Framing the Inquiry
See written report

Student 3: Low Merit
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Locating and processing information (2)

Source: Record source details. Title, author, date, publisher, URL	Source 1: Animal Experimentation, 2007. Alix Favo, Greenhaven Press, 2004. http://ic.galegroup.com 'Chemical testing on animals is unreliable'	Source 2: www.understandinganimalresearch.org.uk/	Source 3: http://ic.galegroup.com Author: People for the ethical treatment of animals (PETA), title: Product testing on animals is cruel and unnecessary.
Question 1:Why do we test on animals?	85,000+ chemicals on the market: dyes, insecticides, fungicides, herbicides, rodenticides, soaps and detergents, synthetic fibres and rubbers, glues and solvents, paper and textile chemicals, plastics and resins, food additives and preservatives, refrigerants, explosives, chemical warfare agents, cleaning and polishing materials, and cosmetics – and 1,500 – 2,000 new chemicals are added to that toxic flow each year.	"Nearly every Nobel Laureate in Physiology or Medicine since 1901 has relied on animal data for their research." Breakdown of what is tested on animals. Only 2 percent of testing in UK is for safety testing of things like cleaners etc (not research for medical advances).	A range of household products including cosmetics and cleaners are routinely tested on animals

…sources 4, 5 & 6 not included in this exemplar…

Evaluating the reliability and usefulness of selected information (3)

Source	Information found	How reliable is the source?
1: Animal Experimentation, 2007. Alix Favo, Greenhaven Press, 2004. http://ic.galegroup.com 'Chemical testing on animals is unreliable'	Testing on animals is unlikely to help humans because we are so different, and animals can have different reactions. Animals are kept in poor condition and go through stressful test and some end with diseases and even killed.	Reliable – presents a lot of information on different test and studies on animals and explains them clearly. It's from a press and taken from the EPIC data base. The author Alix Fano is director of the campaign for responsible transplantation and the author of Lethal Laws: Animal Testing, Human health and Environmental policy.
2: *Forty reasons why we need animals in research* - school resource from: www.understandinganimalresearch.org.uk/	There is a big range of testing but most of it in the UK is not for 'safety testing'. Lots of points about the importance of animal research in medical breakthroughs.	Reliable factually as it is made up of lots of groups. But they are medical and science interest groups so generally will be supporting their industry.

… sources 3 – 6 not included in this exemplar….

Forms developed conclusions

I decided to study animal testing after studying the film Never Let me Go, and thinking about the ethical issues it raises about scientific progress. I also read an interesting article 'Animal Experimentation Is Unscientific' by Javier Burgos, who is the president of the Nature of wellness which is an organization devoted to informing the public about the medical and scientific invalidity of animal experimentation and testing. This article describes with detail the different painful and cruel tests that animals go through and how they're treated as if they were lifeless objects, it's even a nightmare to imagine it. I chose this topic because I was surprised by the cruel things that animals have to go through and how people decide to ignore these things, just like in the film, where humans mostly ignored what was happening with the clones. My hypothesis is: That all current animal testing is unethical. . My key questions are: Why do we test on animals? What are the advantages / disadvantages of animal testing? (1)

There are a wide range of products tested on animals. According to the article found on ic.galegroup.com 'Chemical testing on animals is unreliable' more than 85,000 products that are on the market are tested on animals*,…(information given).* Animals are also used in vaccine, drug and military tests which means they have to get lots of the most dangerous viruses or go through radiation, weapon and explosives testing *(information given)*. After reading these two sources I was surprised at the huge range of products that were tested and just how many weren't related to medical progress. But this is different from information on the Understanding Animal Research which states that 2% of animal research is for safety testing. This is testing of " chemicals which are in everyday use - such as medicines or household products - as well as chemicals used in manufacturing, or fertilisers and pesticides used in farming". This site is a UK one and The Council of Understanding Medical Research is supported by lots of "various sectors including academic, pharmaceutical, charities, research funders, professional and learned societies". I don't

know if the 2% includes things like military tests. It is hard to find out the extent and range of animal testing as there are lots of numbers used to support different groups' arguments. Different countries also might have different rules. (3) Eg. In UK there is no testing of cosmetics/toiletries ingredients after 1998 (www. Understandinganimalresearch.org.uk).

