Animal Research Essay Resources

Click on one of the links below for resources on the specific area of interest surrounding the issue of animal testing:

- History of animal research
- Ethics of animal experiments
- Costs and benefits of research
- Regulatory systems and the 3Rs
- Animal rights activism and extremism
- General Websites

Many students, from primary school to university, write assignments that relate to the issue of animal research. This page aims to support this by providing links to useful materials. It is especially useful to any students carrying out the Extended Project Qualification (EPQ) alongside their A-levels or Extended Essay as part of their International Baccalaureate studies. Those students should read the section below.

Beneath each link is a Harvard Reference for the book, webpage or document in question which can be used in the footnotes or endnotes of your project paper. For online resources it is common practice to add the date you accessed the resource in square brackets at the end e.g.


Extended project qualification (EPQ)

Many students carry out their EPQ on the subject of animal research or animal testing. This page aims to help students find resources which are relevant to their project.

It is important for students to discuss their project with their project supervisor as many of the marks are contingent on this process. This page is aimed at helping students with the AO1 (Manage) and AO2 (Use Resources) assessment objectives of their EPQ.

AO1 requires students to identify their topic and the project’s aims and objectives. They must then produce a project plan and complete their work, applying organisational skills and strategies to meet stated objectives. This page aims to help students get a handle on the topic of animal research and provide some inspiration for possible areas of further study.

AO2 requires students to obtain, and select from, a variety of resources, analyse and apply this data in a relevant manner and demonstrate an understanding of appropriate links. This page will provide links to large amounts of relevant information that students can use for their project, however it remains up to students to critically analyse and apply it to their specific project focus.

History of animal research

The use of animals in scientific experiments in the UK can be traced back at least as far as the 17th Century with Harvey’s experiments on numerous animal species aiming to demonstrate blood circulation. Across Europe, the use of animals in scientific research began to expand over the 19th Century, in part supported by the development of anaesthetics which had previously made animal research impossible. In 1876, parliament passed the Cruelty to Animals Act, the first legislation aimed at regulating animal experiments.

Over the late 19th and the 20th centuries, the expansion of medical science meant that the numbers of animals used in research expanded steadily, accelerated by the Medicines Act, 1968, which provided a clearer guide to the use of animals in safety testing in the wake of the Thalidomide tragedy. The number of animals used rose to over 5.5 million in 1970 after which point the numbers began to decline rapidly. This large expansion reflected a growing medical
field; animals had played a part in most medical advances of the 20th century including insulin, the polio vaccine, penicillin and the elimination of smallpox. In 1986 the Animals (Scientific Procedures) Act was passed, which ensured higher animal welfare standards in laboratories across the UK.

In 2010, EU Directive 2010/63 was passed. This regulation harmonises European animal laboratory standards, improving animal welfare across the EU, and is currently being transposed into the laws of the member countries. It passed into UK law on 1st January 2013.

Books

Animal Research in Medicine: 100 Years of Politics, Protests and Progress (John Illman) provides a history of animal research legislation and the context in which they were developed.

A Guinea Pig’s History of Biology (Jim Endersby) tells the story of modern biology through the stories of the animals and plants that made it possible.

Online resources

Medical Advances and Animal Research (RDS & CMP) is an excellent booklet outlining the role of animals in many of the medical developments we see around us. It provides full references to the scientific literature it mentions throughout.

The Animal Research Timeline (AR.info) provides an outline of many of the major medical discoveries since 1881, as well as explaining the role of animals in each of these developments.

Animal Research Info: Nobel Prizes (AR.info) provides a breakdown of all the Nobel Prizes in Physiology and Medicine since 1901 and includes how animals were involved in the discoveries.

The Animals (UAR) provides information about the number and type of animals used in medical research. Look at how the number of animals in research has risen and fallen over time in the Number of Animals section.
- Understanding Animal Research. The Animals. [online]. Available at: http://www.understandinganimalresearch.org.uk/the-animals/

Pro-Test: Tackling Animal Rights (SR) is an essay following the battle over the building of the Oxford University Biomedical Facility from 2005-2008. It covers the rise of the animal rights group SPEAK, and the student counter-movement, Pro-Test. It also covers some of the issues which helped change public opinion from 2006.
The ethics of animal research

Animal use has been a hotly contested moral issue for hundreds of years. In the 17th century René Descartes, a French philosopher, argued that animals were no more than automata and could not feel pain. This was rejected by Jeremy Bentham in the 18th Century who extended his utilitarian conception of rights to animals due to their capability to suffer. This was expanded by Peter Singer, in 1975, who wrote in Animal Liberation that arbitrarily treating humans above animals – particularly in marginal cases where animals may be as intelligent as young children or severely cognitively-impaired adults – was not justified.

