



About the Tutor

Guy Sutton's primary research interests are the genetics of neural development and the interactive nature of biological, behavioural and genetic factors in disease processes.

He is Honorary Special Lecturer in neuroscience at University of Nottingham Medical School and has held previous academic appointments at Manchester, Manchester Metropolitan and Cambridge Universities. Guy has lectured in neuroscience and genetics to a range of undergraduate and postgraduate students, including medics, psychologists and biologists. He has been a visiting researcher to universities in the United States and has conducted research projects and data analysis for various organisations, including the Department of Health and the Medical Research Council. In addition to presenting research at various international conferences and writing for academic publications, Guy has talked about the theoretical and clinical aspects of his research on television and radio.

He has tutored on 'A' level and IB reading parties for students and teachers for several years. He is an associate tutor with Villiers Park Educational Trust, Cambridge and has written and delivered courses for the National Academy For Gifted & Talented Youth and Young, Gifted & Talented.

About MBI

MBI (Medical Biology Interactive) delivers one-day and half-day courses, seminars and tutorials in epidemiology, occupational health and the human sciences to the health service, industry and education. All MBI seminars are written and run by academics and health specialists, each of whom has considerable experience in research and its practical applications. Seminars are delivered at the hospital, workplace or school, based on cutting-edge research and current practice benchmarks, and tailored to the needs and concerns of the client.

For further information and full programmes, please contact Dr. Guy Sutton; tel. 07941 039670.
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'Brain Day' Review, ATP Newsletter

" It was amazing that the day passed so quickly and it was lovely to see our students so enthusiastic, asking stimulating questions and receiving such interesting answers.

Like many teachers, I have sometimes come away from conferences feeling rather disappointed in the speakers, however Brain Day was truly excellent."

Margaret Highet
Tadcaster Grammar School



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**Seminars & Tutorials For
The Health Service, Industry & Education**

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P R E S E N T S

BRAIN DAY



*A One-Day Tutorial
For A-Level Students
On The Brain & How It Works -
Delivered At Your School*

T U T O R:

Dr Guy Sutton

Director, MBI &

Honorary Special Lecturer,
University of Nottingham Medical School

WHY A BRAIN DAY?

Over the past twenty years there have been astounding advances in our understanding of the workings of the human brain and nervous system. The multidisciplinary research attempts to understand brain function are collectively referred to as neuroscience. With exciting developments being published on a daily basis, neuroscience is currently one of the most exciting and rapidly developing areas of academic and clinical study.

Neuroscience is an important component of many degree courses, focusing on issues and debates relevant to disciplines such as psychology, medicine and law. Neuroscience poses a seemingly endless list of fascinating and relevant questions, many of which remain unanswerable at this moment in time.

This tutorial is designed to clearly introduce the language of neuroscience, addressing challenging theories and issues in the study of brain function, employing a variety of stimulating formats.

WHICH STUDENTS WILL BENEFIT?

This tutorial is designed primarily for able Year 12 and Year 13 psychology and biology students, but will also be useful to:

- any A-level students with an interest in how the brain works
- any students considering a university degree and/or career in the following subjects:

Psychology
Biology
Dentistry
Pharmacy

Medicine
Neuroscience
Biochemistry
Law

The material presented during this tutorial will complement and develop upon topics and issues encountered in A-level psychology and biology syllabi.

AIMS OF THE TUTORIAL

There are three main aims to this tutorial:

- to provide the student with an overview of how the mammalian brain works, illustrating some elementary principles of neuroanatomy and brain function.
- to examine what happens when the brain becomes damaged, disorganised and degenerates, with accompanying clinical examples.
- to explore contemporary issues in neuroscience, for example, modern methods for investigating the brain, behavioural genetics and the neurobiology of memory.

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SPECIMEN PROGRAMME

A variety of topics and issues relating to neuroscience will be covered. Topics can be tailored to the requirements of the syllabus studied and the teacher.

