes and pipettes
- Recording and interpreting results

### Prior learning required

There are no specific requirements for this workshop. Familiarity with the concepts covered will ensure students gain the most from their time in the session.



### Format of a Bug Fight! day

Bug Fight! Workshops are designed for a class of students, of up to 32 students. We can deliver back-to-back workshops in your school, to fit around your timetable. For example, a Bug Fight! Day might look like:

*Set up: 9:15 – 10 am*

*Workshop 1: 10 am – 11 am*

*Workshop 2: 11 am – 12 pm*

*Lunch*

*Workshop 3: 1 pm – 2 pm*

*Workshop 4: 2 pm – 3 pm*

*Tidy: 3 pm – 3:45 pm*

Please include information on the number of workshops you would like, and your timetable, when making your booking request.

### Booking this workshop

To request a day of Bug Fight! Workshops in your school, fill in the booking request form. Please check the requirements for schools below before completing your booking request.

A member of the Chemistry Outreach Team will be in touch to discuss the details of your request shortly after you complete the form.

### Requirements from School

In order to provide the best experience to your students, we ask that you are able to provide the following when we visit:

- Access to the lab, without students present, to **set up 45 minutes beforehand**.
- Access to the lab to clear away, without students present, **45 minutes after the last session**.
- A **parking space** in the car park for a van (transit custom).
- At least **one teacher** present throughout the session(s).
- When we are running consecutive workshops, ability to **stay in the same lab** and for students to be re-roomed to come to us.
- Ability to link a **laptop** up to the IT in the room, and present a PowerPoint presentation or similar.
- Ahead of the visit, let us know if any of the students have any special requirements to enable them to participate in the session.