Animal rights philosophy is distinct from proponents of animal welfare who argue that we must provide adequate conditions for animals in our care – a position held by the RSPCA among others. The scientific community has often been the driving force for these improvements, arguing that better conditions for animals was conducive to better, more replicable, scientific results.

Books

Animal Liberation (Peter Singer) was an immensely influential book which discussed the ethics of animal use (including animal research). It is often considered the forerunner to the animal liberation movement. This is, perhaps, the core piece of literature on animal rights philosophy.

Do Animals Have Rights? (Alison Hills) is an objective assessment of the case for whether animals should have rights and what rights those should be. Hills discusses their ability of mind, whether all animals should be regarded as equal, and what that means. Hills concludes with a graded scale of animals rights.

The Case for Animal Rights (Tom Reagan) is another major piece of philosophical writing which argues for animal rights on the basis of their similar cognitive abilities.

A Rat is a Pig is a Dog is a Boy (Wesley J Smith) takes its title from a quote from PETA president, Ingrid Newkirk. It is a useful book covering many issues of animal rights activism and philosophy. In Chapter 18, Smith creates his argument in favour of animal research on the basis of human rights and duties.
- Smith, W.J., 2009. A rat is a pig is a dog is a boy. New York: Encounter Books.

The Human Use of Animals: Case Studies in Ethical Choice (Beauchamp et al.) investigates a number of difficult issues regarding the use of animals in society. Through 16 case studies, and plenty of ethical theory, the authors attempt to navigate the moral minefields involved.

An Odyssey with Animals (Adrian Morrison) investigates the relationship between humans and animals, and explains why efforts to halt animal research would be damaging to human health.

Online resources

Ethics (Pro-Test) looks at the question of whether animals have rights, concluding that their lack of understanding does not allow them to participate in the system of rights and duties.
- Pro-Test. Ethics. [online]Available at: http://pro-test.org.uk/facts.php?lt=a
The ethics of research involving animals (Nuffield Council on Bioethics) is an independent report on the use of animals for medical science. Although it looks at the whole issue, it pays particular attention to the ethics, specifically in chapter three.

Animal Rights Beliefs (SR) provides a polemic disagreeing with Bentham’s basis of animal rights. It also investigates the question of whether animals should be considered “innocent”.

The Ethics of Animal Research (Simon Festing and Robin Wilkinson) provides an insight into the ethics of animal research, including a look at public opinion and the animal welfare regulations. It also has a useful and extensive references list.

The moral relevance of human intelligence (Dario Ringach) – this blog post by Prof. Ringach discusses the arguments made by animal rights activists about marginal cases – how do we compare the moral value of a baby, or brain damaged person to a mouse or monkey.

Costs and benefits of research

The philosophy of animal research has not been the only area of contention – there is some debate on the scientific merit of research. Scientists who carry out research explain that they cannot attain their results any other way – they also point to the huge number of medical treatments available thanks to animal research. Furthermore, nearly every Nobel Prize in Physiology or Medicine has also been reliant on the use of animals in research.

Nonetheless, a small number of scientists reject the scientific argument for animal research. Their argument is two-fold. Firstly, that medical development can be continued without the use of animals – using alternative, non-animal methods. Secondly, they claim that the differences between humans and other animals mean that scientists cannot meaningfully translate the research from one species to another.

Books

Animal Testing: Issues and Ethics (Stephanie Watson) is a book aimed at students which looks over some of the scientific and philosophical arguments for and against animal research.

Online resources

Medical Advances and Animal Research (RDS & CMP) is an excellent booklet outlining the role of animals in many of the medical developments we see around us. It provides full references to the scientific literature it mentions throughout.
Animal Research: Lectures and Articles (AR.info) provides a selection of lectures written by a multitude of scientists on the subject of animal research. Most are about animal research and its role in fighting a specific disease, others are more general.

Debates: This House Would Ban Animal Testing (IDEA) provides an overview of arguments for and against animal research that could be used in a debate or argument.
- IDEA. Debates: This House Would Ban Animal Testing. [online] Available at: http://idebate.org/debatabase/debates/science-technology/house-would-ban-animal-testing

Understanding Animal Research: Human Health (UAR) provides a summary of different diseases, and the animal research which has led to new treatments. Look at the links on the left for more information on each disease.

