

A question of taste:

Using PCR to investigate human evolution

A hands-on workshop for post-16 biology students

September 2010 - July 2011

10.00 - 3.00pm

The Nowgen Centre, Manchester

This one-day workshop explores the evolution of an unusual trait, where some people taste a particular chemical as being horribly bitter, while others can't taste it. Why have we evolved these two responses? Students will work with their own DNA to classify themselves into one of three common genotype groups. They will compare their DNA sequence with that of a chimpanzee, to understand convergent evolution between the two species.



Learning Outcomes:

Students will understand the theory and practical application of a range of techniques including:

- Extraction of their own DNA
- PCR (Polymerase Chain Reaction)
- Restriction digestion
- Gel electrophoresis
- Analysis of DNA bands
- Bioinformatics activities
- Facilitated discussion incorporating *How Science Works* concepts

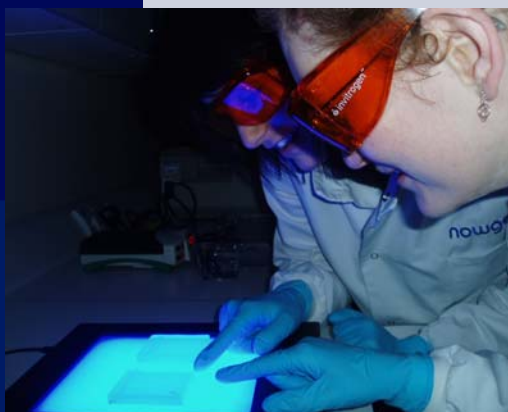
Feedback from 2009-10

95% of students would recommend the workshop to their friends

100% of teachers would bring a group of students again

"Allowed our students to be stretched beyond the specification, learning about bioinformatics and the human genome"

"Gave me the opportunity to use advanced equipment and techniques, and apply knowledge in a new way"



Delivery: The workshop is run by Nowgen with research students from local universities. It is delivered in the state-of-the-art Nowgen Laboratory, on the Central Manchester Hospitals site.

Fully compliant with the new A-level specifications

AQA 3.5.6, 3.5.8, 3.2.9, 3.2.10

OCR 2.3.3h, 5.2.3e-h

Edexcel 3.3:21, 3.4:5-7

Cost: £300 per workshop (maximum of 25 students)
LIMITED PLACES AVAILABLE SO PLEASE BOOK EARLY

Preparation

Students will benefit most from this workshop if they already have a basic understanding of PCR, restriction digestion, and electrophoresis.

Timing

The workshop runs from 10am to 3pm, with 45 minutes for lunch.

Coats and bags

Space is available for coats and bags, but we cannot take responsibility for personal possessions.

Disabled access

Please let us know at the time of booking so appropriate arrangements can be made (our building is fully accessible in line with DDA regulations).

Food and drink

These are not provided but there are several food outlets nearby. We are sometimes able to allocate you a space within the Nowgen Centre for lunch, but this is not always possible. You are very welcome to make a preliminary visit, but please arrange in advance.

Safety and standards

Teachers are responsible for their students at all times.

A full risk assessment will be sent to you with the booking confirmation.

All areas of The Nowgen Centre are designated as non-smoking. We promote a productive learning environment and ask that all students comply with our behavioural standards.

If we feel a student's behaviour is unacceptable, he/she will be asked to leave.

Cost and Bursaries

The workshop costs £300 for a maximum group of 25 students.

This price reflects the costs of the consumables used in the practical and employing two experienced researchers who lead the workshop for the day.

The Wellcome Trust is subsidising some workshops, which enables us to keep the cost down to £300.

Bookings

These must be made in advance. Bookings will be taken from 1 May 2010.

Please contact Nowgen's Events Team on: 0161 276 5956 or email bookings@nowgen.org.uk to arrange your booking.

Payment for the workshop should be made within 6 weeks of booking.

There are two ways to pay. You can pay by cheque (made payable to "Central Manchester University Hospitals NHS Foundation Trust" and crossed 'Account Payee Only').

Alternatively, you can ask for your school to be invoiced for the workshop.

CANCELLATION POLICY:

More than 1 month's notice: 100% refund
(but a deduction of £15 admin fee)

Less than 1 month's notice: 50% refund

Less than 10 day's notice: no refund

Location

The Nowgen Centre,
29 Grafton Street, Manchester, M13 9WU

A map and directions will be sent out with the booking confirmation.

Please contact us to discuss travel arrangements and parking options.



We want your visit to be as enjoyable and valuable as possible, so please get in touch with us to help you plan your trip.