



2013 PSBR High School Essay Contest *Grand Essayist*

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The Advantages of Animal Research

Take a moment and imagine a world in which animals are not used in biomedical research. This world would look very different than the society we live in today. Your dying younger brother who desperately needed an organ transplant would not be able to receive one, because the procedure has not been perfected. Your asthmatic friend would be unable to participate in school athletics, because no treatment exists for his or her condition. Your neighbors would perish due to widespread polio, because there would be no vaccine. Your elderly grandmother who develops a bad infection would not be given a fighting chance of survival, because the antibiotic Penicillin would not be available at her local doctor's office. In short, a world in which animals were not involved in biomedical research would be a world with a great deal more suffering, death, and sadness. The humane use of animals in research is vital, because it has benefited both the health of humans and animals and continues to contribute to progress in the biomedical field.

When one evaluates life objectively, he or she often comes to the conclusion that good health is the most valuable thing a person can possess. Thus, it seems only natural that improving the overall health of the public should be a priority, and research is one of the keys to accomplishing this goal. Fortunately, animals provide researchers with a wonderful source to study. Laboratory animals have very similar organs and bodily systems to humans, making them ideal test subjects. Furthermore, since animals and humans are susceptible to many of the same diseases and ailments that humans are, they are excellent human models. In fact, mice share an astounding 98% of DNA with humans, and chimpanzees share more than 99% of a human's DNA. Laboratory animals are also ideal test subjects, because they have fairly short life spans, allowing researchers to study their entire life span or sometimes even monitor various generations. Also, by examining animals that have unique abilities such as amphibians that can re-grow limbs, scientists are able to utilize these analyzed principles in human medicine.

Concerning animal care during research, 90% of laboratory animals utilized in the United States are mice, rats or other rodents, which makes the process much simpler and less costly. Rodents are small, easy to care for and breed quickly, so by utilizing these laboratory animals, the research process can be more straightforward. In addition, animal health technicians care for the animals appropriately during research, and this vigilant care makes the process of using animals for research humane. It is clear that laboratory animals are ideal test subjects, but what impact has their use had on public health?

In the year 1900, a person could expect to live approximately 49 years. Today, due to medical advancements, a human's life expectancy has increased to 69.3 years of age. The medical advancements that have led to increased longevity would certainly not have been possible without animal research. Specifically, many years of clinical animal research have led to

such medical breakthroughs as an effective asthma treatment, the polio vaccination, the organ transplant process, and a lifesaving diabetes treatment. However, animal research has not simply improved the quality of life for humans but also helped animals live longer lives themselves.

The fact that research done on animals can be beneficial to the animals is often overlooked as well. When a dog is diagnosed with diabetes, successful regulation of the dog's blood sugar is only possible due to research conducted on animals. Health problems that affect animals and humans such as cancer, Lyme disease, influenza and allergies can be treated in animals because of years of animal research. In short, it is evident that animals gain a clear advantage when animal research is conducted.

Years of biomedical research have proven that research conducted on animals is successful and can yield results that computer simulations are unable to produce. In the future, biomedical researchers will look towards animals to hopefully solve some of the largest medical issues that affect the human race.

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