Review of Cost-Benefit Assessment in the Use of Animals in Research (APC) is an independent review of the costs and benefits of animal research. While this is a long document, many people will be interested in focusing on the Introduction (chapter 1) and the conclusion (chapter 6).

Speaking of Research: Bad Science (SR) assesses 18 claims by animal rights groups about the science of animal research and attempts to
evaluate the science behind them. Much time is spent looking at whether research can translate between animals and humans.
- Speaking of Research. *Bad Science*. [online]
  Available at: http://speakingofresearch.com/extremism-undone/bad-science/

*The ethics of research involving animals: a guide to the report* (Nuffield Council on Bioethics) is an independent report on the use of animals for medical science. This short report is a brief summary of the much longer report.

*For and against: Animal Testing* (Bella Williams & Alistair Currie) is a newspaper debate between Dr Bella Williams from Understanding Animal Research and Alistair Currie from PETA. It primarily focuses on the scientific arguments for and against animal research.

**Regulatory systems and the 3Rs**

Animal research is one of the most heavily regulated industries in the UK. Individual projects, the researchers involved, and the institutions where the work is going on must all be licensed by the Home Office. All facilities are subject to rigorous inspections, both announced and unannounced.

Animal research is also governed by the principles of the 3Rs – refinement, replacement and reduction of animal research – which means that if there is a non-animal replacement method which will provide as accurate results as animal methods then it must be used instead.

All vertebrates (and some invertebrates) are covered by the Animal (Scientific Procedures) Act, 1986, and this has recently been updated to comply with the new EU Directive 63/10 which has been brought in to improve animal welfare standards across the rest of Europe.

**Books**

*Laboratory Animal Law: Legal Control of the Use of Animals in Research* (Dolan) looks at the stringent regulations that exist within the UK. This book provides a practical guide to the Animals (Scientific Procedures) Act 1986.

*Guide for the care and use of laboratory animals* (NRC) is the American handbook for laboratory animal scientists on how to care for animals in laboratories. It deals with everything from the size of enclosure necessary for each animal, to how to handle the animals correctly.

**Online resources**

*Understanding Animal Research: Regulation (UAR)* provides an explanation of the different levels of regulation that exist to safeguard animal welfare in laboratories across the UK.

*How is Animal Research Regulated (UAR)* is a short leaflet which explains the different levels of regulation of animal research in the UK.
**Animal research essay resources 2013**


**The Challenge of Animal Research (NC3Rs)** is a leaflet by the National Centre for the Replacement, Refinement and Reduction of Animal Research. It outlines some basic facts about the organisation’s efforts to improve 3R integration in labs.

- **NC3Rs. The Challenge of Animal Research.*** [online] Available at: [http://www.nc3rs.org.uk/downloaddoc.asp?id=1012](http://www.nc3rs.org.uk/downloaddoc.asp?id=1012)

**Animal Welfare and the Three Rs (UAR)** is a short leaflet which explains the role of the 3Rs – replacement, refinement and reduction of animal research – in regulating and improving animal-based research.


**Speaking of Research: US research Regulation (SR)** provides an explanation of the different levels of regulation for animal research in the United States. This covers the laws at a national and institutional level.


**Animals (Scientific Procedures) Act 1986 (HMSO)** is the government regulations on the use of animals in scientific procedures. It lays out the system of project licenses and other regulations which must be followed. It was amended in 2012 to comply with EU Directive 63/2010.


**Animal rights activism and extremism**

While animal rights extremism is currently rare in the UK, it has ebbed and flowed over the last fifty years. In 1975, Singer released a seminal book, *Animal liberation*, which provided the moral basis for many new animal rights activists. This rise in activism was also accompanied in the UK with a rise in animal rights extremism spearheaded by the direct action front group, the Animal Liberation Front (ALF). Animal rights activism shifted its focus between animal research, farming and fur over the following decades.

During the 1990s and 2000s, there was a renewal of extremism against animal research facilities and their staff with the rise of the direct action group SHAC. In 1998 the British Government banned cosmetic testing and in 1999 Great Apes could no longer be used for research purposes. The animal rights extremism of the 2000s culminated in the grave-robbing of Gladys Hammond, the deceased grandmother of a family who ran a guinea pig breeding farm.

