**Science Meets Real Life**

Humans are naturally inquisitive and have always asked questions about the world around them. Many questions could not be answered due to a lack of available technology, but many others could be answered through the process of trial and error. Over time, the way humans ask and answer questions about the natural world was developed and shaped into what is now call the scientific method. It allows scientists to conduct research in a systematic, organized fashion.

As humans make new scientific discoveries, they are able to develop additional technologies. For example, historically people used the bark and leaves from the willow tree to treat fevers and pains. This was a traditional medicine that people shared with one another via word of mouth. As technology advanced, the materials from the willow tree could be analyzed in a lab and the components could be studied to see which natural chemicals were responsible for reducing the fevers and pain. Research showed that the willow tree contained a form of salicylic acid and that this was what gave it its healing powers. This scientific research led to the development of the aspirin we use today which is now mass produced (and that you have probably taken at some point in your lifetime).

You depend on many technologies throughout your day that make your modern life possible. In this assignment you will look at some of these technologies and the scientific discoveries that made them possible. You will evaluate both the negative and positive impacts of these discoveries. You will also broaden your scope to look at how different cultures with different levels of access to technology approach the same problem - health care.

**Part I Science in your personal and professional life**

Think about your day from the time you wake up to the time that you go to sleep.

* List **four technologies** that you rely on and would find it difficult to get through your day/night without. Do these technologies have any negative impacts on your life? Why or why not?
  + Think about your day from when you wake up to when you go to sleep. Describe **one scientific discovery** that makes modern life possible.
  + List as many negative and positive impacts you can think have that this scientific discovery and the technologies that it allowed to be developed may have. Evaluate and discuss if the positives outweigh the negatives overall, or whether the negatives outweigh the positives.

**Part II Science and technology in a multicultural world**

Many research programs around the world focus on the discovery of cures to ailments from cancer to mental illness. Modern society invests a great deal of money, and time while pushing the boundaries of modern technology to develop new cures, and improve existing treatments.

Review the following Assignment Resources:

You can learn more about how drugs are developed and approved in the US here: How Drugs are Developed and Approved. (2015). Retrieved from <http://www.fda.gov/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved/>

Top 5 Advances in Mdical Technology. (2016). Retrieved from <https://www.asme.org/engineering-topics/articles/bioengineering/top-5-advances-medical-technology>

While there are many advances in modern medicine, there are still many cultures around the globe that highly value and rely on traditional treatments and remedies. For example, ginger is a well-known Chinese herbal remedy, or the lesser known ayahuasca; an Amazonian plant mixture used in Urarina shamanic ceremonies. You can learn more about ayahuasca and other traditional remedies here:

Hallucinogenic Amazonian Medicine Stimulates Generation of New Brain Cells. (2016). <http://www.iflscience.com/brain/hallucinogenic-amazonian-medicine-stimulates-generation-of-newbrain-cells/>

World Health Organization, Traditional Medicine: Definitions. (2016). Retrieved from <http://www.who.int/medicines/areas/traditional/definitions/en/>

United Nations. (2009). Economic and Social Council [Press release]. Retrieved by <http://www.un.org/press/en/2009/ecosoc6385.doc.htm>

* Describe one advantage and one disadvantage to the westernized high tech research approach to medical treatment.
* Describe one advantage and one disadvantage to using traditional medicine as an approach to medical treatment.
* Are there benefits to having multicultural approaches to medical treatment? Explain your answer.
* Could these two cultural approaches both be improved by drawing upon the other? Why or why not?
* Discuss any challenges there may be in combining these two different cultural approaches to treatment that have a very different level of reliance on scientific research and technology.