

Secondary school program at the Oxford University Museum of Natural History

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Abstract

The Oxford University Museum of Natural History runs a series of themed science study days for up to 300 Key Stage 5 students. The day's program includes short lectures from academics and curators and a range of smaller group activities. The program always features an activity called 'Science Behind the Headlines'; a small group discussion framed around a theme taken from science stories in the news and focused on a topic covered in one of the lectures. Groups are facilitated by scientists from within the University. Scientists are given a framework to work with. Those with little experience can support the more experienced and everyone willing to contribute can be involved in the program. Uptake from both schools and academics is very strong; the university museum context provides an ideal opportunity for students and scientists to engage. Each discussion is unique; however 'Science Behind the Headlines' enables students to understand the impact that science has on their lives and provides role models to inspire students to consider a career in science.

The study day program

Oxford University Museum of Natural History (OUMNH) has a popular and varied program of activities for secondary school students. In the last academic year the small education team taught free sessions to 3,889 secondary school students.

Work of the OUMNH education team can demonstrate how a small museum with limited resources can make a significant impact on secondary school science teaching.

The University Museum is well placed to develop activities with a biology theme, supported by University scientists. Students have the opportunity to study specimens, discuss ideas with scientists and reflect on a career in science in an informed way. The program includes taught sessions for students at every key stage.

Each term the University Museum hosts a study day for up to 300 Key Stage 5 biology students. Themes are varied from one term to the next, and include genetics and biodiversity.

A typical day begins with a program of three short lectures given by research scientists. This is followed by a discussion session entitled *Science Behind the Headlines* university scientists at varying stages in their career, volunteer to run this part of the day. Each session involves approximately 20 students facilitated by three scientists.

Students begin by guessing the missing words in real science headlines. The headlines used are all linked to the talks from the morning session.

Students are then given more information about each story then analyze the story more closely and figure out why it is in the news. Is the story particularly timely, interesting or controversial? Using a list of criteria students choose which of the stories they would include in their newspaper and explain why?

Scientists and students do the same exercise in parallel and each group justifies their choice. The activity is fun, has a purpose and provides an opportunity for scientists to talk about their work. Students and scientists talk about the way science is perceived by the wider population and how this perception is influenced by the way science is presented in the news.

Sessions for KS4 students are based on the collections. The objects are used to give an insight into the scientific process. The acceptance of controversial scientific ideas is the theme of a session called the Great Debate. From the specimens students search out evidence for evolution, evidence for the mechanisms of evolution and evidence that can be interpreted in different ways by rivals and collaborators. During this process students try to choose a single object that could be used to support the idea of evolution. The aim of the session is for students to appreciate that each line of evidence has strengths and weaknesses, and that the evolution idea is accepted because of the sheer quantity of evidence to support it.

Objects are also used in sessions for KS3 students to show how science works. In a program of talks and activities on a dinosaur theme, students study fossils. Students appreciate how scientific ideas change as new evidence is discovered, or old finds are studied in new ways.

OUMNH is a typical university museum with a natural link to university science departments, an array of real objects displayed for study and fascinating stories about historic scientists.

Using these assets it is possible to engage with secondary school students and change perceptions about science and scientists. Young people view Oxford University Museum of Natural History as an interesting place in which to learn with specialist teachers that are not only familiar with the school curriculum but also the role of the university and its collections. Students also view the museum as a place to revisit, part of the university with open doors, seven days a week, free of charge.

OUMNH Secondary school program is part of *Real World Science*. This project, a partnership between four natural history museums,¹ is jointly funded by the Department for Culture, Media and Sport and the Department for Children, Schools and Families. Its aim is to inspire secondary science students using the Museums' collections, galleries, educators and scientists.

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¹ Oxford Museum of Natural History, www.oum.ox.ac.uk; The Natural History Museum, www.nhm.ac.uk; The Manchester Museum, www.man.ac.uk; Tyne and Wear Museums, www.twmuseums.org.uk (accessed November 26, 2009).