The public backlash, new police powers, and the formation of pro-research advocacy group Pro-Test resulted in a significant fall in illegal activity – almost to nothing. This was supported by a concerted effort by the scientific community to better communicate the work they did. However, legal protests against animal research continue to exist.

**Books**

**The Animal Research War (Michael Conn and James Parker)** provides an insight into the animal rights movement over the past century from the perspective of two research scientists. It looks into groups and individuals involved, as
well as their motivations and influences.

**Animal Liberation (Peter Singer)** was an immensely influential book which discussed the ethics of animal use (including animal research). It is often considered the forerunner to the animal liberation movement. This is, perhaps, the core piece of literature on animal rights philosophy.

**Animal Warfare: The story of the Animal Liberation Front (David Jenshaw)** provides a detailed history of the animal rights extremist front organisation, the Animal Liberation Front. It also discusses the rise of animal rights extremism since the 1960s, focusing on the UK.

**The Brown Dog Affair (Peter Mason)** investigates the story of a 1903 surgical demonstration on a dog which led to a libel case, a memorial statue to the dog, subsequent riots and finally a new statue over 70 years later.

**A Rat is a Pig is a Dog is a Boy (Wesley J Smith)** takes its title from a quote from PETA president, Ingrid Newkirk. A rat is a pig is a dog is a boy takes a look at animal rights activism in the UK and US, as well as the philosophies which drive it.
- Smith, W.J., 2009. *A rat is a pig is a dog is a boy*. New York: Encounter Books

**The Case for Animal Rights (Tom Reagan)** is another major piece of philosophical writing which argues for animal rights on the basis of their similar cognitive abilities.

### Online resources

**Animal Research: Battle Scars (Daniel Cressey)** looks at the impact of animal rights extremism on scientists involved in animal research. It includes a number of polls of researchers.

**Pro-Test: Tackling Animal Rights in the UK (SR)** is an essay follows the battle over the building of the Oxford University Biomedical Facility from 2005-2008. It covers the rise of the animal rights group SPEAK, and the student counter-movement, Pro-Test. It also covers some of the issues which helped change public opinion from 2006.

**Time to act against animal rights protesters (Tony Blair)** – was a front page article in the Sunday Telegraph written by then Prime Minister, Tony Blair, explaining why he was signing the People’s Petition in support of animal research and against animal rights extremism.

**The Animal Liberation Front FAQ (NAALPO)** provides some insight into the Animal Liberation Front from their own perspective. It explains their views on direct action and extremism.
The Freedom of Speech Paradox (Tom Holder) – argues that threats to scientists by animal rights activists cannot be justified through freedom of speech. Holder compares the tactics of animal rights extremists to those of the anti-abortion movement.

Bite Back (ALF) is a website providing a list of all direct action activities done in the name of animal rights. The website is often used as a mouthpiece for those wishing to take illegal activities under the branding of the Animal Liberation Front (ALF).
- Bite Back. News from the Frontlines. [online] Available at: http://www.directaction.info

ARE Information (ARE.info) is a website dedicated to providing the facts about animal rights extremism. It is a useful website for separating real and claimed incidents of animal rights activism.
- ARE Information. ARE Information. [online] Available at: http://animalrightsextremism.info/

Websites

There are many websites which argue for and against animal research. They may cover the scientific arguments, the moral arguments or both. The ethical arguments are built on many different principles, which can often have far reaching consequences when taken to their logical extreme. The scientific arguments should be treated with more caution – not all scientific arguments are equal. While we encourage you to investigate the scientific claims for and against animal research, it is important to try to double check your information with established scientific organisations and journals.

For animal research

Understanding Animal Research – www.understandinganimalresearch.org.uk

Animal Research Info – www.animalresearch.info

Speaking of Research – www.speakingofresearch.com

Americans for Medical Progress – www.amprogress.org

American Physiological Society - http://www.animalresearchcures.org/

Animal Testing Perspectives - http://animaltestingperspectives.org/

Pro-Test – www.pro-test.org.uk

Foundation for Biomedical Research – www.fbresearch.org

Against animal research

People for the Ethical Treatment of Animals – www.peta.org.uk

Animal Aid – www.animalaid.org.uk

British Union for the Abolition of Vivisection – www.buav.org

Humane Society International – www.hsi.org

Oxford Centre for Animal Ethics – www.oxfordanimalethics.com

Speak – www.speakcampaigns.org


In Defence of Animals – www.idausa.org