**Team ID:** SPS128

**School Name:** Sandia Preparatory School

**Area of Science:** Astrophysics

**Project Title:** Likelihood of Planets of Specific Types

Our solar system is a prime example of a complex and life-bearing system, however, we do not know whether or not this sort of system is a commonality or a complete fluke. To try to decipher this puzzle we will create a randomized system for creating and developing a solar system to see which planet types will function and create stable orbits and what planet types will fly off into the dark reaches of space. This simulation, when placed in conjunction with a universe colonization simulation will create a reasonable system for which we can better understand our universe and the likelihood of colonizable worlds. We will be using the Python programming language to create this model, and hope to come out the other side with a better understanding of our complex and massive universe. With any luck, we will have a randomized program that uses the physics of our universe to paint a picture of the future of our galaxy. We will do this using probability that naturally occurs within our universe.

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