"Animal testing is essential to drug and vaccine research. In particular animal experiments have been vital in discovering drugs that slow the progress of the human immunodeficiency virus (HIV) the virus that causes AIDS. Similar advancements have occurred in developing treatments for herpes and hepatitis B, all of this because of animal testing," says professor of laboratory medicine Rebecca Corey, the author of the article 'Animal testing is essential for medical research'. According to another article found on ic.galegroup.com 'Chemical testing on animals saves lives,' "testing chemicals on animals helps protect human health. For example, studies have indicated that frogs and rats suffer adverse effects from pesticides such as atrazine, diazinon and dursban. Animal test results led to the banning of these products by the environmental agency." This article made me think differently about my hypothesis, now I can see that animal testing can help humans in developing new vaccines or drugs against the most dangerous viruses such as AIDS, but I still think that there is a problem because animals have to suffer and die due to testing.(4)

According to the BBC Knowledge tv series, *Pain, Pus and Poison*, there have been huge changes in medicine over the last 150 years. This is because of experimentation. A huge killer of people was smallpox. The documentary stated that the vaccination for this was trialled on an 8 year old boy by first infecting him with cowpox then rubbing an open wound with pus from a smallpox patient. As the presenter stated, this was so risky and unethical! But it worked and smallpox, the world's biggest killer of all time, was eliminated by the late twentieth century. Animal testing was shown in the search for a form of arsenic that could treat syphilis: this was done by injecting hundreds of rabbits. Over 600 rabbits would have died, but the one that lived with no ill-effects led directly to a treatment that saved people from a devastating disease. The series showed me just how much people's attitudes to the idea of ethics and rights have changed over time. (4) This source was informative and gave me a historical perspective that I didn't find in my other sources. It was interesting that it commented on the ethics of human testing only. (3) Sometimes animal testing seems to be the only way of finding out a solution to a medical problem. If it's something as widespread and deadly as smallpox or AIDS then there is a justification for it. (4) A One News report (25/10/14) on Ebola showed an Australian laboratory that was doing research. There weren't any animals in the news footage. When such deadly new viruses happen then the emphasis is on getting rid of it as fast as possible. According to 'Did Scientists Just discover a cure for Ebola' on 'The Disease Daily' website, "Researchers from the National Microbiology Laboratory in Winnipeg, Manitoba identified a number of antibodies that corresponded to proteins on the shell of the Ebola virus. They combined the antibodies into a specific cocktail and administered it to four macaques within 24 hours of infection. All four macaques survived. When the cocktail was administered within 48 hours of infection, two of four macaques survived." The disease is spread by contact with infected animals. In the case of Ebola, I can't find any sources that say that the harm to monkeys is worse than finding a cure. This could be because like other really serious diseases like the examples in the BBC series, at times of crisis people will want a cure, and the ethics don't matter so much. (4)

What are the bad things about animal testing? According to the article found in ic.galegroup.com 'Chemical testing on animals is unreliable' mice are regularly used in chemical testing and their physiology, which is very different from humans, makes them inadequate and unreliable subjects. In a programme 'Endocrine Disruptor screening programme' 60,000 chemicals were tested on tens of millions of animals to determine whether and how chemicals disrupt human hormonal system, despite crucial differences in humans' and animals' endocrine systems. In Burgos' article he states that "since every species is unique, it is absurd to believe that human diseases can be cured by applying information garnered from animal experimentation." Both of these authors are commenting on medical research, and the huge numbers of animals involved seems excessive. On the other hand, I think it's unrealistic to expect all medical research to produce successful results on the first experiment. I think it depends on the purpose of the research. Having seen horrific images of children who had syphilis on the BBC documentary, I think that the use of several hundred rabbits was worth it to find a cure. (4) I also find Burgos' statement to be wrong as it contradicts what has been found out about AIDS and ebola. (3)

According to Ingrid Newkirk, Co-founder and president of the organization 'People for the Ethical Treatment of Animals' millions of animals suffer through stressful and unnecessary tests every year. Animals are kept in bad conditions and killed in painful and cruel ways during testing … So if all of this is true why are we allowing it to happen? It links to the information gathered above. Sometimes there are clear links between animal testing and cures (like smallpox, syphallis and ebola) but sometimes there aren't. There needs to be clear regulations across the testing industry so that animals are harmed only where there is no other way of finding out. (4) After all the research I've done I have learned that animal testing has a positive and a negative side, but after reading several articles I realized that it's a really huge issue.

In conclusion I believe my hypothesis was partly right. However, I can see that not all current tests are bad (4), some of them have a good cause and can actually help such as vaccine research tests. I don't think animal testing is going to disappear but at least we must do something to improve it (4) by keeping animals in better conditions, trying to make the tests less painful and only do tests that are really necessary, like doing vaccine research in case a new threatening virus appears. (4) Animals may not think like we do, but after all they're alive and can feel just like us.