Lab 6. Energy in Food: Which Type of Nut Is Best for a New Energy Bar?

1. Steven made the claim that the energy we get from the food we eat can be traced all the way back to the Sun. Use what you know about energy transfer, photosynthesis, and cellular respiration to support his claim.

2. The energy we get from nutrients like carbohydrates and fats is a result of breaking chemical bonds and releasing the stored chemical potential energy. One gram of carbohydrate provides 4 food calories, but one gram of fat provides 9 food calories. Use what you know about energy and molecules to describe why fats provide more energy (per gram) than carbohydrates.

- 3. In the energy bar investigation, you collected data that you used to develop evidence.
 - a. I agree with this statement.
 - b. I disagree with this statement.

Explain your answer, using an example from your investigation about energy in food.

- 4. Scientists do not need to be creative or have a good imagination to excel in science.
 - a. I agree with this statement.
 - b. I disagree with this statement.

Explain your answer, using an example from your investigation about energy in food.

5. An important goal in science is to develop an understanding of how matter and energy move through complex systems. Explain why understanding the flow of matter and energy is important, using an example from your investigation about energy in food.

6. Scientists often investigate how the structure or composition of something is related to its function. Explain how composition and function are related, using an example from your investigation about energy in food.