RESEARCH QUESTIONS

Soil will be mixed with a small portion of a banana peel and the sample will be observed after a period of three weeks. The experiment plan is to use a type 2 FME to separate the dirt and the banana peel before the mini-lab is launched into orbit at the ISS. Once the mini-lab is in orbit, the astronaut will unclamp it and the banana peel will begin the decomposition process. While the mini-lab is in orbit at the ISS, it will then be conducted by the exact same experiment on earth for the same duration. Once the banana peel from the ISS returns, what will then happen is it will be compared to the banana peel from the mini-lab experiment on earth to determine the decomposition speed with earth’s gravity versus microgravity.

BACKGROUND

In this experiment, the decomposition speed of a banana peel in microgravity versus the decomposition speed of a banana peel on earth will be determined. The banana peel may decompose slowly while it is exposed to microgravity but if it does, then compost can be, better supply of nutrients to the plant, stabilization of soil pH and possibly suppressing soil-borne plant pathogens, created as a result of decomposed organic matter. If a banana peel can decompose in the ISS, the astronauts can use the compost to grow better plants than before. The many benefits of compost are (but not limited to) better soil structure for holding roots, improved water holding capacity

ANALYSIS

Upon returning to earth, the weight of the banana peel from the ISS will be compared to the weight of the banana peel from the ground experiment. Both samples will also be observed under a microscope.

POTENTIAL OUTCOME

The banana peel from the ISS will either be heavier or lighter than the ground experiment sample.

REFERENCES