

Rea Vianica C. Sampaga

Grade 12A-St. John the Evangelist

**1. Why do some scientists believe that life originated from other planets?**

- Some scientists believed in Panspermia, a hypothesis regarding microbes that transport through meteorites, asteroids, comets, and spacecrafts. Especially, when Swedish scientist Svante Arrhenius elaborated this hypothesis, it became talk of the town or famous. Additionally, some scientists did not believe in Divine Creation, thus, they believe in evidences and theories of their teachers or colleagues. Scientist does not believe easily. Before they acknowledge a theory, they need to look for the data, ask for a question, and investigate for evidences.

**2. What specific problems in society are needed to be solved by biologists?**

- Biologists need to prioritize conserving of clean water, protecting endangered animals, and supervising medicines and vaccines. Firstly, water is a fundamental need of human and other living things. But, as we go around the place, the water is contaminated. Secondly, endangered animals needed to be given a spotlight because another species will loss within our environment. Lastly, medicines and vaccines are needed in today's devastating situation. Medicines are needed to cure and prevent diseases and to save lives. However, today's situation is different from past years. Therefore, we need biologists that will assist us to back from the normal state.

**3. Can the scientific method be used to deny or prove the existence of God?**

- In my opinion, using scientific method or not, it cannot disprove the existence of God. Although, some scientists are having different theories and opinions regarding the creation of the world, I still believed that God created the universe and all living things.

**4. How do biologists study life and explore its complexities?**

- Biologists study life and explore its complexities through scientific method, a systematic way to investigate observations, to solve problems, and to test hypotheses. First, state the problem by asking what you want to find out. Second, form a hypothesis or educated guess as what will happen in that particular experiment. Third, test the hypothesis by planning and organizing the step-by-step of experiment. Fourth, gather the data by listing all the observations such as the appearance, smell, and behavior. Fifth, analyze the data through finding out the trends and patterns to support the conclusion. Lastly, make a conclusion so as to solve and conclude the data of the experiment.

**5. Why study biology?**

- Studying biology is like riding a roller coaster. At the end of the exhilarating ride, it will gain fun experience and new discovery. Studying biology earned a lot of knowledge in our environment like conducting a research about living organisms

and its relationship with the ecosystem. As well as, biology can increase the development of lives of people. For example, this Covid-19 case, medical experts needed to find a cure to prevent the virus. Lastly, it enhances the ability of person's intellectual such as analyzing, reasoning, evaluating, problem solving, and decision making.

**6. How do biologists study life?**

- Biologists are conducting an experiment to study and discover life. For instance, they are dissecting a frog to know the parts of the internal organs of it, somehow similar to human body. Through conducting an experiment, they understand how the animals, plants, human body works and factors that can influence each living organisms.

**7. How did life arise on Earth?**

- Long time ago, many believed that abiogenesis or spontaneous generation originates life. As time goes by, they oppose the theory of spontaneous generation, and began to explore biogenesis. They believe that life originates from living things or biogenesis. Scientists conduct experiment to support the biogenesis like Francesco Redi, Lazzaro Spallani, and Louis Pasteur. But, due to current beliefs, we have different standpoint. Current beliefs such as Creationism, Spontaneous Origin, and Panspermia. Divine Creation tells about God created the world and heavenly bodies. Spontaneous Origin expresses about spontaneous life evolved from the start. Also, Miller-Urey said that the lightning helps to originates life. Lastly, Panspermia proposes that life originated from other planets through meteorites, asteroids, comets, and spacecrafts.

**8. What characteristics do all living things share?**

- The characteristics of all living things share are order, reproduction, growth and development, energy processing, response to environment, regulation, and evolutionary adaptation.

**9. How can your knowledge of biology improve the lives of other people?**

- As what I said above, studying biology can enhance the ability of person's intellectual such as analyzing, reasoning, evaluating, problem solving, and decision making. Furthermore, having rapid advance technology, we solved societal hindrances and added a new branch of Biological Science. Biology has multiple career options, because this course/ subject are applicable to all.

**10. How can advances in biotechnology make products useful to humans?**

- By the help of biotechnology, it sustains and enhances the quality of life. Basic molecules may transform to new products that benefit the business, agriculture, bioremediation, food processing, energy production, medicine and pharmaceuticals. In business, it can produce beverages, cheese, bread, and milk. In agriculture, biotechnology helps to prevent plant diseases and pests. In

medicine and pharmaceuticals, biotechnology can treat diseases and make new vaccines and medicines.