- **9.00-9.10: Introduction & Aims**
- **9.10-10.00: From Neuron to Brain**
Genes and brain development. Methods of assessing brain function; focus on brain imaging. Neurons, nerve impulses and synapses.
- **10.00-10.25: Drugs & The Brain**
The effects of alcohol, cocaine, ecstasy and neuroleptics on nerve cells and brain function. Mechanisms of addiction.
- **10.25-10.55: BrainWeb I**

Internet session. 3-D brain anatomy. Action potentials and neurotransmission. Senses challenge.

- **11.10-11.50: Truths & Myths About The Brain**
Do we really only use 10% of the brain? Do new nerve cells ever grow in the brain? Do we hear and think when we are in a coma? Are the left and the right hemispheres really that different? And more!

- **11.50-12.30: Sheep Brain Dissection***
How much brain do we need?: Hemispherectomy video case study. The sheep brain and its major structures.

- **1.30-2.20: The Working & The Damaged Brain**
Brain lobes and subcortical structures. The neurobiological basis of memory. The stress response. Aggression and the brain. Effects of damage. Language, aphasia and the brain.

- **2.20-2.40: BrainWeb II**
Visual illusions.

- **2.40-3.30: Focus on Schizophrenia**
An introduction to mental illness and its diagnosis; The symptomatology of schizophrenia with video case studies. 21st century explanations of the disease and prospects for future treatments.

- **3.30-3.40: Quiz & Conclusions**
*Dissection is performed solely by the tutor.

FORMAT

The tutorial is delivered in your school and runs during the school day. A tutorial date can be arranged by contacting MBI. Format is varied, with interactive, multimedia lectures, computer-based sessions and group discussions.

Students each receive a comprehensive tutorial pack relating to and complementing material presented during the tutorial. Each school receives specially developed software featuring tutorial material, online activities and web links; students are licensed to install this software are their home computers.

PRAISE FOR BRAIN DAY

"A fast-paced, challenging and very interesting day. Students were overwhelmingly positive about their experience."
Mr. N. Drury,

King Edward VI Five Ways School, Birmingham.

"A very high standard of presentation. Even the most reluctant students were engaged and fascinated."
Mrs. V. Sweeting,

Enfield County High School, London.

"Such an entertaining and stimulating day. The students have been very enthusiastic about the presentation."
Mrs. H. White,

Prince Henry's Grammar School, Otley.

"Pupils highly enjoyed the optical illusions and interactive quizzes. A brilliant day."
Ms. P. Glaze,

Oldbury Wells School, Bridgnorth.

"Superb, stimulating and challenging for even the most able students. I found many of the topics inspiring and really cutting edge. I would not hesitate to recommend this to other schools."
Ms. C. Nicholls,

The Lady Eleanor Holles School, Hampton.

"A fantastic day. The word has got around and students have been incredibly enthused. The student tutorial pack and software are of excellent quality, allowing interested students to reach out. Outstanding in breadth of content; cutting edge technology/research and bang-up-to-date examples were absolutely invaluable."
Mr. P. Anderson,

Ampleforth College, York.

"An excellent tutorial, delivered with real enthusiasm and verve. The students went away inspired and are still talking about it!"
Mr. P. Lucas,

Queen Elizabeth School, Kirkby Lonsdale.

"A stimulating day for both students and staff, exceeding all our expectations. A fascinating insight into the subject, which science and non-science specialists found thoroughly enjoyable."
Ms. K. Smith,

Dame Alice Owen's School, Hertfordshire.

"Great variety of content... Students enjoyed the tutorial enormously and loved the sheep brain dissection. The day had been presented as an "Enrichment" opportunity and it certainly was."
Mrs. J. Hardy,

St Aidan's & St John Fisher Associated Sixth Form, Harrogate.

"Spot on! The day took the students' knowledge to another level... it has also greatly improved my knowledge and understanding of the brain."
Mr. A. Harper,

Oldershaw School, Witrail.