



**2013 PSBR 7<sup>th</sup> & 8<sup>th</sup> Grade Essay Contest**  
***Third Place***

**Felicia J.**

Propel Braddock Hills High School  
Braddock Hills, PA

“What’s the Point of Bioscience Research?”

We use bioscience research to find cures for humans in the areas of aging, cancer, and developmental problems. We use animals in bioscience research because it is unethical to use humans in certain studies. In my bioscience research study, “The Great Grow Along”, I studied how different diets have the ability to influence an organism’s behavior and growth problems.

Scientists have greatly researched telomeres in an effort to prevent or slow the aging process. Telomeres preserve DNA strands and keep them long so they do not break. When DNA becomes short, this results in our skin becoming wrinkly and non-elastic. Several bioscience studies have been done to prevent pre-mature aging. One aimed to detect an enzyme called telomerase that could reverse aging. This was a great use of bioscience research.

Another benefit of bioscience research is it could help to cure cancer. Cancer is caused when cells fail to communicate with each other, then the cells divide out of control resulting in tumors. The BBSRC Company studies how cells communicate with each other and how growth and division are regulated. Using bioscience research, hopefully heart and other types of cancers can be reduced. Another cancer scientist discovered that rats that were given milk high in estrogen content were also developing cancer more than other rats. This study suggests that the more milk that humans consume in their diet, their chance increases of developing cancer. In Switzerland the cheese capital of the world, the rates of breast cancer and prostate cancer are the highest in the world. Currently, scientists at Rayne Institute of Kings College have explored a protein that is called Apoptin, which comes from a virus that causes anemia in chickens. After injecting the mice with Apoptin, scientists observed it killing the cancer cells and leaving the normal cell unaffected.

In my “Great Grow Along” experiment my research showed that the nutrients in food and beverages affects a rat’s growth patterns. I had two female rats, one was a treatment and the other one was a control rat. The control rat received milk for the first four weeks and the treatment rat received sugar water. The nutrients in milk allowed the control rat to growth much faster, and the sugar water allowed for the treatment rat to be more active during the day. I observed developmental and behavioral changes in both rats. At the last week of my research, I switched the milk and sugar water. Then, the control rat had sugar water and the treatment rat had the milk. As a result, the control rat began to slow down in growth and became more active and the treatment rat grew rapidly.

So overall, bioscience helps researchers try to find cures for aging, cancer and many other things. Researchers use animals instead of humans because it is unethical to malnourish and test on humans. Animals such as pigs and chimpanzees are used because portions of their anatomy are similar to our own anatomies. This allows us to test the animals to see the possible effects

and cures that we can create. Hopefully, by continuing bioscience research we can find cures and learn more about life itself.

#### Works cited

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